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Modifying National Public Health Performance Standards for Local Public Health Department Accreditation

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MODIFYING NATIONAL PUBLIC HEALTH PERFORMANCE
STANDARDS FOR LOCAL PUBLIC HEALTH DEPARTMENT ACCREDITATION

by

Jeffrey G. Kuhr

A DISSERTATION

Presented to the Faculty of
The Graduate College at the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy

Major: Psychological Studies in Education

Under the Supervision of Professor Ian Newman

Lincoln, Nebraska

May 2009

MODIFYING NATIONAL PUBLIC HEALTH PERFORMANCE
STANDARDS FOR LOCAL PUBLIC HEALTH DEPARTMENT ACCREDITATION

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University of Nebraska, 2009

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Public health officials throughout the United States are currently preparing for a national accreditation initiative for local and state public health agencies. As a voluntary program, the accreditation process will measure the degree to which state, local, tribal, and territorial public health departments meet nationally recognized standards and measures. Proponents of the initiative feel that evaluating public health agencies on their capacities to achieve certain standards will lead to improved service quality, consistency of public health roles nationally, and a greater understanding of those roles among the general population. However, in planning for agency accreditation some potential barriers must be addressed, mostly related to varying agency size, urban vs. rural locations, and the diverse configurations of how state and local agencies coexist throughout the nation. Organizations such as the National Association of County and City Health Officials (NACCHO), and the American Public Health Association (APHA) exist, at least partially, on the basis that local public health agencies utilize and find value in the resources they provide. As more resources are made available, the pressure for their utilization increases. As such, a new process for agency accreditation may force smaller health departments, which have limited

resources, to choose between agency accreditation and system performance capacity. A new conceptual model proposes to operationalize the 10 essential public health services by recognizing three distinct components: the *assessment* component, fulfilled by the local health department, the *research* component, fulfilled by collaborating colleges and universities, and the *impact* component, fulfilled by local system partners. The purpose of this study was to introduce the Performance Predictability Concept, and substantiate its proposed components by examining the interaction between them. The results were supportive of this purpose, as Assessment and Research were able to adequately explain the variability of Impact capacity (the average capacity of essential services 3 through 8), at nearly 75% of variability among systems with smaller health departments, and 65% of the variability for the systems with larger health departments.

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AUTHOR'S ACKNOWLEDGEMENTS

I would like to thank the members of my doctoral committee for their valued input toward the completion of this dissertation, and for their flexibility through the approval process.

Dr. Ian Newman
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Dr. David Corbin
University of Nebraska at Omaha

Dr. Christina Perry
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Dr. James Thorson
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Specifically I want to recognize my committee chair and advisor, Dr. Ian Newman. Thank you, Dr. Newman, for supporting me over the past several years. It would have been very understandable for you to have given up on me as, at times, I'm sure I gave you the impression that I was giving up on myself. Your timely "nudges" have been, and will always be, greatly appreciated.

Thank you, Dr. David Corbin, for being my friend and mentor. I met Dr. Corbin when I began as a student in 1988 and he's been with me ever since, serving as my advisor for my masters degree, and then as a member of my doctoral committee. I sincerely appreciate the support you have given me over the years.

I want to say thank you to my two best friends in public health, Dr. Bruce Dart, Director of the Lincoln - Lancaster County Health Department (Nebraska), and Kay Oestmann, Director of the Southeast District Health Department (Nebraska). Bruce, Kay and I were the Nebraska team for the Year 15 National Public Health Leadership Institute, which is where we came up with the concept described in this dissertation (for which we received the Martha Katz Award for Outstanding Project).

Finally, I'd like to thank my wife, Sheryl, and my daughter, Marisa. Although writing a dissertation is stressful for the student, it is more stressful for the family members. Sheryl and Marisa, thank you for supporting me through this project. I love you very much!

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CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

Public health officials throughout the United States are currently preparing for a national accreditation initiative for local and state public health agencies. As a voluntary program, the accreditation process will measure the degree to which state, local, tribal, and territorial public health departments meet nationally recognized standards and measures. Proponents of the initiative feel that the process of evaluating public health agencies on their capacities to achieve certain standards will lead to improved quality of services, consistency of the public health roles throughout the nation, and a greater understanding of the roles among the general population. However, many of those same experts also recognize that in planning for agency accreditation they must address potential barriers, mostly related to varying agency sizes, urban vs. rural locations, and a diverse array of configurations related to how state and local agencies coexist throughout the nation. A report by the National Opinion Research Center (2008) confirms that despite the fact that rural agencies believe in the likely benefits to becoming accredited, they feel that inadequate fiscal and human resources will be barriers to their doing so.

The National Public Health Performance Standards Program (NPHPSP [CDC], Appendix A) is the current norm, nationally, for measuring public health performance. Its tools address local and state public health system capacity in relation to standards based on the 10 Essential Public Health Services (Harrell &

Baker, 1994). Wide utilization of the NPHPSP promotes consistency of public health responsibilities, and fosters an understanding of those responsibilities among the general population as it involves system partners in its process. However, since the NPHPSP's focus is on state and local public health systems, it does not adequately define or measure the responsibilities of the public health agency itself. Corso, Landrum, Lenaway, Brooks, and Halverson (2007) suggested that, in pursuing agency accreditation, the NPHPSP instruments could offer a starting point, and after amending some of the systems standards, they could, in fact, measure agency capacity. "Consequently, any state or local jurisdiction that uses the NPHPSP may be positioning itself well for the future as we move toward a national accreditation program."

In its report, *The Future of Public Health in the 21st Century*, the Institute of Medicine ([IOM], 2002) acknowledged the need to expand upon current national standards initiatives, and they recommended that a national commission be established to explore the potential benefits of accrediting governmental public health agencies. The IOM went on to suggest that as the commission pursues its accreditation objective, it should "focus on the development of a system that will further the efforts of the NPHPSP" (IOM, 2002, p.158). The Exploring Accreditation Project responded in its final report by explaining that a national accreditation program "will foster the concept of public health as a system..., it is feasible to pursue a voluntary national accreditation program because it is building upon the momentum established by state accreditation and performance-improvement programs" (Exploring Accreditation Project Steering

Committee, 2006, p. 6). However, when the Exploring Accreditation Project's report referred to the Operational Definition of a Functional Local Health Department (National Association of County and City Health Officials, 2005a) as "the foundation of standards (and associated measures) for local health departments" it appears to be proposing a process for defining and measuring public health agency performance that is in addition to, and not in cooperation with, the NPHPSP (Exploring Accreditation Project Steering Committee, 2006, p. 10).

Statement of the Problem

Organizations such as the National Association of County and City Health Officials (NACCHO), and the American Public Health Association (APHA) exist, at least partially, on the basis that local public health agencies utilize and find value in the resources they provide. As more resources are conceived and made available, the pressure for utilization increases. If the national accreditation initiative chooses to initiate a new assessment process for agency standards, rather than to build upon existing opportunities such as with the NPHPSP, it may force smaller health departments, which have limited resources, to choose between agency accreditation and system performance capacity. The challenges in advancing the practice of public health need to be met without expecting public health systems to incur the burden of additional data collection and reporting requirements (Perrin, Durch, & Skillman, 1999).

Background of the Problem

Overview of National Standards

The modern movement toward national public health standards began in as a result of the recommendations put forth by the IOM in their Future of Public Health report (1988). The report defined the government's role in public health through three core functions: assessment, policy development, and assurance. In Harrell and Baker (1994), the Public Health Functions Steering Committee established the 10 essential public health services, which offered a working definition of public health and a guiding structure for the responsibilities of local public health systems. Shortly after they were introduced, the 10 essential services were represented through a conceptual framework developed by the Public Health in America Initiative (Public Health Functions Steering Committee, 1995). The framework illustrates a circular linear relationship among the essential services, and demonstrates the idea of *system management*, and the notion that research supports all other essential services.

In 1997, three years after the 10 essential services were introduced, The Centers for Disease Control and Prevention, in collaboration with five public health practice organizations, established the National Public Health Performance Standards Program (NPHPSP [CDC]). Based on the 10 essential services, the NPHPSP instruments were designed to assess the performance of state and local public health systems. The NPHPSP concept purports that, within a given community, public health services and activities are carried out by a diverse group of stakeholders. The local public health agency plays a key role

in the system as its coordinator, but not as the sole source of public health activities within its communities.

Emphasis on Agency Accreditation

In its report, *The Future of Public Health in the 21st Century*, the IOM (2002) acknowledged the need to expand upon current national standards initiatives, and recommended that a national steering committee be established to explore the potential benefits of accrediting governmental public health agencies. The IOM's recommendation resulted in the creation of the Exploring Accreditation Project in 2005 through collaborative funding by the Robert Wood Johnson Foundation, and the Centers for Disease Control and Prevention. Serving as co-coordinators for the project were the Association of State and Territorial Health Officials (ASTHO), and the National Association of County and City Health Officials (NACCHO). In addition to its role with the Exploring Accreditation Project, NACCHO released its own version of operating standards for local public health agencies, also in 2005. In its final report, the Exploring Accreditation Project referred to NACCHO's *Operational Definition of a Functional Local Health Department* (2005) as "the foundation of standards (and associated measures) for local health departments" (Exploring Accreditation Project Steering Committee, 2006).

The current version of the accreditation planning process is being organized by the Public Health Accreditation Board (PHAB). Incorporated in 2007, the PHAB, like the Exploring Accreditation Project, receives support from

the Centers for Disease Control and Prevention, and the Robert Wood Johnson Foundation. Although it appears that the PHAB will utilize the standards from NACCHO's *Operational Definition of a Functional Local Health Department* (2005), and the accompanying performance metrics, the board's official adoption of a particular set of standards and measures has not yet been made.

System Performance and Agency Accreditation

When the IOM recommended establishing a commission to explore the benefits of agency accreditation, it went on to suggest that as the commission pursues its accreditation objective, it should "focus on the development of a system that will further the efforts of the NPHPSP" (IOM, 2002, p. 158). In its final report, The Exploring Accreditation Project concurred with the IOM by suggesting that a national accreditation program should work within the framework of the public health system, and build upon "the momentum established by state accreditation and performance-improvement programs" (Exploring Accreditation Project Steering Committee, 2006, p. 7). Corso, Landrum, Lenaway, Brooks, and Halverson (2007, p. 376) noted that the NPHPSP "establishes an excellent starting point for thinking through governmental agency roles. Consequently, any state or local jurisdiction that uses the NPHPSP may be positioning itself well for the future as we move toward a national accreditation program."

A report recently released by the National Opinion Research Center (2008) stated that rural agencies believe that accreditation can result in a greater

understanding of public health agency responsibilities among the general population, and that consistent agency responsibilities that result from accreditation will improve the capacity and service quality of the rural agencies. However, rural agencies expressed that inadequate fiscal and human resources would be barriers to their becoming accredited, and that it would be preferable that accreditation should be a multi-level or tiered system. Nationally, 60% of local public health departments employ fewer than 25 full-time equivalent (FTE) workers, with 36% employing fewer than 10 FTE workers (National Association of County and City Health Officials, 2005b). Considering the demand on time and effort associated with administering the NPHPSP assessment (CDC), it is unlikely that smaller health departments will have the resources for an additional assessment, and may have to choose between system assessment and agency accreditation. Thus, in order for agency accreditation and system performance standards to thrive independently, they must also be able to coexist.

Nebraska's Experiences in Statewide Standards

Reflective of the national landscape, Nebraska's local public health departments are diverse in size and by their urban/rural orientation. The rapid growth of its local public health infrastructure since 2001 has resulted in many opportunities and challenges. It has also resulted in a perfect environment for field testing new concepts and ideas. Since 2002, Nebraska's local public health system has expanded from having 24% statewide coverage to its current position, where 100% of Nebraska counties are served by a local health

department. Most of these new local health departments operate primarily with funds from Nebraska's Tobacco Settlement Annuity (LB692, 2001), which is controlled by the state legislature, and distributed through the Nebraska Department of Health and Human Services (DHHS), Division of Public Health.

For the most part, Nebraska's local public health system is at the mercy of the State's lawmakers, one-third of which are replaced every two years because of term-limits that took effect in 2007 (Neb. Const. art. III, sec. 12, 2000).

Therefore, many of the lawmakers responsible for establishing the public health system are out of office now, or will be in the very near future, which means that local public health advocates must spend a considerable amount of time educating new lawmakers to bring them on board with the system. In order to make this education process plausible, it would make sense for there to be some common, statewide elements among the local health departments. This has resulted in the current effort of developing statewide operating standards for local public health departments.

Having started as a project for the National Public Health Leadership Institute (for which the Nebraska team received the Martha Katz Award for Outstanding Project), the initial draft of Nebraska's plan followed a hierarchical approach to addressing the three core functions (IOM, 1988) on the premise that the successful achievement of assessment standards would lead to the successful achievement of policy development standards, which would lead to the successful achievement of assurance standards. Developers of the Nebraska plan based their work on the successful and practical PRECEDE-

PROCEDE model (Green & Kreuter, 2005) whereby health priorities are identified through assessment, interventions are designed and implemented to address the priorities, and an evaluation process monitors everything from start to finish. In 2006, this concept was useful in persuading Nebraska lawmakers to pass legislation for \$1.9 million to build assessment capacity in the local health departments across the state (LB1060). The bill resulted in each health department receiving \$100,000 per year for this purpose.

While the original idea in Nebraska was to introduce operating standards in the phases of assessment, policy development, and assurance, the work that was being done led project developers to focus primarily on the creation of assessment standards. In 1988, through their report, *The Future of Public Health* (IOM, 1988, p. 44), the IOM made the following statement about assessment:

Assessment is inherently a public function because policy formulation, in order to be legitimate, is expected to take in all relevant available information and to be based on objective factors – to the extent possible. Private sector entities are expected to have self interests. Therefore, the information they generate, while frequently quite useful to the policy process, is not judged by its fairness. In contrast, although public agencies in practice do not always weigh all sides of a question, in principle they are obligated to do so.” The IOM goes on to state, “A fully developed assessment function is an absolute essential part of the ideal public health system, and it is one that the committee believes to be in large measure attainable (1988, p. 44).”

Conceptual Overview

Introduction

Trochim, Cabrera, Milstein, Gallagher, and Leischow (2006) refer to the public health arena as an example of a complex system, as “it consists of many interacting stakeholders with often different and competing interests.” They go on to imply that through all of the varying dynamics within or between systems, the one common characteristic of dynamics is change. The Public Health in America Model (Public Health Functions Steering Committee, 1995), attempts to operationalize the public health system by proposing that, of the 10 essential public health services (Harrell & Baker, 1994), essential services 1 through 9 are associated hierarchically. Essential service 10 (*research*) is not part of the hierarchy, but is positioned in the center of the model as to imply that research is at the center of the public health system. The model also introduces the *system manager*, which defines the role of the local public health department within the public health system (Figure 1).

Established in 1998, the National Public Health Performance Standards Program (NPHPSP [CDC]) is the nationally-recognized resource for measuring performance among local and state public health systems. The NPHPSP is based on the 10 essential public health services (Harrell & Baker, 1994), and acknowledges the *system manager* concept introduced through the Public Health in America Model (Public Health Functions Steering Committee, 1995). However, it does not recognize the Model’s hierarchical association between the essential public health services. The NPHPSP local assessment treats the 10

essential public health services as categorical concepts (Handler, Issel, and Turnock, 2001), whereas the capacity for each is assessed primarily on its own worth.

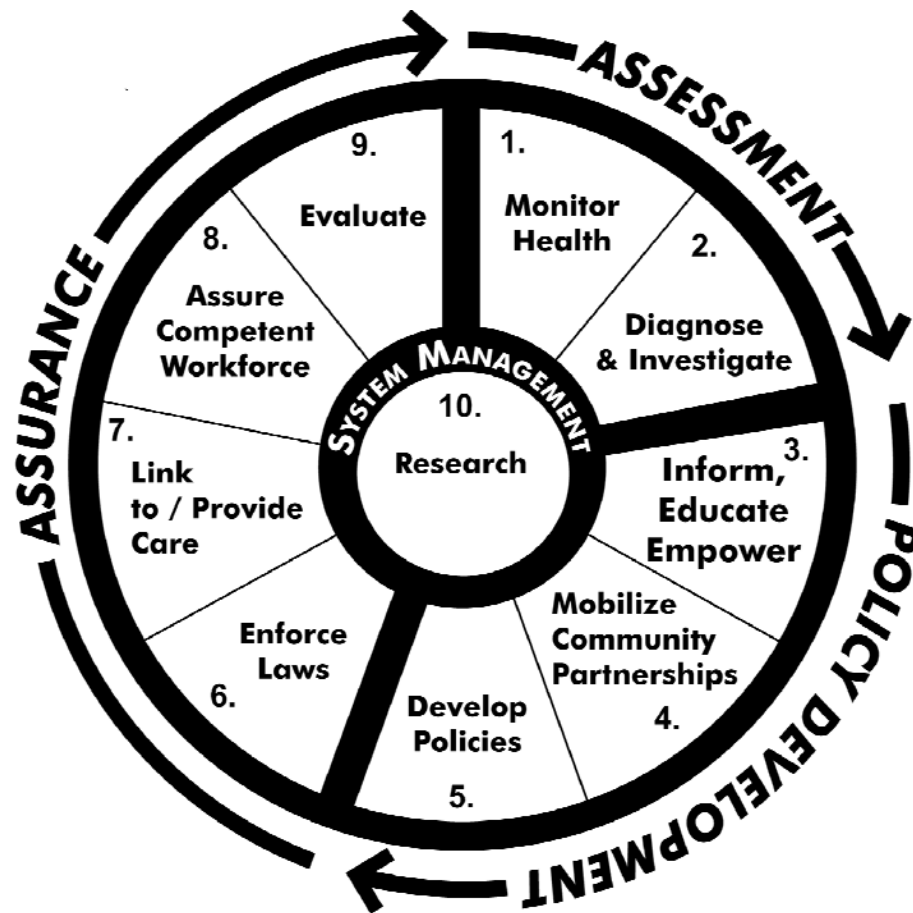


Figure 1. The Public Health in America Model (Public Health Functions Steering Committee, 1995).

In defining the evaluation component of their PRECEDE/PROCEDE model, Green and Kreuter (2005) express that evaluation is not an ending point, but rather an ongoing process that begins as part of the assessment. Within the

context of the 10 essential public health services, and in relation to the capacity measures of the NPHPSP assessments, the argument could be made that inadequate assessment capacity has a direct affect on the capacity for evaluation, and that a quality assessment process is necessary to establish a solid baseline from which to evaluate (Jung, 1995). Considering this argument, the Performance Predictability Concept promotes the idea that the *Assessment* core function (IOM, 1988) be comprised of three essential services, *Evaluation*, *Monitor Health*, and *Diagnose and Investigate* (currently only *Monitor Health*, and *Diagnose and Investigate* are part of the *Assessment* core function, while *Evaluation* is part of the Assurance core function).

Through enhancements to the Public Health in America Model (Public Health Functions Steering Committee, 1995), the Performance Predictability Concept operationalizes the 10 essential public health services (Harrell & Baker, 1994) by recognizing three practical components (not to be confused with the three core functions [IOM, 1988]). (1) The *Assessment* component, containing essential services 1, 2, and 9, is primarily the responsibility of the local public health department. The extent of the department's capacity in this area will determine the capacity and ultimate success of the public health system in addressing essential services 3 through 8. (2) The *Research* component, containing essential service 10, is primarily the responsibility of colleges and universities that collaborate with the local public health system. A greater *Research* capacity within a given public health system will enhance the system's ability to increase capacity in essential services 3 through 8. (3) The *Impact*

component, comprised of essential services 3 through 8, is the responsibility of the many key partners within the public health system. The system's success in acquiring capacity is dependent on the existing capacity of the *Assessment* and *Research* components. Figure 2 is a modified version of the Public Health in America Model (Public Health Functions Steering Committee, 1995), containing the enhancements of the Performance Predictability Concept. The modifications emphasize the independent operations of Assessment, Research, and Impact.

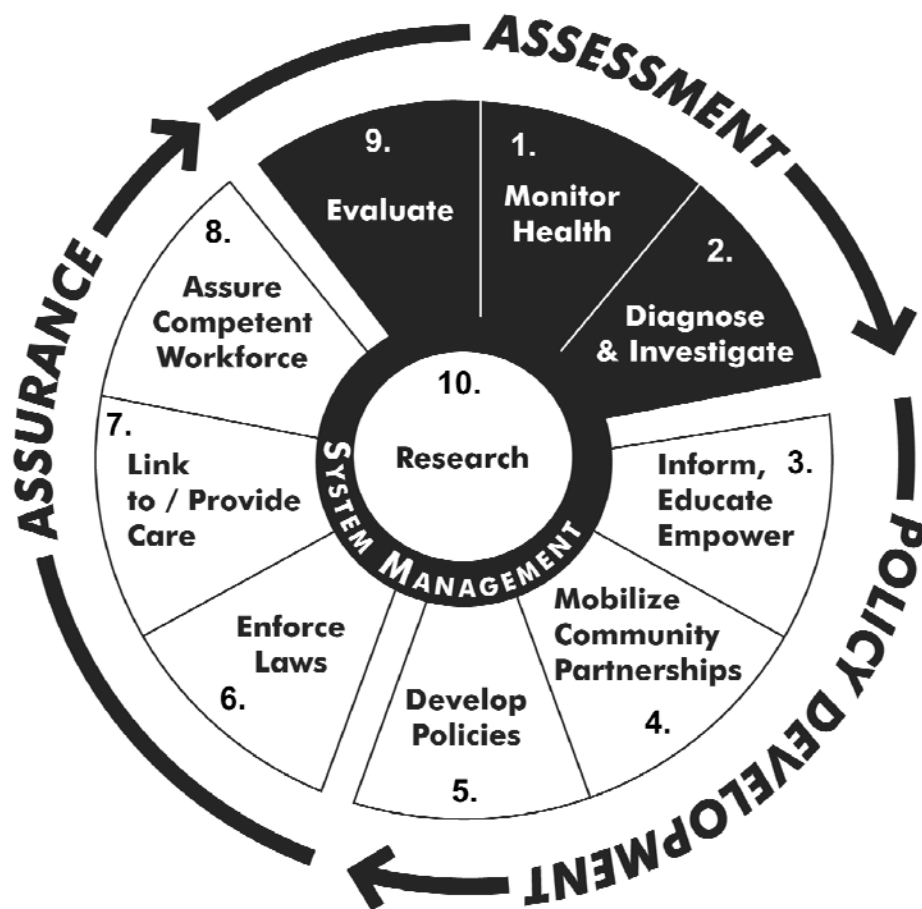


Figure 2. The Public Health in America Model Modified to Reflect the Performance Predictability Model.

In February, 2009, the Public Health Accreditation Board (PHAB) released its first draft of the standards and measures for local public health agency accreditation (Public Health Accreditation Board, 2009). The standards will go through a vetting process until July of 2009, which will lead to their eventual adoption for national local agency accreditation. Although specifically meant for defining and measuring agency performance, the initial draft of the PHAB standards is similar to the system standards of the NPHPSP, as they are both based on the 10 essential public health services, and they both present the essential services in a categorical fashion, where each is measured independently of the other. As a model for operationalizing the 10 essential public health services, the Performance Predictability Concept offers a solution for assessing system performance and agency performance using the NPHPSP local instrument, thus, eliminating the need for an additional agency-assessment process.

Applying the Performance Predictability Concept to Public Health Performance

The nationally-accepted resource for measuring public health performance is the NPHPSP, which identifies the public health system's capacity for each of the 10 essential public health services. The fact that the NPHPSP treats each essential service as autonomous (Figure 3) limits its utility beyond the public health system. Its independent structure implies that the solution to improving system performance lies outside the framework of the 10 essential services, which is to say that NPHPSP data is meant to inform public health systems of

their areas of need, but it offers minimal guidance on how these needs should best be addressed. Handler, Issel, and Turnock (2001) refer to the 10 essential services as *processes*, which need the support of a *mission* and *structural capacity* in order to obtain a desired outcome. The Performance Predictability Concept, on the other hand, asserts that guidance toward a desired outcome comes from within the framework of the 10 essential services, as the overall performance capacity is influenced by the performance capacities for *assessment, evaluation, and research* (essential services 1, 2, 9, and 10).

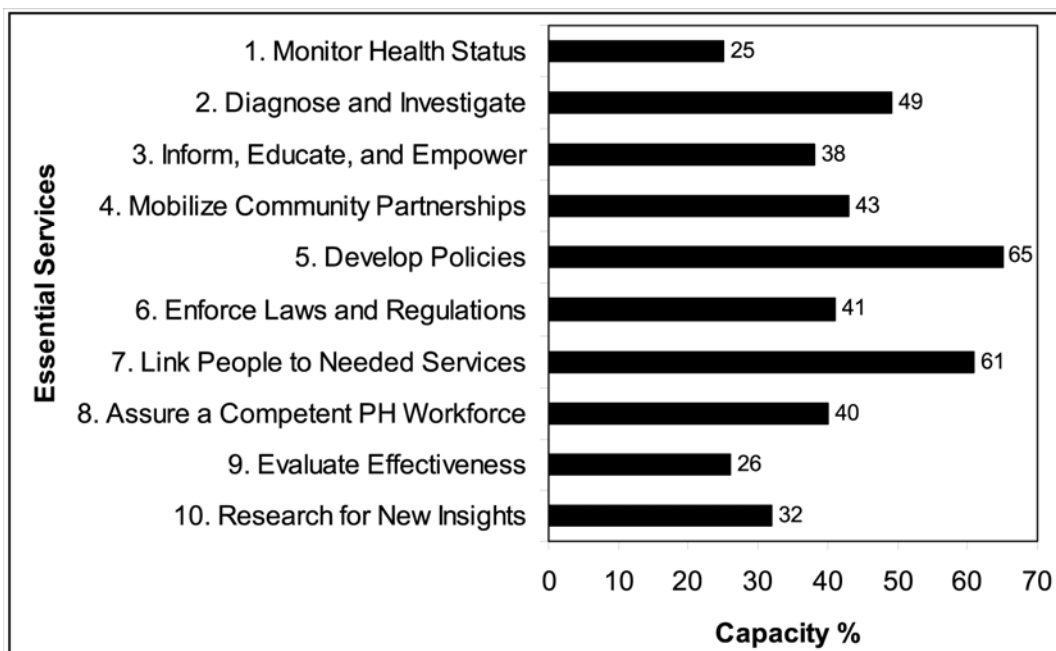


Figure 3. NPHPSP Essential Service Capacity Scores. The inconsistent pattern of capacity percentages among the essential services indicates they are assessed independently. The Develop Policies capacity of 65% suggests that policy development for this particular health department is based on something other than local data, as Monitor Health Status capacity was just 25%.

The Performance Predictability Concept is based on the 10 essential public health services (Harrell & Baker, 1994), the Public Health in America Model (Public Health Functions Steering Committee, 1995), and the NPHPSP local assessment (CDC, 1997). For the NPHPSP to reflect the Performance Predictability Concept in assessing public health performance, the following modifications to the methods for administering and scoring the local assessment are suggested:

Establish an Assessment Capacity Score as a Weighting Variable: In order to reflect the Performance Predictability Concept's idea that system capacity is dependent on the capacity for *assessment, evaluation, and research*, it is suggested that a weighting variable be built into the scoring methodology for the NPHPSP local assessment. Based on the motivation that *assessment* provides baseline information to the system, this study proposes that a weighting variable be created from the average of essential services 1 and 2. As outlined in Figure 4, the capacity proportion for the weighting variable is 37%, or .37 (capacity for essential service 1 [25%] + capacity for essential service 2 [49%], divided by 2 = 39%). Capacity scores as percentages can be averaged because Public health system responses to the NPHPSP local assessment are obtained through group consensus. Therefore, all values represent that of a single respondent (N = 1).

Apply Weighting to Essential Services 3 through 9: Figure 4 displays a comparison of the weighted and un-weighted essential services 3 through 9. The weighting ensures that assessment capacity will influence overall system

capacity. As a result, the capacity for essential services 3 through 9 can never exceed the capacity for the average of essential services 1 and 2. Therefore, optimal capacity in these areas depends on optimal capacity in *assessment*.

Essential Service 10 Remains Un-Weighted: In keeping with the intent of the Public Health in America Model (Public Health Functions Steering Committee, 1995), the research component supports all other essential services, and is not necessarily a function of the hierarchical structure.

NPHPSP Self-Assessment by the Public Health Agency: Under the Performance Predictability Concept, essential services 1, 2, and 9 are the responsibility of the public health department as system manager. In order to adequately monitor the capacity in these areas, it is proposed that an agency self-assessment should occur much more frequently than the capacity assessment for the system (essential services 3 through 8, and essential service 10). In addition, the results of the self-assessment could determine whether or when a system assessment is even necessary, as inadequate *assessment* capacity will only result in low system capacity.

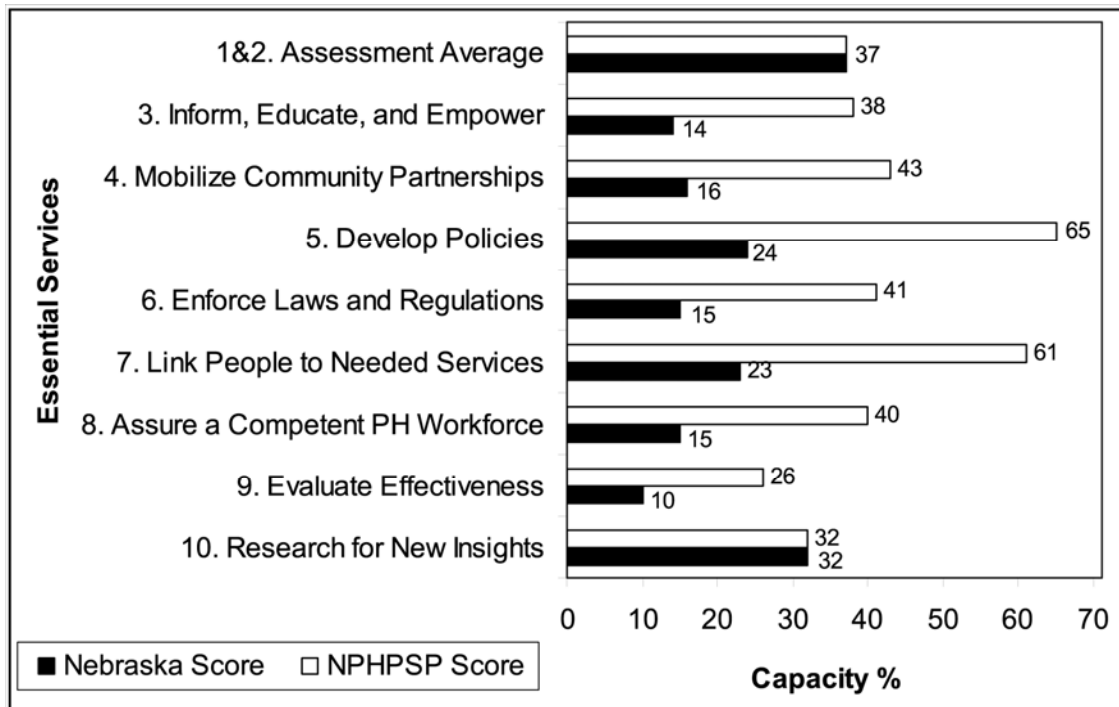


Figure 4. Comparison of Capacity Scores between the Existing NPHPSP Method and the Proposed Performance Predictability Method. White bars represent current NPHPSP scoring methodology, while the black bars represent capacity scores where essential services 3 through 9 are weighted by the average of capacity scores for essential services 1 and 2. In Figure 4, the weighting amount is .37 (the average of essential services 1 and 2).

Future of the Model

Handler, Issel, and Turnock (2001) proposed a framework for the public health system where performance occurs as a result of the interaction between five components: the macro context, the mission, the processes, the structural capacity, and the outcomes. They classify the 10 essential services (Harrell & Baker, 1994) as processes, and argue that using them as a way to

“conceptualize the practice of public health” is of “limited value for several reasons, including their focus on only one aspect of public health system performance.” Although there are many who would likely disagree with the assertions made by the Handler, et al. (2001), a recent Nebraska experience adds merit to their concept.

In 2006, the Nebraska Department of Health offered financial incentives for local health departments to administer the NPHPSP within their districts. Within two years, most of Nebraska’s 21 local health departments had done so. The consensus among them was that the assessment provided a valuable opportunity to educate current and potential stakeholders about the public health system, and on the role of the local health department within the system. A strategic initiative conceived by Nebraska’s local health directors in the fall of 2008 (Nebraska Association of County and City Health Officials) contained plans for addressing the statewide local public health infrastructure, but made no reference to system capacity, or the NPHPSP local assessment. As it turned out, the incentive from the state was effective in getting local health departments to partake in the NPHPSP assessment. However, given the minimal influence the process had on strategies for enhancing Nebraska’s local public health infrastructure, it appears that the health departments saw the effort as nothing more than an opportunity to receive funding.

The Handler, et al. framework (2001) provides a good argument on why system dynamics can occur only when the effort to make system change is deliberate. Without a mission, and the necessary structural capacity, addressing

performance through the 10 essential services (Harrell & Baker, 1994) is simply a process. In shifting the assessment function from being a product of the system to being a role of the local health department, the Performance Predictability Concept contends that achieving optimal assessment capacity will naturally build structural capacity, especially if achieving assessment capacity is motivated by the realization of agency accreditation.

Purpose of the Study

The premise of the Performance Predictability Concept is that assessment enhances all other system capacities. Capturing the spirit of the original intent of the IOM through their Future of Public Health Report (1988), public health officials in Nebraska have created a conceptual model that operationalizes the 10 essential public health services by recognizing three practical components: the *assessment* component as the responsibility of the local health department, the *research* component as the responsibility of collaborating colleges, universities and local agencies, and the *impact* component as the responsibility of local system partners. The purpose of this study was to introduce the Performance Predictability Concept, and substantiate its proposed components by examining the interaction between them, and the extent to which the *impact* component (essential services 3 through 8) is dependent on the capacity for *assessment* and *research* (essential services 1, 2, 9 and 10). Support for the Performance Predictability Concept through analysis of archival data from the National Public Health Performance Standards Program indicates that the National Public Health

Performance Standards Program should be a means for measuring both system and agency capacity.

Research Questions and Hypotheses

The Performance Predictability Concept is an attempt to provoke a fresh approach to defining and measuring the local public health system and the health department as the system manager. The model becomes tangible when specific metrics are associated with it. Considering assessment (including evaluation) as being the responsibility of the local health department, and research as being a responsibility addressed from outside of the system, the following research questions guided this study in substantiating the Performance Predictability Concept.

1. To what extent does the Performance Predictability Concept provide rationale for looking at assessment as an agency responsibility?
2. To what extent do assessment and research impact the public health system's capacity for its essential public health services?
3. Is it feasible to consider the NPHPSP instrument for measuring capacity at both the system and agency levels?

Testing of the following eight hypotheses may help to determine the extent to which assessment impacts the system capacity for the essential public health services. Results of the hypothesis testing offers an indirect determination of the extent to which the Performance Predictability Concept provides rationale for considering assessment as an agency responsibility, and whether it is feasible to

consider the NPHPSP instrument for measuring capacity at both the system and agency levels – which implies that the NPHPSP is a good fit for national agency accreditation.

Hypothesis 1

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *informing, educating, and empowering* (essential public health service 3).

Hypothesis 2

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *mobilizing community partnerships* (essential public health service 4).

Hypothesis 3

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research*

(essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *developing policies* (essential public health service 5).

Hypothesis 4

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *enforcing public health laws* (essential public health service 6).

Hypothesis 5

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *linking people to necessary care* (essential public health service 7).

Hypothesis 6

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *assuring a competent workforce* (essential public health service 8).

Hypothesis 7

Comparing their independent effect on each of the capacities for essential services 3 through 8, *monitoring health status*, and *diagnosing and investigating diseases*, will account for more variability than will *evaluating public health effectiveness*, and *public health research*.

Hypothesis 8

The independent effects of *monitoring health status*, *diagnosing and investigating diseases*, *evaluating public health effectiveness*, and *public health research* (essential public health services 1, 2, 9, and 10) will be greater among agencies with fewer than 25 FTE than that of the total population.

Limitations of the Study

Data from the NPHPSP local instrument is derived through group-consensus perceptions related to the capacity for each of the 10 essential public health services within a given public health system. Public health systems that are well established, and well managed by a local health department, are likely to produce NPHPSP data that accurately reflects the system. However, among public health systems that are not well established, the perceptions of the NPHPSP assessment participants may not accurately reflect the true state of the public health system. This potential for inconsistencies suggests the NPHPSP should be analyzed through non-parametric methodologies. However, the NPHPSP data appears to be continuous, and has been analyzed as such by

most, if not all, past studies. Therefore, in order for the results of this study to be comparable, the data were treated as parametric.

The NPHPSP data used for this study were the sum of all NPHPSP data collected between 2002 and 2007. Participating public health systems were self-selected. Therefore, the data is limited in the extent to which it can be used to make inferences toward a larger population.

The proposed utility of the Performance Predictability Concept for drawing inferences related to public health agency roles is subjective, as this study does not contain methods for directly testing the Concept. The Performance Predictability Concept contends that certain essential public health services should be the sole responsibility of the local health department, and that these responsibilities are the catalyst toward a functioning public health system. To make this connection, this study examined indicators which support the Concept such as the statistical relationships between the *Assessment* essential services (1, 2, and 9) and the *Impact* essential services (3 through 8).

The methods of this study are non-experimental/archival, which limits the internal validity and causal assessment of its results. The fact that this study is using data collected by others makes it subject to the limitations and biases of the data. Archival data have usually been collected for purposes other than research.

Because the data is archival, there may be alternative explanations to the findings due to uncollected or unmeasured additional variables.

Studies using non-experimental/archival methods lack the basic hallmarks of experimental research – manipulation of variables and assignment by the experimenter to conditions.

CHAPTER 2: LITERATURE REVIEW

Introduction

The purpose of this study was to introduce and substantiate the Performance Predictability Concept as a guide for defining and measuring local public health systems, with emphasis on the local public health department and its role as system manager. In support of this purpose it is necessary to establish an understanding of the current trends, philosophies, and efforts for local public health in the United States. The underlying factors toward achieving the study's purpose were, (1) the public health system in relation to systems theory or systems thinking, (2) past experiences regarding public health performance measurement, (3) past and present experiences with the National Public Health Performance Standards Program, and (4) the function of assessment, including evaluation, in the local public health system.

Public Health as a System

Bertalanffy (1968) used system theory as the basis for the multidisciplinary field of study known as *general system theory*, which depicts systems as integrated multiple parts, as opposed to the detached silos that have emerged from individual processes and isolated organizations. Bertalanffy (1976) later elaborated that a systems approach takes into account the direct and indirect effects of change upon the internal or external system elements that have the potential to affect any part or process within the system.

Leischow and Milstein (2006) offer that there is no single discipline for systems thinking because, as implied, it is a “linkage of disciplines.” They go on to describe the system’s approach as “a paradigm or perspective that considers connections among different components, plans for implications of their interaction, and requires transdisciplinary thinking as well as active engagement of those who have a stake in the outcome to govern the course of change.”

Midgley (2006) contends that “The whole concept of public health is founded on the insight that health and illness have causes or conditions that go beyond the biology and behavior of the individual human being.” Some of the earliest work with systems and public health had to do with capacity building and performance in relation to the core public health functions (Turnock, Handler, & Miller, 1998). Public health systems research eliminates the barriers between what are normally considered independent areas such as finance, epidemiology, and behavioral and social science. In a system, these areas are integrated with each other through decision analysis and operations research to focus on how the whole system achieves a desired outcome (Graham, 2007).

The National Public Health Performance Standards Program (CDC) states that “a public health system includes all public, private, and voluntary entities that contribute to delivery of essential public health services within a state or local public health jurisdiction. This network of individual and organizational entities within a jurisdiction has differing roles, relationships, and interactions with its system partners and the populations served. Each of these entities contributes to the health and well being of the populations served.”

Trochim, Cabrera, Milstein, Gallagher, and Leischow (2006) suggest that systems can be understood by using two organizing ideas, dynamics and complexity. They offer the public health arena as an example of a complex system, “in that they consist of many interacting stakeholders with often different and competing interests.” They go on to imply that through all of the varying dynamics within or between systems, the one common characteristic of dynamics is change. As an example of a public health system, Trochim, et al. (2006) referred to the Surgeon General’s report on smoking (US Dept of Health, Education, and Welfare, 1964). They stated that “the report was most likely an important catalyst in creating a public policy climate that enabled the litigation that led to the Tobacco Settlement Agreement several decades later, to increased taxation of cigarettes by states, to legal restrictions on smoking in public places, and to tobacco counter-advertising”.

Trochim, et al. (2006) contends that in order for systems thinking to flourish in the area of public health, the following eight practical challenges should be addressed:

1. Support Dynamic and Diverse Networks
2. Inspire Integrative Learning
3. Use Systems Measures as Models
4. Foster Systems Planning and Evaluation
5. Show Potential of Systems Approaches
6. Expand Cross-Category Funding
7. Utilize System Incentives

8. Explore Systems Paradigms and Perspectives

To the extent that systems thinking is a conceptual way of explaining the interaction of the various components of the system, Trochim, et al. (2006) argue that their eight challenges can help to define the boundaries of the system, as to provide focus in understanding its complexity. However, regarding systems science, Green (2006) conveys concern as to whether it will “achieve methodologically what *ecological* approaches have offered conceptually as a way of encompassing the multiple levels necessary to understand and harness the reciprocal relationships among biology, behavior, and environments.”

Measuring Public Health Performance

The modern movement toward national public health standards began as a result of the recommendations put forth by the IOM in their Future of Public Health report (1988). The report defined the government’s role in public health through three core functions: assessment, policy development, and assurance. Healthy People 2000 (USPHS, 1991) incorporated the three core functions through objective 8.14, which specified, “Increase to at least 90 percent the proportion of people who are served by a local health department that is effectively carrying out the core functions of public health.” Although there was no baseline data or substantial way of measuring this objective (Turnock, et al., 1994), at approximately the same time as the Healthy People Objectives were published, the Public Health Practice Program Office (1991) was finalizing work

on its Organizational Practice Definitions, which soon became known as the 10 Public Health Practices (Dyal, 1991; Turnock & Handler, 1992).

As an initial attempt toward producing metrics in relation to the Healthy People 2000 objective (1991), Miller, Moore, Richards, and Monk (1994) developed a pilot survey based on the three core functions (IOM, 1988), and the more elaborate 10 Public Health Practices (Dyal, 1991; Turnock & Handler, 1992), and administered it to 14 local health departments. Each of the 10 indicators received two scores – one for the health department and one for the community. The scores for the health department were calculated as a percentage of the community score, which resulted in the health department score never exceeding the community score. Results for the community portion of the study revealed the greatest mean performance ratios in the areas of *implement* (.77), *analyze* (.71), *advocate* (.66), and *manage* (.65), while the greatest mean ratios for the health departments were in the areas of *implement* (.68), *analyze* (.65), and *investigate* (.53). In explaining the findings of the study, Miller, et al. (1994) made reference to the not-yet-identified concept of the public health system, as the public health agencies responding to the survey noted some frustration from the “large number of agencies contributing to public health performance at the local level.” Also interesting was the article’s reference to the “perennially vexing problem – defining exactly what a health department is.” This is a problem that unfortunately still exists in 2009 – 15 years after the Miller, et al. article was published.

In a response to the Miller, et al. (1994) article, Jung (1995) pointed out the low scores for the practice of *evaluation* among the 10 Public Health Practices that were the points of measurement in the Miller, et al. survey. Jung commented, “My main concern over the study’s findings is how poorly the practice of *evaluation* fared overall, while practices such as *implementation*, *analysis*, *advocacy*, and *management* did so well. It seems ironic that these practices can occur effectively without good evaluative practices in place.” Jung also pointed out that among the local public health agencies that participated in the Miller, et al. study, those that had no outside-agency support did poorly, while those that had support from universities fared better.

Also responding to Miller, et al. (1994), Turnock and Handler (1995), refer to the 10 Essential Public Health Services (Harrell & Baker, 1994) and note their differences from the 10 Public Health Practices, which were used for the basis of the Miller et al. study. Asking whether the 10 practices should be dropped for the 10 services, Turnock and Handler point out that the public health practices were created to “operationally define” the three core functions, and the public health services created to describe public health activities in an understandable fashion for audiences external to the field. They continued their critique by adding that the practices and services “were derived from quite different applications and should not be viewed as generic equivalents.” Regardless of whether Turnock and Handler (1995) felt the 10 Essential Public Health Services (Harrell & Baker, 1994) should have been dropped, they are, in 2009, what defines the practice of public health in the United States.

Weighing in on the responses to Miller, et al. (1994), Miller (1995), points out that in assessing local public health departments, the diversity in their “size, resources, scope of services, and organizational structure complicates efforts to characterize public health responsibility in this country as it is or as it ought to be.” In agreement with Jung (1995), Miller added that in the low-scoring jurisdictions, public health practitioners “worked hard but seldom planned, prioritized, or evaluated their efforts.”

In relation to health department diversity, and specifically health department size, a study by Studnicki, et al. (1994) looked at the 10 Organizational Practices (Public Health Practice Program Office, 1991), and the time and budget devoted to each within a large urban health department. With an annual 1991 budget of \$10 million, and 551 employees, Studnicki, et al. found that 67.6% of total manpower hours, and 60.6% of total salary and benefits were devoted to *implementing programs*. The second greatest allocation of resources went toward *informing and educating the public*, which drew upon 11.5% of total manpower hours, and 12.1% of budget expenses for salary and benefits. Mentioned as a limitation to this study was the potential that other agencies, such as state or regional offices, provide technical assistance that wasn’t accounted for in the findings. In contrast to the Miller, et al. (1994) study, the findings from Studnicki, et al. presents the possibility that the perception that a local health department has about its areas of emphasis may not be accurate, as records of manpower and salary budget may not support these perceptions of focus area.

Within the same time period but with a slightly different methodology, Turnock, et al. (1994) conducted a study among 208 local health departments where each was asked to rate their compliance in addressing the three core functions (IOM, 1988) and their associated 10 performance measures. Compliance was defined as “fulfillment of any seven of the 10 performance measures,” or “fulfillment of seven of the 10 performance measures, with at least two of each from the three core functions.” In addition to self reporting their compliance with the 10 performance measures, participants were asked to clarify whether their local public health department played the role as *lead agency*, *collaborator*, *had minimal involvement*, or *not applicable* for each. Although it was a similar study, the findings of Turnock, et al. were an enhancement to those from Miller, et al. (1994), and Studnicki, et al. (1994), with the difference being in the discovery that local health departments described themselves as being in the lead role for *assessing*, *investigating*, *prioritizing*, and *implementing*. In addition, Turnock, et al. considered the measures of *management*, and *evaluation* as internal to local health department functioning, and, therefore, did not ask participants to rate their role for either.

In reviewing the literature of the early efforts in measuring public health performance, the following relevant points emerged:

1. Although not defined as such, researchers identified the existence of collaborative efforts by many community players in addressing the 10 performance areas, now known as the public health system.

2. One of the ongoing quests in public health is defining exactly what a health department is or does.
3. Evaluation capacity has a direct effect on the definition and measurement of many, if not all, of the performance measures.
4. There are components within the 10 performance areas where it should be assumed that the local public health department acts in a leadership capacity.

The National Public Health Performance Standards Program

In 1997 The Centers for Disease Control and Prevention, in collaboration with five public health practice organizations, established the National Public Health Performance Standards Program (NPHPSP [CDC]). Based on the 10 essential services, the NPHPSP instruments were designed to assess the performance of state and local public health systems. According to the CDC, the purpose of the NPHPSP is “to improve the practice of public health by providing leadership in research, development, and implementation of science-based performance standards.” The NPHPSP operates under the following three objectives: (1) develop performance standards for public health practice as defined by the essential services of public health, (2) collect and analyze performances data, and (3) improve system-wide performance.

In examining the history of measuring public health performance in the United States, Turnock and Handler (1995) concluded that past efforts had

lacked the adequate conceptual framework necessary for defining public health systems. Handler, Issel, and Turnock (2001), refer to the “essential public health services” as processes which are merely one of the five total components of their “conceptual framework to measure performance of the public health system.” Therefore, they believe using the core function/essential services framework as a way to “conceptualize the practice of public health” is of “limited value for several reasons, including their focus on only one aspect of public health system performance.” Nonetheless, the field of public health has embraced the NPHPSP as the tool of choice for measuring public health performance from the perspective of the system.

In a review of various efforts to show validity with the NPHPSP local and state instruments, Beaulieu, Scutchfield, & Kelly (2003) reported that studies to assess the instruments’ validity started in 1999 in Texas, and have been followed up by efforts in Florida, Hawaii, Minnesota, New York, and Kentucky. Studies have shown the NPHPSP instruments to have face validity (the appearance of a good translation of the construct [Trochim, 2006]) and content validity (the extent to which the instrument covers the relevant content for the construct [Trochim, 2006]). However, criterion-related validity, or the instruments’ ability to make a prediction of performance based on the theory of the construct (Trochim, 2006) has not been supported by past studies. Beaulieu, et al. (2003) reported that a Florida study resulted in statistically significant differences in what state health officials understand to be happening at the local level, and what really is happening, as reported by local officials. Noted as having a potential effect on

these differences is the variation in size of local public health departments participating in the study. The size factor makes it difficult to obtain a common landscape of the public health system.

Mays, et al. (2004) analyzed the NPHPSP local instrument through the method of exploratory factor analysis. The version of the instrument that was examined contained 521 activity variables nested within 28 higher-order variables, nested within 10 essential service indicators. Using 28 performance indicators, Mays, et al. found that just four of the 10 essential service indicators emerged as viable factors. The authors cited the variation in the extent to which local public health systems perform essential services and meet the established performance standards. They also suggest that it may not be necessary to collect information on 521 variables considering the variables' likelihood not to produce the expected number of viable factors, and to not load onto the appropriate factors as theorized. However, it is possible that many of the items from the NPHPSP instrument are not appropriate indicators of the construct for which they are meant. In fact, through the cross-loading of certain items on different factors, Mays, et al. concluded that essential-service capacity is a product of several different types of skills and resources. They found that proficiency in the areas of *assessment/policy development*, and *regulation/oversight* had an impact on the capacity for *evaluation*. In addition, Mays, et al. found that *research* emerged as an area of weakness for the local public health agencies, which calls attention to the Public Health in America Model's portrayal that research supports all other essential services (Public

Health Functions Steering Committee, 1995), and the importance of support from outside agencies such as universities (Miller, et al., 1994).

The NPHPSP (CDC) local assessment treats the 10 essential services (Harrell & Baker, 1994) as categorical concepts (Handler, Issel, and Turnock, 2001), whereas the capacity for each is assessed primarily on its own worth. Ellison (2005) highlighted the results of a NPHPSP-based system assessment in Livingston County, New York. In relation to the capacity for the 10 essential public health services, Ellison explained that the local public health system excelled in *Diagnose and Investigate*, *Develop Policies*, *Enforce Laws*, *Link People to Needed Care*, and *Research*. The local public health system did moderately well in *Mobilizing Community Partnerships*, *Ensuring a Competent Workforce*, and *Evaluation*. And finally, the local public health system needed improvement in *Monitoring Health Status*, and *Inform Educate and Empower*.

In a similar study, Baird and Carlson (2005) presented the aggregate NPHPSP results for a group of local systems in North Dakota. Among the essential services, four areas had capacity scores below 50%: *Develop Policies* (47%), *Evaluate* (45%), *Research* (36%), and *Monitor Health Status* (36%). In the Baird and Carlson study as well as the Ellison study, Monitor Health Status was identified as an “opportunity for improvement.” These results make the assertion that it is possible to effectively *mobilize community partnerships, inform and educate, develop public health policies, enforce laws, link people to needed services, ensure a competent workforce, and evaluate* in the absence of quality data from the local community assessment. This assertion is in contrast to that

made by Green and Kreuter's PRECEDE/PROCEDE framework (2005), in that data establishes need for which interventions are created and carried out.

The Role of Assessment in the Local Public Health System

The IOM (1988, p. 44) defines assessment as “all the activities involved in the concept of community diagnosis, such as surveillance, identifying needs, analyzing the causes of problems, collecting and interpreting data, case-finding, monitoring and forecasting trends, research, and evaluation of outcomes.” The IOM goes on to state,

Assessment is inherently a public function because policy formulation, in order to be legitimate, is expected to take in all relevant available information and to be based on objective factors – to the extent possible. Private sector entities are expected to have self interests. Therefore, the information they generate, while frequently quite useful to the policy process, is not judged by its fairness. In contrast, although public agencies, in practice, do not always weigh all sides of a question, in principle they are obligated to do so. A fully developed assessment function is an absolute essential part of the ideal public health system, and it is one that the committee believes to be in large measure attainable. (p. 44)

In their definition, the IOM referred to evaluation as part of assessment. In relation to their health program planning model, Green and Kreuter (2005, p. 80) concur that evaluation is an ongoing process that begins as part of the assessment, and that “the public health professional has the primary responsibility for ensuring not only that the planning process is informed by valid and reliable health data, but that those data, and their implications, are presented in a way that all stakeholders understand and can act upon them.”

As efforts continue to define the practice of public health, current definitions of assessment consider it to not only include primary and secondary data collection, but also the prioritizing, planning, and implementation of interventions (Myers & Stoto, 2006). In fact many studies evaluate assessment based on the impacts or outcomes it produces, viewing assessment as a programmatic process, and apparently overlooking the many process-related variables that can have an effect on a program’s success (Stoto, Straus, Bohn, and Irani, 2009; Spice & Snyder, 2009; Solet, et al., 2009). Martin (2009) suggests that it may not be reasonable to expect community health assessment to have a direct impact on community health, and that assessment might be better served if it is evaluated merely on the quality of the information that it produces, and its utility toward the larger community process. Curtis (2002, p. 25) contends that “assessment has value independent of action taken to correct community health problems.”

The case has been made throughout this paper that within the public health system, and in relation to the 10 essential public health services,

assessment is the responsibility of the local public health agency, and it influences the capacity for the other essential services (3 through 8). Welch (1988) explains how data from a community health assessment for Allegheny Health District (VA) resulted in several public health interventions, through which capacity was built within various essential service areas. In one instance, survey results identified alcohol/drug abuse as a perceived community need, which led to the creation of a coalition to address the issue. The formation of the coalition was an increase in capacity for *Mobilizing Community Partnerships* (essential service 4). Other data presented an area of the community where there were an excessive number of lost days due to stress. Public health officials responded by obtaining two additional psychiatrists, and extra psychiatric beds in the local hospital. The response to the situation was an increase in capacity for *Linking People with Needed Services* (essential service 7).

Summary of Findings

The intent of this literature review was to gather information and support for the underlying factors that influence the purpose of this study. As such, the following supportive themes emerged:

1. The concept of the *public health system* has been in existence since before it was even formally conceived.
2. One of the ongoing quests in public health is defining exactly what a health department is or does.

3. Evaluation capacity has a direct effect on the definition and measurement of many, if not all, of the performance measures.
4. The local public health department has responsibilities over and above those as just another system partner. The local public health department's role within the public health system is as leader.
5. There is much support for the idea that evaluation is part of assessment.
6. Interventions that evolve as a result of community assessment data are a direct reflection of increased capacity among their respective essential public health services.
7. The NPHPSP model allows capacity to build within essential public health services, even in the absence of assessment capacity.
8. There is support for the idea that assessment influences the capacity in all other essential public health services.

CHAPTER 3: METHODS

Research Approach

Having been administered to over 800 public health systems since 1998, The National Public Health Performance Standards Program (NPHPSP [CDC]) is recognized as the prevailing resource for defining and measuring public health performance in the United States. However, as the likelihood of national accreditation for local public health departments increases (Exploring Accreditation Project Steering Committee, 2006), so to does the reality that local health departments will have to undergo an additional process for assessing public health performance. Nationally, 60% of local public health departments employ fewer than 25 FTE workers, with 36% employing fewer than 10 FTE workers (National Association of County and City Health Officials, 2005b). Considering the demand on time and effort associated with administering the NPHPSP assessment (CDC), it is unlikely that smaller health departments will have the resources for an additional assessment, and may have to choose between system assessment and agency accreditation (National Opinion Research Center, 2008). The purpose of this study was to introduce and substantiate what has been called the “Performance Predictability Concept” in this study as a guide for defining and measuring local public health systems. The model proposes scoring adjustments to the NPHPSP local assessment to enhance its utility as an instrument for both system and agency performance.

Table 1 displays the NPHPSP capacity scores representing 15 of the 18 local health departments in Nebraska. The *O-Capacity* column contains the mean NPHPSP capacity scores for each of the 10 essential public health services, while the *W-Capacity* column contains the mean capacity scores after being weighted per the Performance Predictability Concept.

Table 1

Mean NPHPSP Capacity Scores for Nebraska Local Health Departments (N=15)

<i>Essential Public Health Service</i>	<i>O-Capacity</i>	<i>W-Capacity</i>
1. Monitor Health Status	52	52
2. Diagnose and Investigate Health Problems	77	77
3. Inform, Educate, and Empower	60	39
4. Mobilize Community Partnerships	49	32
5. Develop Policies and Plans	70	45
6. Enforce Laws and Regulations	56	36
7. Link People to Needed Health Services	56	36
8. Assure a Competent Workforce	58	37
9. Evaluate Effectiveness, Accessibility, Quality	49	32
10. Research for New Insights and Innovations	44	44

Notice in Table 1 the values within the *O-Capacity* column. *Monitor Health Status* has a capacity score of 52 (52% of capacity), while *Inform, Educate and*

Empower, Develop Policies and Plans, Enforce Laws and Regulations, Link People with Needed Services, and Assure a Competent Workforce all have capacity scores greater than 52. According to the NPHPSP, the gold standard for *Monitor Health Status* is a completed community health profile containing the following information from the local community:

1. Community demographic characteristics
2. Community socioeconomic characteristics
3. Health resource availability data
4. Quality of life data for the community
5. Behavioral risk factors for the community
6. Community environmental health indicators
7. Social and mental health data
8. Maternal and child health data
9. Death, illness, and/or injury data
10. Communicable disease data
11. Sentinel events data for the community

At issue is the fact that, on average, Nebraska's local health departments have 52% of the information necessary for a good community health profile, yet they claim to have 70% capacity in *Developing Policies and Plans*, and 60% capacity in *Informing and Educating*. These scores give the impression that it is possible to build capacity in the areas that address public health risks, but without the data that should define those risks and supply needed information for evaluation.

The Performance Predictability Concept suggests that assessment contains the essential services of *Monitor Health, Diagnose and Investigate Health Problems*, and *Evaluate Effectiveness, Accessibility, and Quality*. The concept proposes that, within the public health system, assessment is the catalyst for the system, and is the responsibility of the local health department. In addition, the concept maintains the assertion made by the Public Health in America Initiative (Public Health Functions Steering Committee, 1995) that *Research*, as an essential service, is independent from the system, but is an important contributor to the capacity of the other essential public health services in the system. To describe the model concisely is to convey it as having three components: (1) *Assessment* contains essential services 1, 2, and 8, and is the responsibility of the local public health department; (2) *Research* (essential service 10) to acquire new insights and innovative solutions to local health problems, is the responsibility of a partnership between local stakeholders, institutions of higher learning, and local public health departments; and (3) *Impact* - contains essential services 3, 4, 5, 6, and 7, each of which is dependent on *Assessment* and *Research*.

Past studies have analyzed NPHPSP data to determine associations between the essential public health services and various elements from outside of the NPHPSP instruments. Mays, et al. (2006), and Scutchfield, et al. (2004) examined variables associated with public health structure, such as finance, organization and management, and variables related to county-level demographics, and federal public health spending. Computing cross-sectional

multivariate regression models, with the essential public health services as the dependent variables, Mays, et al. entered independent variables into mixed regression models with random effects to account for within-state correlations. Scutchfield, et al., on the other hand, identified variables through a bivariate analysis. Variables with significant relationships to performance were further analyzed via stepwise regression. Although similar to Mays, et al and Scutchfield, et al. from the perspective of a non-experimental design, using multiple-regression as the method of data analysis, this study was different in that it dissected the NPHPSP data to formulate three cohort groups, and analyzed the relationships between each.

Research Design

This study was a non-experimental, archival, cross-sectional analysis of the NPHPSP data. The Performance Predictability Concept asserts that the public health system contains three components: the *Assessment* component (essential services 1, 2 and 9), the *Impact* component (essential services 3 through 8), and the *Research* component (essential service 10). Among these three components, the extent to which *Impact* capacity increases or decreases is dependent on the capacities within *Assessment* and *Research*. In order to test this assertion, data were analyzed by two groups: health departments with less than 25 FTE's, and health departments with 25 or more FTE's. Seven separate multiple regression analyses were conducted for each of the two groups, resulting in a total of 14 separate multiple regression analyses. The seven

dependent variables consisted of the individual essential services 3 through 8, and an overall performance variable made up of their mean. The independent variables for each analysis contained the four essential services related to *Assessment and Research* (essential services 1, 2, 9, and 10). Figure 5 provides an illustration of the two groups of regression analyses.

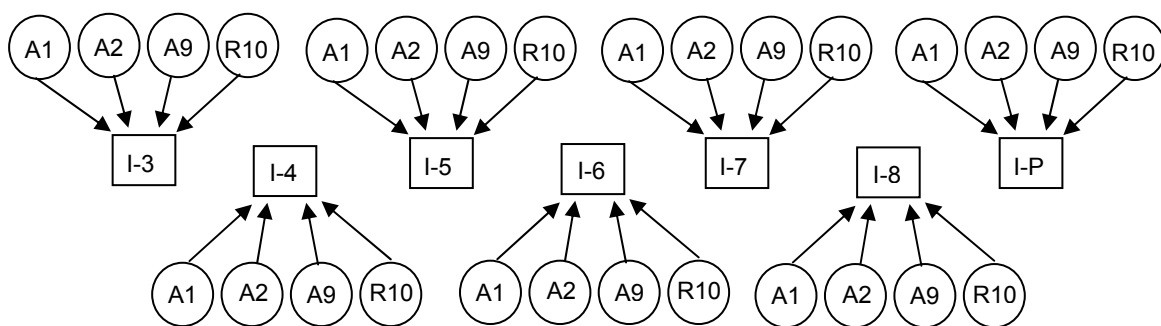


Figure 5. Multiple Regression Design to Support the Performance

Predictability Concept. Seven regression analyses will be conducted for each group ($FTP < 25$ and $FTP \geq 25$). The dependent variables are labeled as I-3, I-4, I-5, I-6, I-7, I-8, and I-P, which represent essential services 3 through 8 and their combined mean score. Independent variables are labeled as A1, A2, and A9, representing essential public health services 1, 2, and 9, and R10, representing essential service 10.

Research Questions and Hypotheses

The Performance Predictability Concept is an attempt to provoke a fresh approach to defining and measuring the local public health system and the health department as the system manager. The model becomes tangible when specific

metrics are associated with it. Considering assessment (including evaluation) as being the responsibility of the local health department, and research as being a responsibility addressed from outside of the system, the following research questions guided this study in substantiating the Performance Predictability Concept.

1. To what extent does the Performance Predictability Concept provide rationale for looking at assessment as an agency responsibility?
2. To what extent do assessment and research impact the public health system's capacity for its essential public health services?
3. Is it feasible to consider the NPHPSP instrument for measuring capacity at both the system and agency levels?

Testing of the following seven hypotheses gives an indication of the extent to which assessment impacts the system capacity for the essential public health services. Results of the hypothesis tests offers an indirect determination of the extent to which the Performance Predictability Concept provides a rationale for considering assessment as an agency responsibility, and whether it is feasible to consider the NPHPSP instrument for measuring capacity at both the system and agency levels – which implies that the NPHPSP is a good fit for national agency accreditation.

Hypothesis 1

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research*

(essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *informing, educating, and empowering* (essential public health service 3).

Hypothesis 2

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *mobilizing community partnerships* (essential public health service 4).

Hypothesis 3

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *developing policies* (essential public health service 5).

Hypothesis 4

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect

on the capacity for *enforcing public health laws* (essential public health service 6).

Hypothesis 5

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *linking people to necessary care* (essential public health service 7).

Hypothesis 6

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *assuring a competent workforce* (essential public health service 8).

Hypothesis 7

Comparing their independent effect on each of the capacities for essential services 3 through 8, *monitoring health status, and diagnosing and investigating diseases*, will account for more variability than will *evaluating public health effectiveness, and public health research*.

Hypothesis 8

The independent effects of *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) will be greater among agencies with fewer than 25 FTE than that of the total population.

Subjects

The population for this study consisted of 529 local public health systems from 30 states. Each local system completed the NPHPSP local instrument, Version 1, between 2002 and 2007. Duplicate cases and cases with missing values were removed from the data set, which resulted in a final data set containing 449 cases (duplicates exist when the same health department has administered the NPHPSP assessment during two different occasions, in which case, the most recent occasion will be kept as part of the dataset).

Instrumentation

Data for this study was gathered between 2002 and 2007 using the NPHPSP local instrument. The instrument contained 521 activity variables nested within 28 higher-order variables, nested within 10 essential service indicators (Appendix A). The NPHPSP local instrument provided participants with descriptions of the “gold standard” for various public health activities related to each of the 10 essential public health services. The NPHPSP assessment was completed through participant-discussion around questions related to the

model standards. Each response on the NPHPSP instrument was a result of participant groups reaching consensus for that particular question. The NPHPSP suggested that to maximize the potential of the assessment process, it was necessary for local assessment coordinators to pay special attention to participant orientation, discussion facilitation, and recording of consensus responses. The local assessments took approximately 1 to 2 hours per essential service, and were likely structured in one of the following ways:

Local assessment organizers conducted a one-to-two-day retreat where all participants typically attended an orientation session followed by the full group completing the instrument.

Local assessment organizers may have used several small groups to address specific sections of the instrument, whereas one group addressed essential services 1, 2, and 3, and another group addressed essential services 4, 5, and 6, etc. Participants would have been grouped according to their experience/expertise related to the essential services being assessed.

Some local organizers conducted a series of meetings addressing one or more Essential Services at a time. Through this process, a single core group would have participated in the entire process. This technique promoted consistency and cross-training throughout the assessment process.

NPHPSP Scoring Methodology (As provided by CDC)

The Ten Essential Public Health Services (EPHS) serve as the underlying framework for the performance assessment instruments. Each Essential Service is divided into several indicators, which represent major components of

performance for each service. Each indicator has an associated model standard that describes aspects of optimal performance, along with a series of assessment questions that serve as measures of performance. These questions begin with a stem (or first-tier) question, followed by a series of sub-questions (Figure 6).

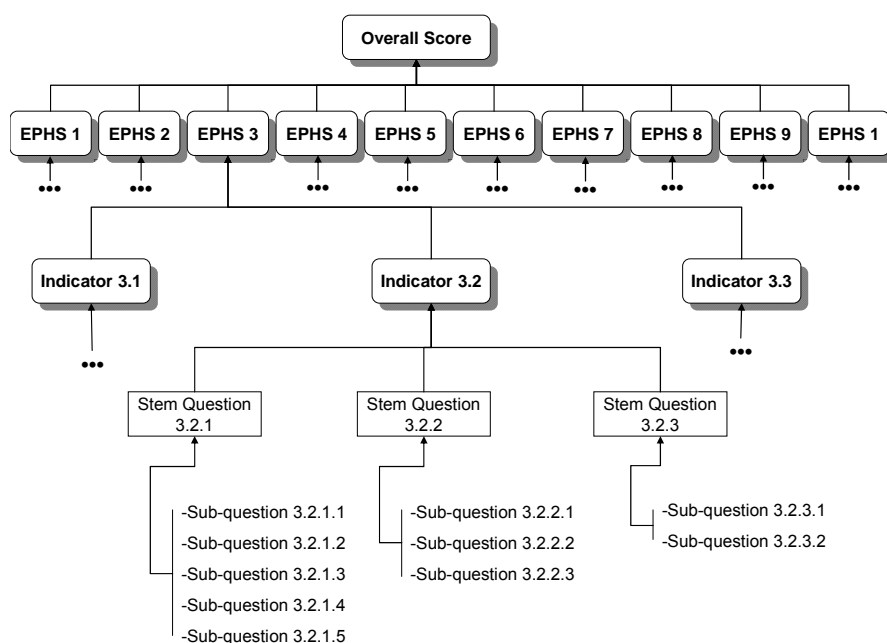


Figure 6. Scoring Logic and Hierarchy for the Assessment Instruments.

Each question and sub-question uses a five-point, Likert-type response option that indicates the extent to which the activity is performed by the public health system. A numeric value is assigned to each response option as follows:

<u>Response Option</u>	<u>Response Value</u>
No activity	0.00
Minimal activity	0.25
Moderate activity	0.50
Significant activity	0.75
Optimal activity	1.00

The scoring methodology for the assessment instrument establishes a weight for each question, and then multiplies the weight by the response value to obtain a weighted value for each question. These weighted values are combined to construct performance scores for each indicator and each Essential Service, along with an overall performance score. This process is implemented through the four steps described below.

Step 1: Construct Question Scores

The first step in the scoring process is to construct a score for each grouping of questions, defined as the stem question and all its associated sub-questions. Most stem questions have between 2 and 5 associated sub-questions, but some have no sub-questions and others have more than 5 sub-questions.

Each grouping of questions is given a weight of 1 point. Half of this point is assigned to the stem question, creating a weight of 0.5 for each stem question. The remaining half-point is distributed equally among all the sub-questions associated with the stem question. The weight assigned to each sub-question is therefore determined by the number of associated sub-questions. For example, if five sub-questions are associated with the stem question, then each sub-question receives a weight of 0.1. If a stem question has no sub-questions, the stem question is given the full weight of 1 point.

For each stem question, a weighted value is calculated by multiplying the weight times the response value for that question. Similarly, the weighted value for each sub-question is calculated by multiplying the weight times the response value for each sub-question. A *question score* is then constructed for each grouping of questions by adding together the weighted value for the stem question and the weighted values for each associated sub-question. The result is a weighted average of the stem question and sub-question responses. The resulting number is multiplied by 100 so that it can be interpreted as a percentage of the maximum possible score. Table 1 provides an example of this process for the question grouping associated with indicator 1.1.

Table 2

Example Methodology for Computing Question Score

Question	Response	R Value	x	Weight	=	W Value
Q1.1.1 (stem)	Moderate	0.50		0.500		0.25
Q1.1.1.1	Minimal	0.25		0.125		0.03125
Q1.1.1.2	Significant	0.75		0.125		0.09375
Q1.1.1.3	Significant	0.50		0.125		0.09375
Q1.1.1.4	Moderate	0.50		0.125		0.0625
Sum the weighted values						0.53125
Multiply by 100 to obtain question score						53.1%

Step 2: Construct Indicator Scores

As a second step in the scoring process, question scores are aggregated into a score for each indicator. Each indicator has between two and five associated question scores, based on the number of stem questions contained within the indicator. The *indicator score* is computed as a simple average of the associated question scores (*QScores*), as in the following example for Indicator 1.1:

$$\text{Indicator Score 1.1} = \frac{(QScore_{1.1.1} + QScore_{1.1.2} + QScore_{1.1.3})}{3}$$

Step 3: Construct Essential Public Health Service Scores

A score for each Essential Public Health Service is computed by aggregating the associated indicator scores. Each Essential Service has between two and four associated indicator scores. The *Essential Service score* is computed as a simple average of the associated indicator scores (*IScores*), as in the following example:

$$\text{Essential Service Score 1} = \frac{(IScore_{1.1} + IScore_{1.2} + IScore_{1.3})}{3}$$

Step 4: Construct Overall Performance Score

Finally, an *overall performance score* is computed as a simple average of the 10 Essential Service scores (*SScores*) as follows:

$$\text{Overall Score} = \frac{\sum_{i=1}^{10} SScore_i}{10}$$

The appendix provides a full example of the scoring method for Essential Service 1.

Data Analysis Procedures

Data from NPHPSP performance assessment were first analyzed using descriptive statistics to determine the distribution of variables. The descriptive analysis included examining the data by *FTE greater than or equal to 25, and FTE less than 25*. Bivariate analyses were conducted to assess the relationship between the performance scores for each of the 10 essential services of public health (EPHS) and total EPHS performance. Prior to calculating a correlation

coefficient, data were screened for outliers to avoid the potential for misleading results. Correlation coefficients were calculated using Pearson's correlation coefficient as a measure of linear association.

Multiple linear regressions were conducted to assess the independent effect of essential services 1, 2, 9, and 10 on each of essential services 3, 4, 5, 6, 7, 8, and on a single-value average of those essential services. Each of the seven regressions was conducted twice, once for the *FTE ≥ 25.0 group*, and then again for the *FTE < 25.0 group*. The assumptions for multiple linear regression are: (1) for each value of the independent variable, the distribution of the dependent variable must be normal, (2) the variance of the distribution of the dependent variable should be constant for all values of the independent variable, and (3) the relationship between the dependent variable and each independent variable should be linear, and all observations should be independent. In total, fourteen multiple regression models were computed. All statistical analyses were done using SPSS 17.0 for Windows. Statistical significance was assumed for probability values less than 0.05 ($p < .05$). Results of analyses within each group (*FTE ≥ 25.0* ; *FTE < 25.0*) were compared and contrasted, as were results of analyses between groups. The hypotheses were compared against the results of the data analyses to determine whether to accept or reject each.

CHAPTER 4: RESULTS

Descriptives, Correlations, and Multiple Regression

The data for this study were analyzed by two groups. Group 1 consisted of public health systems that participated in the NPHPSP local assessment, and whose local health department had a staffing structure containing 25 or more full-time-equivalent (FTE) employees. The number of respondents in this group was 222 (49% of NPHPSP assessment respondents). Group 2 consisted of public health systems that participated in the NPHPSP local assessment, and whose local health department had staffing of less than 25 full-time-equivalents (FTE). The number of participants for Group 2 was 227 (51% of NPHPSP assessment respondents). The analyses for each of the two groups consisted of an examination of the descriptive statistics and Pearson's correlation coefficients based on the NPHPSP capacities in relation to each of the 10 essential public health services. The eight hypotheses were tested by computing multiple regressions for group1 and group 2, with essential services 3 through 8 as the dependent variables, and essential services 1, 2, 9, and 10 as the independent variables. Considering the regression analyses for both groups, fourteen multiple regressions were run in all.

Table 3 contains the descriptive statistics for the respondents with FTE \geq 25 (N=222). The table contains the mean (M), standard deviation (SD), minimum, and maximum for the NPHPSP responses for capacity related to the 10 essential public health services. The range for the essential services

variables was 0 to 100. The greatest essential-service capacity for the group was with essential service 2, *Disease Surveillance* (M=86.37), while the least capacity was achieved in essential service 9, *Evaluate* (M=45.73).

Table 3

Essential Service Capacity among Systems with Local Health Department FTE \geq 25: Descriptive Statistics (N = 222)

Variables	<i>M</i>	<i>SD</i>	Minimum	Maximum
1. Monitor Health Status	54.77	19.86	5.80	97.90
2. Disease Surveillance	86.37	13.49	34.98	100.00
3. Inform, Educate, Empower	65.66	19.60	5.88	100.00
4. Mobilize Partners	50.50	23.88	.00	100.00
5. Develop Policies	55.32	21.37	2.50	99.32
6. Enforce Laws	74.60	19.56	16.67	100.00
7. Link to Care	64.29	18.84	6.67	100.00
8. Competent Workforce	59.40	17.53	10.50	100.00
9. Evaluate	45.73	24.32	.00	100.00
10. Research	53.03	26.52	.00	100.00

Table 4 contains Pearson's correlation results for essential service capacities among the FTE \geq 25 group (N = 222). All relationships were statistically significant ($p < .01$) with *Develop Policies / Evaluate* ($r = .68$), and *Develop Policies / Monitor Health* ($r = .62$) having the greatest correlation values.

Table 4

Essential Service Capacity among Systems with Local Health Department FTE ≥ 25 : Pearson's Correlation (N = 222)

Variables	1	2	3	4	5	6	7	8	9	10
1. Monitor Health Status	–									
2. Disease Surveillance	.44**	–								
3. Inform, Educate, Empower	.46**	.23**	–							
4. Mobilize Partners	.50**	.32**	.56**	–						
5. Develop Policies	.62**	.49**	.48**	.62**	–					
6. Enforce Laws	.53**	.44**	.35**	.39**	.58**	–				
7. Link to Care	.41**	.29**	.56**	.46**	.53**	.43**	–			
8. Competent Workforce	.43**	.39**	.47**	.40**	.56**	.52**	.55**	–		
9. Evaluate	.49**	.43**	.47**	.49**	.68**	.43**	.56**	.57**	–	
10. Research	.46**	.36**	.32**	.42**	.48**	.50**	.40**	.50**	.50**	–

* $p < .05$. ** $p < .01$.

Table 5 contains the descriptive statistics for the respondents with FTE < 25 (N=227). The table outlines the mean (M), standard deviation (SD), minimum, and maximum for the NPHPSP responses for capacity related to the 10 essential public health services. The range for the essential services variables was 0 to 100. The greatest essential-service capacity for the group was with essential service 2, *Disease Surveillance* (M=75.2), while the least capacity was achieved in essential service 10, *Research* (M=40.77).

Table 5

Essential Service Capacity among Systems with Local Health Department FTE < 25: Descriptive Statistics (N = 227)

Variables	<i>M</i>	<i>SD</i>	Minimum	Maximum
1. Monitor Health Status	46.01	20.79	2.40	97.30
2. Disease Surveillance	75.20	17.69	12.76	100.00
3. Inform, Educate, Empower	61.33	23.73	.00	100.00
4. Mobilize Partners	50.25	25.51	.00	100.00
5. Develop Policies	48.01	23.52	2.78	100.00
6. Enforce Laws	67.00	21.52	9.17	100.00
7. Link to Care	60.94	20.55	4.33	100.00
8. Competent Workforce	53.99	18.91	4.70	100.00
9. Evaluate	41.18	26.89	.00	100.00
10. Research	40.77	25.20	.00	100.00

In comparing descriptive indicators (Tables 3 and 5) between public health systems with a larger local health department ($FTE \geq 25$) and systems with a small local health department ($FTE < 25$), those with $FTE < 25$ have greater variance as indicated by the standard deviations for essential services 1 through 9. Among the 10 essential services, both groups had the greatest capacity in the area of *Disease Surveillance* (essential service 2).

Table 6 contains Pearson's correlation results for essential service capacities among the $FTE < 25$ group ($N = 227$). All 45 relationship pairs were statistically significant ($p < .01$) with *Develop Policies* and *Evaluate* ($r = .73$), and *Develop Policies* and *Mobilize Partnerships* ($r = .66$) having the greatest correlation values.

Table 6

Essential Service Capacity among Systems with Local Health Department FTE < 25: Correlation (N = 227)

Variables	1	2	3	4	5	6	7	8	9	10
1. Monitor Health Status	–									
2. Disease Surveillance	.45**	–								
3. Inform, Educate, Empower	.46**	.33**	–							
4. Mobilize Partners	.52**	.34**	.59**	–						
5. Develop Policies	.61**	.47**	.60**	.66**	–					
6. Enforce Laws	.48**	.50**	.44**	.41**	.59**	–				
7. Link to Care	.46**	.33**	.59**	.46**	.59**	.47**	–			
8. Competent Workforce	.46**	.44**	.52**	.46**	.62**	.54**	.58**	–		
9. Evaluate	.54**	.38**	.58**	.56**	.73**	.48**	.63**	.61**	–	
10. Research	.49**	.43**	.40**	.44**	.57**	.55**	.43**	.55**	.57**	–

* $p < .05$. ** $p < .01$.

Table 7 provides a side-by-side comparison of multiple regression results for public health systems with local health department FTE ≥ 25 , and for those with local health department FTE < 25 . The dependent variable was *Capacity for Informing, Educating, and Empowering*. Goodness of fit for both models was statistically significant ($p < .01$). In examining explained variability, the FTE ≥ 25 model explained 29% ($R^2 = .29$) of the variability based on significant contributions from *Monitor Health* ($\beta = .30$, $p < .01$), and *Evaluation* ($\beta = .32$, $p < .01$). In contrast, the FTE < 25 model explained 45% of the variability ($R^2 = .45$) based on significant contributions from *Surveillance* ($\beta = .13$, $p < .05$), and *Evaluation* ($\beta = .57$, $p < .01$).

Table 7

Summary of Regression Analysis for Variables Predicting Capacity for Informing, Educating, and Empowering (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

Variable	FTE ≥ 25			FTE < 25		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Monitor Health	0.30	0.07	.30**	0.09	0.07	.08
Surveillance	-0.03	0.10	-.02	0.17	0.08	.13*
Evaluation	0.25	0.06	.32**	0.50	0.06	.57**
Research	0.02	0.05	.03	0.01	0.06	.01
R^2	.29			.45		
<i>F</i> for change in R^2	22.09**			45.99**		

* $p < .05$. ** $p < .01$.

Table 8 contains a side-by-side comparison of multiple regression results for public health systems with local health department FTE ≥ 25 , and for those with local health department FTE < 25 . The dependent variable for both models was *Capacity for Mobilizing Community Partnerships*, with goodness of fit for each being statistically significant ($p < .01$). In examining explained variability, the FTE ≥ 25 model explained 34% ($R^2 = .34$) based on significant contributions from *Monitor Health* ($\beta = .29$, $p < .01$), *Evaluation* ($\beta = .27$, $p < .01$), and *Research* ($\beta = .14$, $p < .05$). In contrast, the FTE < 25 model explained 46% of the variability ($R^2 = .46$) based on significant contributions from *Monitor Health* ($\beta = .27$, $p < .01$), *Surveillance* ($\beta = .12$, $p < .05$), and *Evaluation* ($\beta = .37$, $p < .01$).

Table 8

Summary of Regression Analysis for Variables Predicting Capacity for Mobilizing Community Partnerships (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

Variable	FTE ≥ 25			FTE < 25		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Monitor Health	0.35	0.08	.29**	0.33	0.08	.27**
Surveillance	0.05	0.11	.03	0.18	0.08	.12*
Evaluation	0.26	0.07	.27**	0.35	0.07	.37**
Research	0.13	0.06	.14*	0.07	0.07	.07
R^2	.34			.46		
<i>F</i> for change in R^2	28.50**			46.87**		

* $p < .05$. ** $p < .01$.

Table 9 provides a two-model comparison of multiple regression results for public health systems with local health department FTE ≥ 25 , and for those with local health department FTE < 25 . The dependent variable was *Capacity for Developing Policies*, with goodness of fit for both models being statistically significant ($p < .01$). In explaining variability, the FTE ≥ 25 model explained 58% ($R^2 = .58$) based on significant contributions from *Monitor Health* ($\beta = .31$, $p < .01$), *Surveillance* ($\beta = .14$, $p < .01$), and *Evaluation* ($\beta = .43$, $p < .01$). In contrast, the FTE < 25 model explained 65% of the variability ($R^2 = .65$) based on significant contributions from *Monitor Health* ($\beta = .16$, $p < .01$), *Surveillance* ($\beta = .12$, $p < .01$), *Evaluation* ($\beta = .53$, $p < .01$), and *Research* ($\beta = .16$, $p < .01$).

Table 9

Summary of Regression Analysis for Variables Predicting Capacity for Developing Policies (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

Variable	FTE ≥ 25			FTE < 25		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Monitor Health	0.34	0.06	.31**	0.18	0.06	.16**
Surveillance	0.22	0.08	.14**	0.16	0.06	.12**
Evaluation	0.37	0.05	.43**	0.47	0.05	.53**
Research	0.06	0.04	.08	0.15	0.05	.16**
R^2	.58			.65		
<i>F</i> for change in R^2	76.13**			104.55**		

* $p < .05$. ** $p < .01$.

Table 10 illustrates multiple regression results for public health systems with local health department FTE ≥ 25 , and for those with local health department FTE < 25 . The dependent variable was *Capacity for Enforcing Public Health Laws*. Goodness of fit for both models was statistically significant ($p < .01$). In examining explained variability, the FTE ≥ 25 model explained 40% ($R^2 = .40$) based on significant contributions from *Monitor Health* ($\beta = .28$, $p < .01$), *Surveillance* ($\beta = .19$, $p < .01$), and *Research* ($\beta = .27$, $p < .01$). In contrast, the FTE < 25 model explained 42% of the variability ($R^2 = .42$) based on significant contributions from *Surveillance* ($\beta = .30$, $p < .01$), *Evaluation* ($\beta = .22$, $p < .01$), and *Research* ($\beta = .27$, $p < .01$).

Table 10

Summary of Regression Analysis for Variables Predicting Capacity for Enforcing Public Health Laws (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

Variable	FTE ≥ 25			FTE < 25		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Monitor Health	0.28	0.06	.28**	0.04	0.07	.04
Surveillance	0.28	0.09	.19**	0.36	0.07	.30**
Evaluation	0.06	0.05	.07	0.17	0.06	.22**
Research	0.20	0.05	.27**	0.23	0.06	.27**
R^2	.40			.42		
<i>F</i> for change in R^2	35.96**			40.63**		

* $p < .05$. ** $p < .01$.

Table 11 shows multiple regression results for public health systems with local health department FTE ≥ 25 , and for those with local health department FTE < 25 . The dependent variable was *Capacity for Linking People to Necessary Care*. Goodness of fit for both models was statistically significant ($p < .01$). In examining explained variability, the FTE ≥ 25 model explained 35% ($R^2 = .35$) based on significant contributions from *Monitor Health* ($\beta = .15$, $p < .05$), and *Evaluation* ($\beta = .43$, $p < .01$). In contrast, the FTE < 25 model explained 48% of the variability ($R^2 = .48$) based on significant contributions from Monitor Health ($\beta = .12$, $p < .05$), *Surveillance* ($\beta = .11$, $p < .05$), and *Evaluation* ($\beta = .59$, $p < .01$).

Table 11

Summary of Regression Analysis for Variables Predicting Capacity for Linking People to Necessary Care (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

Variable	FTE ≥ 25			FTE < 25		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Monitor Health	0.14	0.06	.15*	0.12	0.06	.12*
Surveillance	0.00	0.09	.00	0.13	0.06	.11*
Evaluation	0.34	0.05	.43**	0.45	0.05	.59**
Research	0.08	0.05	.11	-0.03	0.05	-.03
R^2		.35			.48	
<i>F</i> for change in R^2		29.04**			51.93**	

* $p < .05$. ** $p < .01$.

Table 12 contains a side-by-side comparison of multiple regression results for public health systems with local health department FTE ≥ 25 , and for those with local health department FTE < 25 . The dependent variable for both models was *Capacity for Assuring a Competent Workforce*, with goodness of fit for each being statistically significant ($p < .01$). In examining explained variability, the FTE ≥ 25 model explained 40% ($R^2 = .40$) based on significant contributions from *Evaluation* ($\beta = .35$, $p < .01$), and *Research* ($\beta = .23$, $p < .01$). In contrast, the FTE < 25 model explained 50% of the variability ($R^2 = .50$) based on significant contributions from *Surveillance* ($\beta = .21$, $p < .01$), *Evaluation* ($\beta = .43$, $p < .01$), and *Research* ($\beta = .20$, $p < .01$).

Table 12

Summary of Regression Analysis for Variables Predicting Capacity for Assuring a Competent Workforce (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

Variable	FTE ≥ 25			FTE < 25		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Monitor Health	0.09	0.06	.10	0.03	0.06	.04
Surveillance	0.15	0.08	.11	0.23	0.06	.21**
Evaluation	0.25	0.05	.35**	0.30	0.05	.43**
Research	0.15	0.04	.23**	0.15	0.05	.20**
R^2	.40			.50		
<i>F</i> for change in R^2	36.49**			55.80**		

* $p < .05$. ** $p < .01$.

Table 13 shows multiple regression results for public health systems with health department FTE ≥ 25 , and for those with health department FTE < 25 . The dependent variable was *Overall Impact Capacity* (essential services 3 through 8). Goodness of fit for both models was statistically significant ($p < .01$). In examining variability, the FTE ≥ 25 model explained 64% ($R^2 = .64$) based on significant contributions from *Monitor Health* ($\beta = .32$, $p < .01$), *Surveillance* ($\beta = .10$, $p < .05$), *Evaluation* ($\beta = .40$, $p < .01$), and *Research* ($\beta = .19$, $p < .01$). In contrast, the FTE < 25 model explained 73% of the variability ($R^2 = .73$) based on significant contributions from *Monitor Health* ($\beta = .15$, $p < .01$), *Surveillance* ($\beta = .20$, $p < .01$), *Evaluation* ($\beta = .56$, $p < .01$), and *Research* ($\beta = .14$, $p < .01$).

Table 13

Summary of Regression Analysis for Variables Predicting Overall Impact Capacity, Essential Services 3 to 8 (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

Variable	FTE ≥ 25			FTE < 25		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Monitor Health	0.25	0.04	.32**	0.13	0.04	.15**
Surveillance	0.11	0.05	.10*	0.21	0.04	.20**
Evaluation	0.26	0.03	.40**	0.37	0.03	.56**
Research	0.11	0.03	.19**	0.10	0.03	.14**
R^2	.64			.73		
<i>F</i> for change in R^2	96.77**			153.26**		

* $p < .05$. ** $p < .01$.

In order to compare and contrast the multiple regression models presented in Tables 7 through 13, a comparison of the R^2 statistics for local health department FTE ≥ 25 , and FTE < 25 is presented in Table 14. In all seven regression model comparisons, the R^2 for the FTE < 25 is greater than that of the FTE ≥ 25 group. Furthermore, in comparing the differences in the seven R^2 results for the two groups, the greatest distinction occurred with *Inform, Educate, and Empower* (R^2 difference = .16). The dependent variable that experienced the least amount of difference in R^2 was *Enforce Laws* (R^2 difference = .02).

Table 14

Comparison of R^2 for Regression Models with Essential Services 3 through 8 as Dependent Variables (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

	FTE ≥ 25	FTE < 25	FTE <25 - FTE ≥ 25
Dependent Variables	R^2	R^2	R^2 Difference
3. Inform, Educate, Empower	.29	.45	.16
4. Mobilize Partners	.34	.46	.12
5. Develop Policies	.58	.65	.07
6. Enforce Laws	.40	.42	.02
7. Link to Care	.35	.48	.13
8. Competent Workforce	.40	.50	.10
Overall Impact Capacity (3 - 8)	.64	.73	.09

Table 15 presents a comparison of standardized beta coefficients (β) from the regression models outlined in Tables 7 through 13. Considering the contribution to explained variability among the four independent variables, *Surveillance* and *Evaluation* were statistically significant in all seven models for $FTE < 25$, while *Monitor Health* and *Evaluation* were statistically significant in six of seven models for $FTE \geq 25$. Overall, *Evaluation* was statistically significant in 13 of 14 models, *Monitor Health* and *Surveillance* were statistically significant in 10 of 14 models, and *Research* was statistically significant in 8 of 14 models.

Table 15

Comparison of standardized beta coefficients (β) for regression model dependent variables by independent variables ($FTE \geq 25$: N = 222; $FTE < 25$: N = 227)

Dependent Variable	Monitor Hlth		Surveillance		Evaluation		Research	
	FTE ≥ 25	FTE < 25	FTE ≥ 25	FTE < 25	FTE ≥ 25	FTE < 25	FTE ≥ 25	FTE < 25
3. Inform & Educate	.30**			.13*	.32**	.57**		
4. Mobilize Partners	.29**	.27**		.12*	.27**	.37**	.14*	
5. Develop Policies	.31**	.16**	.14**	.12**	.43**	.53**		.16**
6. Enforce Laws	.28**		.19**	.30**		.22**	.27**	.27**
7. Link to Care	.15*	.12*		.11*	.43**	.59**		
8. Workforce				.21**	.35**	.43**	.23**	.20**
Overall Impact	.32**	.15**	.10*	.20**	.40**	.56**	.19**	.14**

* $p < .05$. ** $p < .01$.

The descriptive statistics showed that the mean capacity scores for the FTE ≥ 25 group were all greater than those for the FTE < 25 group. Table 16 presents results of independent sample t-tests comparing the means and reveals that in seven of the ten comparisons, these differences were statistically significant ($p < .05$).

Table 16

Comparison of Essential Service Capacity Means by System Health Department
FTE: Independent Samples t-Test (FTE ≥ 25 : N = 222; FTE < 25 : N = 227)

Variables	FTE ≥ 25	FTE < 25	<i>t</i>	<i>df</i>
	<i>M</i>	<i>M</i>		
1. Monitor Health Status	54.77	46.01	4.57**	447
2. Disease Surveillance	86.37	75.20	7.53**	422
3. Inform, Educate, Empower	65.66	61.33	2.11*	435
4. Mobilize Partners	50.50	50.25	.11	446
5. Develop Policies	55.32	48.01	3.45**	445
6. Enforce Laws	74.60	67.00	3.92**	445
7. Link to Care	64.29	60.94	1.80	445
8. Competent Workforce	59.40	53.99	3.15**	446
9. Evaluate	45.73	41.18	1.88	444
10. Research	53.03	40.77	5.02**	445

* $p < .05$. ** $p < .01$.

Table 17 compares NPHPSP respondents (FTE > 25 and FTE < 25) in relation to overall capacity for each of the 10 essential services. Areas of strength for both groups were in *Disease Surveillance*, *Inform*, *Educate and Empower*, *Enforce Laws*, and *Link to Care*. Areas where the systems with larger health departments stood out were with *Disease Surveillance* and *Enforce Laws*.

Table 17

Proportion of Responders with Essential Service Capacity > 75, and with Essential Service Capacity = 100 by System Health Department FTE (FTE \geq 25: N = 222; FTE < 25: N = 227)

Variables	Capacity \geq 75		Capacity = 100	
	FTE \geq 25	FTE < 25	FTE \geq 25	FTE < 25
1. Monitor Health Status	16%	9%	0%	0%
2. Disease Surveillance	82%	58%	4%	2%
3. Inform, Educate, Empower	33%	33%	1%	3%
4. Mobilize Partners	18%	19%	0%	3%
5. Develop Policies	18%	15%	0%	0%
6. Enforce Laws	54%	37%	5%	4%
7. Link to Care	32%	28%	0%	1%
8. Competent Workforce	16%	12%	1%	1%
9. Evaluate	12%	12%	0%	2%
10. Research	23%	11%	3%	3%

Hypothesis Tests

Hypothesis 1

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *informing, educating, and empowering* (essential public health service 3).

This hypothesis was partially accepted. The standardized beta coefficients for *Monitor Health* ($\beta = .30$, $p < .01$) and *Evaluation* ($\beta = .32$, $p < .01$) were statistically significant for the $FTE \geq 25$ group ($R^2 = .29$), while the standardized beta coefficients for *Surveillance* ($\beta = .13$, $p < .05$) and *Evaluation* ($\beta = .57$, $p < .01$) were statistically significant for the $FTE < 25$ group ($R^2 = .45$).

Hypothesis 2

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *mobilizing community partnerships* (essential public health service 4).

This hypothesis was partially accepted. The standardized beta coefficients for *Monitor Health* ($\beta = .29$, $p < .01$), *Evaluation* ($\beta = .27$, $p < .01$), and *Research* ($\beta = .14$, $p < .05$) were statistically significant for the $FTE \geq 25$ group ($R^2 = .34$), while the standardized beta coefficients for *Monitor Health* ($\beta =$

.27, $p < .01$), *Surveillance* ($\beta = .12$, $p < .05$), and *Evaluation* ($\beta = .37$, $p < .01$) were statistically significant for the $FTE < 25$ group ($R^2 = .46$).

Hypothesis 3

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *developing policies* (essential public health service 5).

This hypothesis was partially accepted for the $FTE \geq 25$ group, and fully accepted for the $FTE < 25$ group. The standardized beta coefficients for *Monitor Health* ($\beta = .31$, $p < .01$), *Surveillance* ($\beta = .14$, $p < .01$), and *Evaluation* ($\beta = .43$, $p < .01$) were statistically significant for the $FTE \geq 25$ group ($R^2 = .58$), while the standardized beta coefficients for *Monitor Health* ($\beta = .16$, $p < .01$), *Surveillance* ($\beta = .12$, $p < .01$), *Evaluation* ($\beta = .53$, $p < .01$), and *Research* ($\beta = .16$, $p < .01$) were statistically significant for the $FTE < 25$ group ($R^2 = .65$).

Hypothesis 4

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *enforcing public health laws* (essential public health service 6).

This hypothesis was partially accepted. The standardized beta coefficients for *Monitor Health* ($\beta = .28$, $p < .01$), *Surveillance* ($\beta = .19$, $p < .01$), and *Research* ($\beta = .27$, $p < .01$) were statistically significant for the $FTE \geq 25$ group ($R^2 = .40$), while the standardized beta coefficients for *Surveillance* ($\beta = .30$, $p < .01$), *Evaluation* ($\beta = .22$, $p < .01$), and *Research* ($\beta = .27$, $p < .01$) were statistically significant for the $FTE < 25$ group ($R^2 = .42$).

Hypothesis 5

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *linking people to necessary care* (essential public health service 7).

This hypothesis was partially accepted. The standardized beta coefficients for *Monitor Health* ($\beta = .15$, $p < .05$) and *Evaluation* ($\beta = .43$, $p < .01$) were statistically significant for the $FTE \geq 25$ group ($R^2 = .35$), while the standardized beta coefficients for *Monitor Health* ($\beta = .12$, $p < .05$), *Surveillance* ($\beta = .11$, $p < .05$), and *Evaluation* ($\beta = .59$, $p < .01$) were statistically significant for the $FTE < 25$ group ($R^2 = .48$).

Hypothesis 6

The capacities for *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research*

(essential public health services 1, 2, 9, and 10) each have an independent effect on the capacity for *assuring a competent workforce* (essential public health service 8).

This hypothesis was partially accepted. The standardized beta coefficients for *Evaluation* ($\beta = .35, p < .01$) and *Research* ($\beta = .23, p < .01$) were statistically significant for the $FTE \geq 25$ group ($R^2 = .40$), while the standardized beta coefficients for *Surveillance* ($\beta = .21, p < .01$), *Evaluation* ($\beta = .43, p < .01$), and *Research* ($\beta = .20, p < .01$) were statistically significant for the $FTE < 25$ group ($R^2 = .50$).

Hypothesis 7

Comparing their independent effect on each of the capacities for essential services 3 through 8, *monitoring health status*, and *diagnosing and investigating diseases*, will account for more variability than will *evaluating public health effectiveness*, and *public health research*.

This hypothesis was rejected. Among the regression models for the six separate dependent variables (for $FTE \geq 25$, and for $FTE < 25$), *Evaluation* was statistically significant in 11 of 12 models, *Monitor Health* and *Surveillance* were statistically significant in 8 of 12 models, and *Research* was statistically significant in 6 of 12 models. In a regression model where the dependent variable represented the average score for essential services 3 through 8, the standardized beta coefficients were *Monitor Health* ($\beta = .32, p < .01$), *Surveillance* ($\beta = .10, p < .05$), *Evaluation* ($\beta = .40, p < .01$), and *Research* ($\beta =$

.19, $p < .01$) for the $FTE \geq 25$ group, while the standardized beta coefficients were *Monitor Health* ($\beta = .15$, $p < .01$), *Surveillance* ($\beta = .20$, $p < .01$), *Evaluation* ($\beta = .56$, $p < .01$), and *Research* ($\beta = .14$, $p < .01$) for the $FTE < 25$ group. For both analysis groups, the independent variables that explained the most variability were *Monitor Health* and *Evaluation*.

Hypothesis 8

The independent effects of *monitoring health status, diagnosing and investigating diseases, evaluating public health effectiveness, and public health research* (essential public health services 1, 2, 9, and 10) will be greater among agencies with fewer than 25 FTE than that of the total population.

This hypothesis was fully accepted. In a regression model where the dependent variable represented the average score for essential services 3 through 8, the explained variability for the $FTE > 25$ model was 64% ($R^2 = .64$), while the explained variability for the $FTE < 25$ was 73% ($R^2 = .73$).

CHAPTER 5: DISCUSSION OF THE FINDINGS

Summary of the Study

One of the challenges in public health has to do with the role of the local health department within its respective public health system. Someone once said “if you’ve seen one health department, you’ve seen one health department,” which is to say that, across the United States, local health departments differ greatly in their mission and scope of practice. However, to the benefit of the practice of public health, there are efforts currently underway to establish national operating standards for local public health departments. But as these efforts will certainly present a common scope for local health departments to organize around, the likelihood that the effort will result in a practice that can be effectively measured is still in question. The approach that organizers of the national-standards effort are taking is to say that local health departments have tasks associated with each of the 10 essential public health services, and therefore, standards will be created for each essential service. Although health departments do have a responsibility as the system manager to oversee activity associated with all 10 essential services, their active, measureable responsibility is to collect and share information related to health status, diagnose and investigate local communicable disease activity, and evaluate public health effectiveness within their respective system.

Most everything that has to do with the advancement of public health practice can be tied back to the report, *The Future of Public Health* (IOM, 1988),

including the current national initiative toward accreditation for local public health agencies. Considering the current application of the 10 essential services toward public health practice, it appears that some wisdom from the IOM's report regarding how public health functions might best be prioritized has been overlooked. In that report, the IOM (1988, p. 44) stated, "Assessment is inherently a public function because policy formulation, in order to be legitimate, is expected to take in all relevant available information and to be based on objective factors – to the extent possible. Private sector entities are expected to have self interests. Therefore, the information they generate, while frequently quite useful to the policy process, is not judged by its fairness. In contrast, although public agencies in practice do not always weigh all sides of a question, in principle they are obligated to do so." The IOM goes on to state, "A fully developed assessment function is an absolute essential part of the ideal public health system, and it is one that the committee believes to be in large measure attainable." Efficient public health systems will most always contain a mix of public-based and private-based organizations, and among the public organizations, many will have very focused missions. Therefore, it is logical that assessment be the sole responsibility of the local public health department, as they are the organization most capable of handling the assessment function in a non-biased fashion.

The current effort toward a national accreditation model for local public health agencies is being supported and promoted by organizations such as the National Association of County and City Health Officials (NACCHO), and the

American Public Health Association (APHA). However, these organizations exist, at least partially, on the basis that local public health agencies utilize and find value in the resources they provide. As more resources are conceived and made available, the pressure for utilization increases. At times, the activities of APHA and NACCHO appear to be more to their own benefit than to the benefit of the end local user. If the national accreditation initiative chooses to initiate a new assessment process for agency standards, rather than to build upon existing opportunities such as with the NPHPSP, it may force smaller health departments, which have limited resources, to choose between agency accreditation and system performance capacity. The challenges in advancing the practice of public health need to be met without expecting public health systems to incur the burden of additional data collection and reporting requirements (Perrin, Durch, & Skillman, 1999).

The nationally-accepted resource for measuring public health performance is the NPHPSP, which identifies the public health system's capacity for each of the 10 essential public health services. The fact that the NPHPSP treats each essential service as autonomous, limits its utility beyond the public health system. Its independent structure implies that the solution to improving system performance lies outside the framework of the 10 essential services, which is to say that NPHPSP data is meant to inform public health systems of their areas of need, but it offers minimal guidance on how these needs should best be addressed. Handler, Issel, and Turnock (2001) support this notion by referring to the 10 essential services as *processes*, which need the support of a *mission* and

structural capacity in order to obtain a desired outcome. The Performance Predictability Concept, on the other hand, asserts that guidance toward a desired outcome comes from within the framework of the 10 essential services, as the overall performance capacity is influenced by the performance capacities for *assessment*, *evaluation*, and *research* (essential services 1, 2, 9, and 10).

The premise of the Performance Predictability Concept is that assessment enhances all other system capacities. Capturing the spirit of the original intent of the IOM (1988) through their Future of Public Health Report, public health officials in Nebraska have created a conceptual model that operationalizes the 10 essential public health services by recognizing three practical components: the *assessment* component managed by the local health department, the *research* component managed by collaborating colleges and universities, and the *impact* component managed by local system partners. The purpose of this study was to introduce the Performance Predictability Concept, and substantiate its proposed components by examining the interaction between them, and the extent to which the *impact* component (essential services 3 through 8) is dependent on the capacity for *assessment* and *research* (essential services 1, 2, 9 and 10).

Support for the Performance Predictability Concept through analysis of archival data from the National Public Health Performance Standards Program indicates that the National Public Health Performance Standards Program are an appropriate means for measuring both system and agency capacity.

Considering assessment (including evaluation) as being the responsibility of the local health department, and research as being a responsibility addressed

from outside of the system, the following research questions guided this study in substantiating the Performance Predictability Concept.

1. To what extent does the Performance Predictability Concept provide rationale for looking at assessment as an agency responsibility?
2. To what extent do assessment and research impact the public health system's capacity for its essential public health services?
3. Is it feasible to consider the NPHPSP instrument for measuring capacity at both the system and agency levels?

Results of hypothesis tests have indicated the extent to which assessment impacts the system capacity for the essential public health services.

Furthermore, they support the Performance Predictability Concept and provide rationale for considering the *Assessment* essential services as an agency responsibility, and for considering the NPHPSP instrument for measuring capacity at both the system and agency levels – which implies that the NPHPSP is a good fit for national agency accreditation.

Data for this study was obtained from the Centers for Disease Control, and contained 449 valid cases for the NPHPSP Version 1 local assessment, administered between 2002 and 2007. The data were analyzed in two groups: public health systems where the local health department had ≥ 25 FTE employees, and systems where the local health department had < 25 FTE employees. For each of the two groups, seven regression models were computed with the following dependent variables, which consisted of the NPHPSP assessment capacity scores for the 10 essential public health services:

Essential Service 3 – Inform, Educate and Empower

Essential Service 4 – Mobilize Community Partnerships

Essential Service 5 – Develop Public Health Policies

Essential Service 6 – Enforce Public Health Laws

Essential Service 7 – Link People to Needed Health Services

Essential Service 8 – Assure a Competent Public Health Workforce

Overall Impact – The average score for essential services 3 through 8

Each of the regression models were analyzed with the following four independent variables, which consisted of the NPHPSP assessment capacity scores for the 10 essential public health services:

Essential Service 1 – Monitor Community Health Status

Essential Service 2 – Diagnose and Investigate Health Problems

Essential Service 9 – Evaluate Effectiveness of Health Services

Essential Service 10 – Research for New Public Health Insights

Findings

In examining the descriptive statistics, it was noted that the standard deviation for each of the capacity scores among the FTE < 25 group were greater than those for the FTE \geq 25 group. This information was an indication of the potential for differences in results of the regression models for the two analysis groups, as the FTE < 25 group would likely offer greater variability, and thus a potential for a greater effect from the four independent variables. Whether that variability would, in fact, bring about a difference in the results of the analyses

was yet to be determined as there was no early indication of the predictive capability of the four independent variables.

Six of the eight hypotheses tested in this study had stated that all four independent variables would be significant in explaining variability in the regression models wherein essential services 3 through 8 were the dependent variable. In examining the data by the two groups, $FTE \geq 25$ and $FTE < 25$, the one instance where all four independent variables had a significant effect on explaining variability was in the $FTE < 25$ model in which *Develop Policies* was the dependent variable. Otherwise, among the 12 regression models for the two comparison groups, there were six models in which three-of-four independent variables were significant in explaining the variability of a particular dependent variable. Among the four independent variables, Evaluation was present as a significant coefficient in 11 of 12 models, while Monitor Health and Surveillance were significant in 8 of 12 models, and Research was significant in 6 of 12 models. Within the group, $FTE < 25$, the standardized beta coefficients for *Evaluation* and *Surveillance* were significant in 6 of 6 models. Whereas among the models for the $FTE \geq 25$ group, the standardized beta coefficients for *Evaluation* and *Monitor Health* were significant in 5 of six models.

Among the six dependent variables, the model containing *Develop Policies* produced the greatest effect, both in explained variability ($FTE \geq 25$, $R^2 = .58$; $FTE < 25$, $R^2 = .65$), and in relation to the number of standardized beta coefficients that were statistically significant in explaining the variability ($FTE \geq 25$, 3 of 4 significant beta coefficients; $FTE < 25$, 4 of 4 significant beta

coefficients). In comparing the two groups, $FTE \geq 25$ and $FTE < 25$, the R^2 of all regression models for the $FTE < 25$ group were greater than those of the group with $FTE \geq 25$. These differences varied from .02 for the dependent variable, *Enforce Laws* ($FTE \geq 25$, $R^2 = .40$; $FTE < 25$, $R^2 = .42$) to .16 for the dependent variable, *Inform, Educate, Empower* ($FTE \geq 25$, $R^2 = .29$; $FTE < 25$, $R^2 = .45$).

Two regression models were computed where the dependent variable was *Overall Impact* (the average of capacity scores for essential services 3 through 8). Among the results, explained variability for the $FTE \geq 25$ group was 64% ($R^2 = .64$), while the $FTE < 25$ group had an explained variability of 73% ($R^2 = .73$). For both groups, the standardized beta coefficients of all four independent variables had a significant effect on the dependent variable ($FTE \geq 25$: *Monitor Health*, $\beta = .32$, $p < .01$; *Surveillance*, $\beta = .10$, $p < .05$; *Evaluation*, $\beta = .40$, $p < .01$; *Research*, $\beta = .19$, $p < .01$; $FTE < 25$: *Monitor Health*, $\beta = .15$, $p < .01$; *Surveillance*, $\beta = .20$, $p < .01$; *Evaluation*, $\beta = .56$, $p < .01$; *Research*, $\beta = .14$, $p < .01$).

Conclusions

The results of this study have revealed statistical differences in essential service capacity between public health systems with large health departments, and those with small health departments. The descriptive statistics indicated some initial differences, as the systems with larger health departments expressed greater mean scores for essential service capacity, while the systems with smaller health departments expressed greater standard deviations for

essential service capacity. Further distinctions were apparent through the regression models, where those for the systems with smaller health departments resulted in a greater amount of explained variability (because there was more variability to account for). The wider variance and lower mean capacity scores among the small health department systems may be a reflection of the limited resources available to them, and of the resulting effect on the system's ability to build capacity in the 10 essential public health services. It is also possible that a greater magnitude of differences between systems would be detected based on a more appropriate variable for differentiating large and small health departments.

Among public health systems with smaller health departments, *Surveillance* and *Evaluation* have the greatest overall independent effect on essential services 3 through 8. Conversely, *Monitor Health* and *Evaluation* have the greatest independent effect on essential services 3 through 8 among systems with larger health departments. These findings are contrary to the hypothesis estimation that *Monitor Health* and *Surveillance* would have the greatest independent effects.

The Performance Predictability Concept proposes to operationalize the 10 essential services through three components. The *Assessment* component contains essential services 1, 2, and 9, and is the responsibility of the local health department. The *Impact* component contains essential services 3 through 8 and is a function of the public health system. The *Research* component is essential service 10, and is fulfilled through system partnerships with local colleges and

universities. The Performance Predictability Concept ascertains that achieving optimum *Impact* capacity is dependent on the capacity for *Assessment*, and is enhanced by the capacity for *Research*. The results of this study supports this, as *Assessment* and *Research* were able to adequately explain the variability of *Impact* capacity (the average capacity of essential services 3 through 8), at nearly 75% of variability among systems with smaller health departments, and 65% of the variability for the systems with larger health departments. This goodness of fit may improve as health department FTE decreases. Some of the unexplained variability due to error is likely a result of the qualitative approach in which data for the NPHPSP local assessment is collected.

In defining the evaluation component of their PRECEDE/PROCEDE model, Green and Kreuter (2005) express that evaluation is not an ending point, but rather an ongoing process that begins as part of the assessment. Within the context of the 10 essential public health services, and in relation to the capacity measures of the NPHPSP assessments, the argument could be made that inadequate assessment capacity has a direct affect on the capacity for evaluation, and that a quality assessment process is necessary to establish a solid baseline from which to evaluate (Jung, 1995). Considering this argument, the results of this study support the idea that the *Assessment* core function (IOM, 1988) be comprised of three essential services, *Evaluation*, *Monitor Health*, and *Diagnose and Investigate* (currently only *Monitor Health*, and *Diagnose and Investigate* are part of the *Assessment* core function, while *Evaluation* is part of the Assurance core function).

Data from the NPHPSP local instrument is derived through group-consensus perceptions related to the capacity for each of the 10 essential public health services within a given public health system. Public health systems that are well established and well managed by a local health department (or at least give that impression), are likely to produce NPHPSP data that accurately reflects the system. However, among public health systems that are not well established, NPHPSP participants may not be fully aware of the strengths and weaknesses of their respective public health systems, thus their perceptions (and related assessment responses) may not be an accurate reflection of the true state of the system. The potential for these inconsistencies in perception may explain some of the error in the regression models.

In recognizing the importance of *Research* capacity, and its independent effect on system capacity, this study does not make any assumptions on the quality of relationships in a given public health system between the local institutes of higher education and the public health practitioners. The Performance Predictability Concept proposes a different way of thinking about the interaction between the 10 essential services, but does not attempt to address underlying issues such as the “so called” gap between research and practice. Certainly the existence or non existence of this “gap” is dependent on the specific partner dynamics within a given public health system.

Implications and Recommendations

In February, 2009, the Public Health Accreditation Board (PHAB) released its first draft of the standards and measures for local public health agency accreditation (Public Health Accreditation Board, 2009). The standards will go through a vetting process until July of 2009, which will lead to their eventual adoption for national local agency accreditation. Although specifically meant for defining and measuring agency performance, the initial draft of the PHAB standards is similar to the system standards of the NPHPSP, as they are both based on the 10 essential public health services, and they both present the essential services in a categorical fashion, where each is measured independently of the other. As a model for operationalizing the 10 essential public health services, the Performance Predictability Concept offers a solution for assessing system performance and agency performance using the NPHPSP local instrument, thus, eliminating the need for an additional agency-assessment process.

In treating each of the 10 essential services as autonomous, the NPHPSP is limited in its utility beyond the public health system. Its independent structure implies that the solution to improving system performance lies outside the framework of the 10 essential services, which is to say that NPHPSP data is meant to inform public health systems of their areas of need, but it offers minimal guidance on how these needs should best be addressed. Handler, Issel, and Turnock (2001) support this notion by referring to the 10 essential services as *processes*, which need the support of a *mission* and *structural capacity* in order

to obtain a desired outcome. The Performance Predictability Concept, on the other hand, asserts that guidance toward a desired outcome comes from within the framework of the 10 essential services, as the overall performance capacity is influenced by the performance capacities for *assessment*, *evaluation*, and *research* (essential services 1, 2, 9, and 10). The results of this study show that performance capacity can, in fact, be influenced from within the framework of the 10 essential services themselves.

Future Research

The Performance Predictability Concept is an initial draft of a new way of looking at the 10 essential services. Future research should address the enhancement and expansion of the concept. This study used health department FTE ≥ 25 , and < 25 to define the systems for analysis. Although the differences between the two groups were meaningful, it is likely that a modified definition would produce a greater statistical effect. It would be beneficial to know whether differences by various gradients of health department size or maturity were apparent. However, in order to analyze additional subgroups, the overall data set itself would need to be larger.

If the Performance Predictability Concept were adopted for public health accreditation, it would be beneficial to know if its utilization had eventually led to improved service quality, consistency of public health roles nationally, and a greater understanding of those roles among the general population, as was the original intent of national accreditation for local public health departments.

As efforts continue in defining the practice of public health, current definitions of assessment consider it to not only include primary and secondary data collection, but also the prioritizing, planning, and implementation of interventions (Myers & Stoto, 2006). In fact many studies evaluate assessment based on the impacts or outcomes it produces, viewing assessment as a programmatic process, and apparently overlooking the many process-related variables that can have an effect on a program's success (Stoto, Straus, Bohn, and Irani, 2009; Spice & Snyder, 2009; Solet, et al., 2009). Martin (2009) suggests that it may not be reasonable to expect community health assessment to have a direct impact on community health, and that assessment might be better served if it is evaluated merely on the quality of the information that it produces, and its utility toward the larger community process. Curtis (2002, p. 25) contends that "assessment has value independent of action taken to correct community health problems." Future studies on public health assessment that examine it from the context of the Performance Predictability Concept may find that it does indeed have an impact on community health. From the perspective of the Performance Predictability Concept, the utility of assessment may have an impact beyond the quality of the information it produces.

Studies to show face and content validity on the NPHPSP instruments have been successful. However, criterion-related validity, or the instruments' ability to make a prediction of performance based on the theory of the construct (Trochim, 2006) has not been supported by past studies. Beaulieu, et al. reported that a Florida study resulted in statistically significant differences in what

state health officials understand to be happening at the local level, and what really is happening, as reported by local officials. Noted as having a potential effect on these differences is the variation in size of local public health departments participating in the study. The size factor makes it difficult to obtain a common landscape of the public health system. Information obtained through this study may assist in future studies regarding criterion-related validity, as results showed that performance can be predicted, and with a fairly adequate understanding of how health department size effects the magnitude of the predictions.

Summary

The purpose of this study was to introduce the Performance Predictability Concept, and substantiate its proposed components by examining the interaction between them. The results were supportive of this purpose, as *Assessment* and *Research* were able to adequately explain the variability of *Impact* capacity (the average capacity of essential services 3 through 8), at nearly 75% among systems with smaller health departments, and 65% for the systems with larger health departments.

By sometime in 2010, a pilot version of a national process for public health department accreditation will likely be released. Early indications are that the accreditation standards will be similar to the NPHPSP system standards in that they will be based on the 10 essential public health services, and will present the essential services in a categorical fashion, where each is measured

independently of the other. As a model for operationalizing the 10 essential public health services, the Performance Predictability Concept offers a solution for assessing system performance and agency performance using only the NPHPSP local instrument, thus, eliminating the need for an additional agency-assessment process.

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APPENDIX A: NPHPSP LOCAL INSTRUMENT



Local

NATIONAL PUBLIC HEALTH PERFORMANCE STANDARDS

LOCAL PUBLIC HEALTH SYSTEM
PERFORMANCE ASSESSMENT INSTRUMENT

OMB Control No.
0920-0555
Expires: 07-31-2005

**National Public Health Performance Standards Program
Local Public Health Performance Assessment
Version 1.0**

Public reporting burden of this collection of information is estimated to average 24 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number.

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Local Public Health Systems include all public, private, and voluntary entities, as well as individuals and informal associations, that contribute to the delivery of public health services within a jurisdiction.

The purpose of the National Public Health Performance Standards Program (NPHPSP) is to provide measurable performance standards that public health systems can use to ensure the delivery of public health services. The NPHPSP includes three instruments:

The State Public Health System Assessment Instrument (State Instrument) focuses on the “state public health system.” The state public health system includes state public health agencies and other partners that contribute to public health services at the state level.

The Local Public Health System 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 Public Health Governance 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, local commissions, or councils.

This foreword provides an introduction to the Local Instrument. The primary goal of this instrument is to promote continuous quality improvement of local public health systems. Use of the Local Instrument can result in stronger connections among local public health system partners, greater awareness of the interconnectedness of public health activities, and the identification of strengths and weaknesses that can be addressed through improvement efforts.

Essential Public Health Services

1. **Monitor** health status to identify community health problems.
2. **Diagnose and investigate** health problems and health hazards in the community.
3. **Inform, educate, and empower** people about health issues.
4. **Mobilize** community partnerships to identify and solve health problems.
5. **Develop policies and plans** that support individual and community health efforts.
6. **Enforce** laws and regulations that protect health and ensure safety.
7. **Link** people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. **Assure** a competent public and personal health care workforce.
9. **Evaluate** effectiveness, accessibility and quality of personal and population-based health services.
10. **Research** for new insights and innovative solutions to health problems.

The **Essential Public Health Services** provide the fundamental framework for the NPHPSP instruments, by describing the public health activities that should be undertaken in all communities. The Core Public Health Functions Steering Committee developed the framework for the Essential Services in 1994. This steering committee included representatives from US Public Health Service agencies and other major national public health organizations. The Essential Services provide a working definition of public health and a guiding framework for the responsibilities of local public health systems.

Local public health agencies are the natural leaders in the development of a cohesive local public health system. Local public health agencies have unique responsibilities to enable, assure, and enforce the provision of these essential services by entities within the local public health system. They assure an adequate statutory base for local public health activities, advocate with system partners for local policy changes to improve health, and assure that funding for public services meet the critical health needs of their populations. In addition, local public health agencies provide important leadership in maintaining and improving the performance and capacity of local public health systems to provide appropriate public health services.

Whether as leader, convener, partner, collaborator, enabler, or evaluator, local public health agencies play key roles in coordinating the performance of local public health systems. By developing public health performance standards to identify and benchmark superior performance, local public health systems and their local public health agencies will be better equipped to assess and improve the delivery of Essential Public Health Services and achieve improvements in community health.

Acknowledgment

The Local Public Health System Performance Assessment Instrument was principally developed by the National Association of County and City Health Officials (NACCHO) and the Centers for Disease Control and Prevention (CDC). Other collaborative partners include the Association of State and Territorial Health Officials, the National Association of Local Boards of Health, the American Public Health Association, and the Public Health Foundation. Academic partners representing the Association of Schools of Public Health also made considerable contributions. Finally we thank the numerous field test sites for their thoughtful application of and feedback on the instrument; their participation was extremely valuable in identifying areas for improvement.

About the Local Assessment Instrument

The Local Assessment Instrument is divided into ten sections – one for each Essential Service. Each Essential Service section is divided into several indicators. The indicators identify major components of the Essential Services. Associated with each indicator are model standards that describe aspects of optimum performance for local public health systems. Overall, these model standards represent expert opinion concerning actions and capacities that are necessary for a high performing local public health system. Use of existing document sources and connections to related efforts were also made, when possible.

Each model standard is followed by a series of assessment questions that serve as measures of performance. There are four possible response options associated with the measures. As the participants discuss each question, they should determine the response that best fits the current level of activity. The response options are described below.

Response Options are:

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
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YES	Greater than 75 percent of the activity described within the question is met within the local public health system.
HIGH PARTIALLY	Greater than 50 percent, but no more than 75 percent of the activity described within the question is met within the local public health system.
LOW PARTIALLY	Greater than 25 percent, but no more than 50 percent of the activity described within the question is met within the local public health system.
NO	No more than 25 percent of the activity described within the question is met within the local public health system.

In addition, two summary questions are asked at the end of each indicator section. Respondents are directed to think about the model standard as a whole and use a four-point scale to respond to these two questions:

1. How much of this Model Standard is achieved by the local public health system collectively?
2. What percent of the answer reported in question 1 is the direct contribution of the local public health agency?

The four possible responses to these questions are:



In responding to these questions, respondents should first estimate to what extent the system has achieved the overall model standard. Then, estimate how much of the activity relevant to the model standard is conducted by the local public health agency. For example, if 50% of the model standard is achieved and all of the activities are conducted by the local public health agency, the response to the second question should be 4 (76-100%). On the other hand, if the agency conducts very few of the activities related to the model standard, the answer should be 1 (0-25%).

Use of the Local Assessment Instrument

Ideally, partners from throughout the local public health system will collaborate to develop a collective response to the Local Assessment Instrument. Participants should include representatives from organizations that contribute to the delivery of public health services in the community. Such organizations may include the local public health agency, hospitals, social service providers, environmental organizations, and many others. For a more complete list, see the NPHPSP User Guide.

To use the Local Assessment Instrument, begin by convening the necessary partners. The convening organization may want to begin the meeting with a brief overview of the NPHPSP, the Essential Public Health Services, and the purpose of completing the assessment. After an orientation to the process, the next step is to discuss and complete the Local Assessment Instrument. This may require 2-3 meetings of the group, of 2-3 hours per meeting. A facilitator will need to keep the discussion moving so the instrument is completed in a timely fashion. To assure an interactive discussion and limit the amount of reading that occurs during the meeting, participants should review the materials prior to the meeting. For more in-depth guidance in using the Local Assessment Instrument, see the NPHPSP User Guide.

Data Submission and Reports

Once a local public health system has completed the assessment, data can be submitted electronically to a limited access Internet site managed by CDC. The local public health agency, as the organization that will likely lead the system assessment process, should be responsible for this activity. To gain access to this site, the local public health agency will need

to obtain a user identification number and other access information. Directions for obtaining this information and the data submission process will be posted on the NPHPSP Internet site. It is recommended that local public health agencies obtain this information prior to conducting the assessment.

Data provided to CDC will be used in accordance with the data use policy that appears on the NPHPSP Internet site; all users will need to agree to this policy before submitting data to CDC. When assessment data is submitted to the NPHPSP Internet site, an automated process will be initiated to conduct the data analysis and build a report. Once the report has been built, the specified contact person will receive directions on how to electronically access the report. The report will contain information on: 1) overall achievement of each Essential Public Health Service, 2) achievement of indicators for each EPHS, and 3) key points of each model standard. This report will be sent to the responding local public health agency, and summary information will be provided to appropriate state public health department officials. It is important to note that data from these assessments are intended to assist in quality improvement efforts and are not for the purpose of allocating resources or directly comparing health departments and their public health systems. For more information on the data use policy, analysis, and reports, visit the NPHPSP Internet site.

Benefits of Statewide Coordination

It is recommended, but not required, that all local public health systems within a State conduct the local assessment in the same time period. This will provide opportunities to coordinate orientation activities, technical assistance, and improvement planning between local public health agencies leading the system assessments. In addition, it is recommended that the State and Governance Instruments be applied in a closely coordinated time period. The resulting information will provide an in-depth understanding of the strengths and weaknesses within the State and local public health system network and allow for comprehensive systems improvement planning.

For More Information

Additional detail on the Local Assessment Instrument and the development of National Public Health Performance Standards can be obtained at <http://www.phppo.cdc.gov/nphpsp> or by calling 1-800-747-7649.

Monitor Health Status to Identify Community Health Problems

This service includes:

- Accurate, periodic assessment of the community's health status, including:
 - Identification of health risks and determination of health service needs.
 - Attention to the vital statistics and health status of groups that are at higher risk than the total population.
 - Identification of community assets and resources that support the local public health system (LPHS) in promoting health and improving quality of life.
- Utilization of appropriate methods and technology, such as geographic information systems, to interpret and communicate data to diverse audiences.
- Collaboration among all LPHS components, including private providers and health benefit plans, to establish and use population health information systems, such as disease or immunization registries.

Indicator 1.1

Population-Based Community Health Profile (CHP)

LPHS Model Standard:

The community health profile (CHP) is a common set of measures for the community to prioritize the health issues that will be addressed through strategic planning and action, to allocate and align resources, and to monitor population-based health status improvement over time.

The CHP includes broad-based surveillance data and measures related to health status and health risk at individual and community levels including: demographic and socioeconomic characteristics; health resource availability; quality of life; behavioral risk factors; environmental health indicators; social and mental health; maternal and child health; death, illness, and injury; communicable disease; and sentinel events. The CHP displays information about trends in health status, along with associated risk factors and health resources. Local measures are compared with peer, state, and national benchmarks. Data and information are displayed in multiple formats for diverse audiences, such as the media and community-based organizations. Data included in the community health profile are accurate, reliable, and consistently interpreted according to the science and evidence-base for public health practice.

To accomplish this, the Local Public Health System (LPHS):

- Conducts regular community health assessments to monitor progress towards health-related objectives.
- Compiles and periodically updates a community health profile using community health assessment data.
- Promotes community-wide use of the community health profile and/or assessment data and assures that this information can be easily accessed by the community.

Please answer the following questions related to Indicator 1.1:

1.1.1 Has the LPHS conducted a community health assessment?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

1.1.1.1 Is the community health assessment updated at periodic intervals?

YES HIGH PARTIALLY LOW PARTIALLY NO

*If so, is the community health assessment updated:
(Choose one of the following)*

1.1.1.1.1 Annually?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.1.2 Every 2 years?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.1.3 Every 5 years?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.1.4 After 5 or more years?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.2 Are data from the assessment compared to data from other representative areas or populations?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, are health status data compared with data from:

1.1.1.2.1 Peer (demographically similar) communities?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.2.2 The state?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.2.3 The region?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.2.4 The nation?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.3 Does the LPHS use data from community health assessments to monitor progress toward health-related objectives?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do those objectives include:

1.1.1.3.1 Healthy People 2010 objectives?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.3.2 State-established health priorities?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.3.3 Locally-established health priorities?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.3.4 Measures from the Health Plan Employer Data and Information Set (HEDIS)?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.1.3.5 Other health-related objectives?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.2 Does the LPHS compile data from the community health assessment(s) into a community health profile?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

- 1.1.2.1 Are CHP data used to track trends over time?
- 1.1.2.2 Does the CHP include data from a local surveillance system?
- 1.1.2.3 Does the LPHS assure that adequate resources are allocated to maintain the CHP?
- 1.1.2.4 Has the LPHS identified the individuals or organizations responsible for contributing data and/or resources to produce the CHP?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do they include: (Choose all that apply)

- 1.1.2.4.1 Local public health agency?
- 1.1.2.4.2 University or academic institution(s)?
- 1.1.2.4.3 Private consultant(s)?
- 1.1.2.4.4 Health/hospital system(s)?
- 1.1.2.4.5 Managed care organization(s)?
- 1.1.2.4.6 Other public sector agency or governmental entities(s)?
- 1.1.2.4.7 State level agency or organization(s)?
- 1.1.2.4.8 National level agency or organization(s)?
- 1.1.2.4.9 Community-based organization(s)?
- 1.1.2.4.10 The general public?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

- 1.1.2.4.11 Does each contributor of data have access to the completed CHP?

YES HIGH PARTIALLY LOW PARTIALLY NO

Please indicate the data elements to which your LPHS has access for use in a CHP: (Click on the links to view a definition and list of indicators for each category.)

1.1.3 Does the LPHS have access to community demographic characteristics?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.3.1 Are these data used in the CHP?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.4 Does the LPHS have access to community socioeconomic characteristics?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.4.1 Are these data used in the CHP?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.5 Does the LPHS have access to health resource availability data?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.5.1 Are these data used in the CHP?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.6 Does the LPHS have access to quality of life data for the community?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.6.1 Are these data used in the CHP?

YES HIGH PARTIALLY LOW PARTIALLY NO

1.1.7	Does the LPHS have access to <u>behavioral risk factors</u> for the community?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.7.1	Are these data used in the CHP?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.8	Does the LPHS have access to community <u>environmental health indicators</u> ?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.8.1	Are these data used in the CHP?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.9	Does the LPHS have access to <u>social and mental health data</u> ?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.9.1	Are these data used in the CHP?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.10	Does the LPHS have access to <u>maternal and child health data</u> ?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.10.1	Are these data used in the CHP?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.11	Does the LPHS have access to <u>death, illness, and/or injury data</u> ?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.11.1	Are these data used in the CHP?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.12	Does the LPHS have access to <u>communicable disease data</u> ?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.12.1	Are these data used in the CHP?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.13	Does the LPHS have access to <u>sentinel events data</u> for the community?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.13.1	Are these data used in the CHP?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.14	Is community-wide use of community health assessment or CHP data promoted?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
	<i>If so,</i>	
1.1.14.1	Is a <u>media strategy</u> in place to promote community-wide use of the CHP?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.14.2	Is the information easily accessible by community organizations and the general public?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
1.1.14.3	Do organizations in the LPHS use the CHP to inform health policy and planning decisions?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO

1.1.15 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%

☐ 26-50%

☐ 51-75%

☒ 76-100%

1.1.15.1 What percent of the answer reported in question 1.1.15 is the direct contribution of the local public health agency?

☐ 0-25%

☐ 26-50%

☐ 51-75%

☒ 76-100%

Indicator 1.2

Access to and Utilization of Current Technology to Manage, Display, Analyze and Communicate Population Health Data

LPHS Model Standard:

Population health data are presented in formats that allow for clear communication and interpretation by end users. Such formats include graphed trend data that allow for comparisons over time by relevant variables such as gender, race, and geographic designation.

Tools such as geographic information systems (GIS) are used to combine geography, data, and computer mapping to support the exploration of spatial relationships, patterns, and trends in health data. Use of geocoded data (matching of street address to a corresponding latitude and longitude) is promoted, while maintaining appropriate safeguards for confidentiality. Increased public access to GIS information provides new insights to develop strategies that are appropriate for specific geographic areas and to align health status indicators with health resources.

While the information in the Community Health Profile (CHP) is available in paper format, this information is also available in a web-based version that is accessible to individuals, community groups, and other organizations in a timely manner. Links to other sources of related information are provided.

To accomplish this, the LPHS:

- Uses state-of-the-art technology to collect, manage, integrate, and display health profile databases.
- Promotes the use of geocoded data.
- Uses geographic information systems.
- Uses computer-generated graphics to identify trends and/or compare data by relevant categories (i.e., race, gender, age group).

Please answer the following questions related to Indicator 1.2:

1.2.1 Does the LPHS use state-of-the-art technology to support health profile databases?

If so, does the LPHS use state-of-the-art technology to:

1.2.1.1 Collect health profile database information?

1.2.1.2 Manage health profile databases?

1.2.1.3 Integrate health profile databases?

1.2.1.4 Display health profile databases?

1.2.2 Does the LPHS have access to geocoded health data?

If so, is the data collected at the:

1.2.2.1 County level?

1.2.2.2 Zip Code level?

1.2.2.3 Census Tract level?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

1.2.3 Does the LPHS use geographic information systems (GIS)?

If so, does the LPHS use GIS to:

1.2.3.1 Display health-related information?

1.2.3.2 Map health resources?

1.2.3.3 Link databases?

1.2.3.4 Analyze health issues?

1.2.4 Does the LPHS use computer-generated graphics to identify trends and/or compare data by relevant categories (i.e., race, gender, age group)?

1.2.5 Is the information in the CHP available in an electronic version?

If so, is it available:

1.2.5.1 On one website?

1.2.5.2 On one website linked to other websites?

1.2.5.3 On multiple websites (same information on multiple sites)?

1.2.5.4 On multiple (linked) websites
(different information on different sites)?1.2.5.5 Through access to a data warehouse?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

1.2.6 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

1.2.6.1 What percent of the answer reported in question 1.2.6 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

Indicator 1.3

Maintenance of Population Health Registries

LPHS Model Standard:

Population health registries track health-related events such as disease patterns and preventive health services delivery (i.e., cancer registries facilitate tracking of cancer incidence, cancer stage at diagnosis, treatment patterns, and survival probability; vaccine registries provide the real time status of vaccine coverage for specified age groups in the community). The LPHS creates and supports systems to assure accurate, timely, and unduplicated reporting by providers.

Data is collected for registries in accordance with standards that assure comparability of data from public, private, local, state, regional, and national sources. Collaboration among multiple partners facilitates the aggregation of individual data to compile a population health registry used to inform policy decisions, program implementation, and population research.

To accomplish this, the LPHS:

- Maintains and regularly contributes to population health registries using established criteria to report identified health events.
- Uses information from one or more population health registries.

Please answer the following questions related to Indicator 1.3:

1.3.1 Does the LPHS maintain and/or contribute to one or more population health registries?

If so,

1.3.1.1 Are there standards for data collection?

1.3.1.2 Are there established criteria and processes for reporting health events to the registry or registries?

If so, are systems in place to ensure:

1.3.1.2.1 Accurate reporting?

1.3.1.2.2 Timely reporting?

1.3.1.2.3 Unduplicated reporting?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the LPHS maintain a registry for:

- 1.3.1.3 Immunization status of children?
- 1.3.1.4 Immunization status of adults?
- 1.3.1.5 Cancer?
- 1.3.1.6 Syphilis serology?
- 1.3.1.7 Newborn screening?
- 1.3.1.8 Birth defects and developmental disabilities?
- 1.3.1.9 Trauma?
- 1.3.1.10 Occupational injury?
- 1.3.1.11 Environmental exposures?

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO

- 1.3.2 In the past year, has the LPHS used information from one or more population health registries?

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
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If so, is information used to:

- 1.3.2.1 Inform policy decisions?
- 1.3.2.2 Design and implement programs?
- 1.3.2.3 Conduct population research?

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO

- 1.3.3 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%	26-50%	51-75%	76-100%
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- 1.3.3.1 What percent of the answer reported in question 1.3.3 is the direct contribution of the local public health agency?

0-25%	26-50%	51-75%	76-100%
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This service includes:

- Epidemiological investigations of disease outbreaks and patterns of infectious and chronic diseases and injuries, environmental hazards, and other health threats.
- Active infectious disease epidemiology programs.
- Access to a public health laboratory capable of conducting rapid screening and high volume testing.

Indicator 2.1

Identification and Surveillance of Health Threats

LPHS Model Standard:

Surveillance systems are designed and maintained to monitor health events, to identify changes or patterns, and to investigate underlying causes or factors. Epidemiological and behavioral science techniques are used to collect data to identify risk factors for health threats. Local public health surveillance systems are integrated with national and state surveillance systems to provide comprehensive monitoring of health events using consistent collection and reporting procedures. Surveillance data are used to assess and analyze health problems and hazards. Surveillance data are also used to examine the impact of health hazards, behaviors, and risk factors on disease and mortality. Surveillance efforts also alert the LPHS to community and health indicators that may signal public health emergencies (e.g., biological or chemical incidents).

In order to accomplish this, the LPHS:

- Collects timely reportable disease information from community health professionals who submit information on possible disease outbreaks.
- Uses state-of-the-art information technology and communication systems to support surveillance and investigation activities.
- Has access to Masters and/or Doctoral level statistical and epidemiological expertise to assess, investigate, and analyze health threats and health hazards.
- Has a procedure to alert communities to possible health threats and disease outbreaks.

Please answer the following questions related to Indicator 2.1:

2.1.1 Do community health professionals submit timely reportable disease information to the state or LPHS?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.2 Does the LPHS monitor changes in the occurrence of health problems and hazards?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, are local statistics available for:

2.1.2.1 Communicable diseases?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.2.2 Chronic diseases?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.2.3 Injuries?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.2.4 Environmental hazards?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.3 Does the LPHS have a comprehensive surveillance system?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

2.1.3.1 Are these systems integrated with national and state surveillance systems?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

2.1.3.1.1 Is the Internet used to integrate with local, state and national surveillance systems?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.4 Does the LPHS use information technology for surveillance (e.g., geographic information systems, word processing, spreadsheets, database analysis, and graphics presentation software)?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

2.1.4.1 Do organizations within the LPHS communicate electronically?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do the mechanisms for communication methods include:

2.1.4.1.1 Touch-tone telephone service?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.4.1.2 Facsimile (fax) machine?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.4.1.3 E-mail (e.g., Internet, cable, and wireless systems)?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

2.1.4.1.3.1 Are agencies within the LPHS linked with each other for rapid electronic communication to respond to health threats?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.1.5 Does the LPHS have (or have access to) Masters or Doctoral level epidemiologists and/or statisticians to assess, investigate and analyze public health threats and health hazards?

☒ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

2.1.6 Does the LPHS have a procedure to alert communities about possible health threats or disease outbreaks?

☒ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

2.1.7 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☒ 0-25%

☐ 26-50%

☐ 51-75%

☐ 76-100%

2.1.7.1 What percent of the answer reported in question 2.1.7 is the direct contribution of the local public health agency?

☒ 0-25%

☐ 26-50%

☐ 51-75%

☐ 76-100%

Indicator 2.2

Plan for Public Health Emergencies

LPHS Model Standard:

An emergency preparedness and response plan describes the roles, functions and responsibilities of LPHS entities in the event of one or more types of public health emergencies. Careful planning and mobilization of resources and partners prior to an event is crucial to a prompt and effective response. LPHS entities, including the local public health agency, law enforcement, fire departments, health care providers, and other partners work collaboratively to formulate emergency response plans and procedures. The plan should create a dual-use response infrastructure, in that it outlines the capacity of the LPHS to respond to all public health emergencies (including natural disasters), while taking into account the unique and complex challenges presented by chemical hazards or bioterrorism.

In order to plan for public health emergencies, the LPHS:

- Defines and describes public health disasters and emergencies that might trigger implementation of the LPHS emergency response plan.
- Develops a plan that defines organizational responsibilities, establishes communication and information networks, and clearly outlines alert and evacuation protocols.
- Tests the plan each year through the staging of one or more "mock events."
- Revises its emergency response plan at least every two years.

Please answer the following questions related to Indicator 2.2:

2.2.1 Has the LPHS identified public health disasters and emergencies that might trigger implementation of the LPHS emergency response plan?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.2.2 Does the LPHS have an emergency preparedness and response plan?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

2.2.2.1 Is the emergency preparedness and response plan in written form?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.2.2.2 Is there an established chain-of-command among plan participants?

YES HIGH PARTIALLY LOW PARTIALLY NO

Does the plan:

2.2.2.3 Describe the organizational responsibilities and roles of all plan participants?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.2.2.4 Identify community assets that could be mobilized by plan participants to respond to an emergency?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.2.2.5 Describe LPHS communications and information networks?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.2.2.6	Connect, where possible, to the state emergency response and preparedness plan?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO
2.2.2.7	Clearly outline protocols for emergency response?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO
	<i>If so, does the plan:</i>				
2.2.2.7.1	Build on existing plans, protocols, and procedures within the community?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO
2.2.2.7.2	Include written alert protocols to implement an emergency program of <u>source and contact tracing</u> for communicable diseases and toxic exposures?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO
2.2.2.7.3	Include protocols to alert affected populations?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO
2.2.2.7.4	Include an evacuation plan?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO
2.2.2.7.5	Include procedures for coordinating public health responsibilities with law enforcement responsibilities?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO
2.2.3	Has any part of the plan been tested through simulations of one or more "mock events" within the past year?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO
2.2.4	Has the plan been reviewed or revised within the past two years?	YES	HIGH PARTIALLY	LOW PARTIALLY	NO

2.2.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25% 26-50% 51-75% 76-100%

2.2.5.1 What percent of the answer reported in question 2.2.5 is the direct contribution of the local public health agency?

0-25% 26-50% 51-75% 76-100%

Indicator 2.3

Investigate and Respond to Public Health Emergencies

LPHS Model Standard:

Local public health systems must respond rapidly and effectively to investigate public health emergencies which involve communicable disease outbreaks or biological, radiological or chemical agents. With the occurrence of an adverse public health event or potential threat, a collaborative team of health professionals participates in the collection and analysis of relevant data. A network of support and communication relationships exists in the LPHS, which includes health-related organizations, public safety and rapid response teams, the media, and the general public. Timely investigation of public health emergencies is coordinated through an Emergency Response Coordinator, who leads the local effort in the event of a public health emergency (e.g., health officer, environmental health director).

In order to investigate public health emergencies, the LPHS:

- Designates an Emergency Response Coordinator.
- Develops written epidemiological case investigation protocols for immediate investigation of:
 - communicable disease outbreaks,
 - environmental health hazards,
 - potential chemical and biological agent threats,
 - radiological threats, and
 - large scale disasters.
- Maintains written protocols to implement a program of source and contact tracing for communicable diseases or toxic exposures.
- Maintains a roster of personnel with the technical expertise to respond to potential biological, chemical, or radiological public health emergencies.
- Evaluates past incidents for effectiveness and opportunities for improvement.

Please answer the following questions related to Indicator 2.3:

2.3.1 Has the LPHS designated an Emergency Response Coordinator?

If so,

2.3.1.1 Is there coordination with the local public health agency's Emergency Response Coordinator?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

- 2.3.2 Does the LPHS have current epidemiological case investigation protocols to guide immediate investigations of public health emergencies?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do these protocols address:

- 2.3.2.1 Communicable disease outbreaks?
2.3.2.2 Environmental health hazards?
2.3.2.3 Chemical threats?
2.3.2.4 Biological agent threats?
2.3.2.5 Radiological threats?
2.3.2.6 Large-scale natural disasters?
2.3.2.7 Possible terrorist incidents?

YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO

- 2.3.3 Does the LPHS maintain written protocols for implementing a program of source and contact tracing for communicable diseases or toxic exposures?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, are protocols in place for:

- 2.3.3.1 Animal and vector control?
2.3.3.2 Exposure to food-borne illness?
2.3.3.3 Exposure to water-borne illness?
2.3.3.4 Excessive lead levels?
2.3.3.5 Exposure to asbestos?
2.3.3.6 Exposure to other toxic chemicals?
2.3.3.7 Communicable diseases?
2.3.3.8 Radiological health threats?

YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO

- 2.3.4 Does the LPHS maintain a roster of personnel with the technical expertise to respond to potential biological, chemical, or radiological public health emergencies?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the LPHS have access to the following personnel within one hour?

- 2.3.4.1 Chemists?
2.3.4.2 Emergency management?
2.3.4.3 Environmental health scientists?
2.3.4.4 State epidemiologists?
2.3.4.5 Hazardous Material Response Teams?
2.3.4.6 Health physicists?
2.3.4.7 Industrial hygienists?
2.3.4.8 Infectious disease specialists?
2.3.4.9 Law enforcement?
2.3.4.10 Medical examiners/coroner?
2.3.4.11 Microbiologists?
2.3.4.12 National Guard?
2.3.4.13 Occupation health physicians?
2.3.4.14 State public health laboratory director?
2.3.4.15 Toxicologists?
2.3.4.16 Veterinarians?
2.3.4.17 Funeral/Mortuary Directors?

YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
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YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO
YES HIGH PARTIALLY LOW PARTIALLY NO

2.3.5 Does the LPHS evaluate public health emergency response incidents for effectiveness and opportunities for improvement?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.3.6 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

2.3.6.1 What percent of the answer reported in question 2.3.6 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

Indicator 2.4

Laboratory Support for Investigation of Health Threats

LPHS Model Standard:

Laboratory support is defined as the ability to produce timely and accurate laboratory results for diagnostic and investigative public health concerns. The actual testing may be performed outside the traditional public health system, however, public health retains the responsibility for ensuring that proper testing and timely results are available to the community.

In order to accomplish this, the LPHS:

- Maintains ready access to laboratories capable of supporting investigations of public health problems, hazards, and emergencies.
- Maintains ready access to laboratories capable of meeting routine diagnostic and surveillance needs.
- Confirms that laboratories are in compliance with regulations and standards through credentialing and licensing agencies.
- Maintains guidelines or protocols to address the handling of laboratory samples, which describe procedures for storing, collecting, labeling, transporting, and delivering laboratory samples, and for determining the chain of custody regarding the handling of these samples.

Please answer the following questions related to Indicator 2.4:

2.4.1 Does the LPHS have ready access to laboratory services available to support investigations of public health problems, hazards, and emergencies?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.4.2 Does the LPHS maintain ready access to laboratories capable of meeting routine diagnostic and surveillance needs?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.4.3 Does the LPHS have documentation showing that laboratories are licensed and/or credentialed?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.4.4 Does the LPHS maintain current guidelines or protocols for handling laboratory samples?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do these guidelines or protocols address:

2.4.4.1 Collecting samples?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.4.4.2 Labeling samples?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.4.4.3 Storing samples?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.4.4.4 Transporting or delivering samples?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.4.4.5 Determining the chain of custody with respect to the handling of laboratory samples?

YES HIGH PARTIALLY LOW PARTIALLY NO

2.4.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%☒ 26-50%☐ 51-75%☐ 76-100%

2.4.5.1 What percent of the answer reported in question 2.4.5 is the direct contribution of the local public health agency?

☐ 0-25%☒ 26-50%☐ 51-75%☐ 76-100%

This service includes:

- Health information, health education, and health promotion activities designed to reduce health risk and promote better health.
- Health communication plans and activities such as media advocacy and social marketing.
- Accessible health information and educational resources.
- Health education and health promotion program partnerships with schools, faith communities, worksites, personal care providers, and others to implement and reinforce health promotion programs and messages.

Indicator 3.1

Health Education

LPHS Model Standard:

Public health education is the process by which the LPHS conveys information and facilitates the development of health enhancing skills among individuals and groups in the community. Factual information is provided for informed decision-making on issues affecting individual and community health. A broad-based group of entities are involved in public health education, including the local governmental public health agency, health care providers, hospitals, and community-based organizations. Education services are provided to assist individuals and groups in the community to voluntarily act on their decisions, establish healthy behaviors, and use knowledge to change social conditions affecting health. Public health education serves to reinforce health promotion messages within the community, ultimately helping to reduce health risk and improve health status.

To provide effective public health education, the LPHS:

- Provides the general public and policy leaders with information on health risk, health status, and health needs in the community as well as information on policies and programs that can improve community health.
- Uses appropriate media (print, radio, television, and Internet) to communicate health information to the community-at-large.
- Provides health information to enable individuals and groups, including vulnerable populations and those at increased risk, to make informed decisions about healthy living and lifestyle choices and sponsors educational programs to develop knowledge, skills, and behavior needed to improve individual and community health.
- Evaluates the appropriateness, quality, and effectiveness of public health education activities at least every two years.

Please answer the following questions related to Indicator 3.1:

3.1.1 Does the LPHS provide the general public and policy leaders with information on community health?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the information provided include:

3.1.1.1 Health risks (e.g., obesity, smoking)?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

3.1.1.1.1 Are health risks associated with demographic sub-populations in the community identified?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.1.2 Health status?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

3.1.1.2.1 Is the health status of demographic sub-populations in the community included?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.1.3 Health needs?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

3.1.1.3.1 Are the health needs associated with demographic sub-populations in the community identified?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.1.4 Does the LPHS disseminate information on behaviors that improve health?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.1.5 Does the LPHS disseminate information on policies or programs that could be applied to improve community health?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.2 Does the LPHS use media (e.g., print, radio, television, Internet) to communicate health information?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

3.1.2.1 Is information targeted to specific populations?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.2.2 Is the media's use of the information tracked?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.2.3 Do press releases generate stories or follow-up inquiries from media?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.2.4 Has there been collaboration with the local media to develop news or feature stories on health issues?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.1.3 Does the LPHS sponsor health education programs?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO
If so, do these programs:

3.1.3.1 Address health concerns identified by members of the community?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO
If so, are community members involved in:

3.1.3.1.1 The design and development of educational programs that address community concerns?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

3.1.3.1.2 The implementation of educational programs that address community concerns?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO
If so, do these programs:

3.1.3.2 Target particular health risks commonly faced in the community (e.g., infectious disease, lack of exercise, smoking, obesity, substance abuse, and a failure to wear lap and shoulder restraints in automobiles)?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

3.1.3.3 Address the needs of populations at increased risk of specific illnesses or injuries with information and education programs designed to assist them in lowering their risk?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO
If so, do health education programs:

3.1.3.3.1 Provide guidance on developing skills and behaviors that reduce individual and community health risk?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

3.1.3.3.2 Consider language, culture, age or other characteristics of the target audience?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

3.1.4 Within the past two years, has the LPHS assessed its public health education activities?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO
If so, did the assessment consider the appropriateness of the:

3.1.4.1 Health issues addressed?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

3.1.4.2 Populations served?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO
*If so,*3.1.4.2.1 Are education methods (e.g., lecture, role play, behavioral contract, competition, or problem solving challenge) tailored for the target populations?
☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

3.1.4.3 LPHS partners involved?

☐ YES ☐ HIGH PARTIALLY ☐ LOW PARTIALLY ☐ NO

<p>3.1.4.4 Settings for health education activity (e.g., school, worksite, faith institution, or community-at-large)?</p> <p><i>If so,</i></p> <p>3.1.4.4.1 Are the education methods tailored to the target settings (e.g., school, worksite, faith institution, or community-at-large)?</p> <p>3.1.4.5 Communication mechanisms used (e.g., print, radio, television, Internet, or face-to-face group encounters)?</p> <p>3.1.4.6 Did the assessment consider the quality of their health education programs?</p> <p><i>If so,</i></p> <p>3.1.4.6.1 Are educational interventions either <u>theory-based</u> (e.g., health belief model, diffusion of innovation theory) or <u>evidence-based</u> (e.g., The <u>Guide to Community Preventive Services</u>)?</p> <p>3.1.4.7 Did the assessment address whether health education programs achieved the intended outcomes?</p>	<div>YES HIGH PARTIALLY LOW PARTIALLY NO</div> <div>YES HIGH PARTIALLY LOW PARTIALLY NO</div> <div>YES HIGH PARTIALLY LOW PARTIALLY NO</div> <div>YES HIGH PARTIALLY LOW PARTIALLY NO</div> <div>YES HIGH PARTIALLY LOW PARTIALLY NO</div> <div>YES HIGH PARTIALLY LOW PARTIALLY NO</div>
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3.1.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25% 26-50% 51-75% 76-100%

3.1.5.1 What percent of the answer reported in question 3.1.5 is the direct contribution of the local public health agency?

0-25% 26-50% 51-75% 76-100%

Indicator 3.2

Health Promotion Activities to Facilitate Healthy Living in Healthy Communities

LPHS Model Standard:

Health promotion activities include any combination of educational and environmental supports that give individuals, groups, or communities greater control over conditions affecting their health. Health promotion activities include: educational programs to develop healthy behaviors, support groups, media campaigns to reinforce the practice of healthy behaviors, policies, laws or other programs that provide incentives to practice healthy behaviors.

The LPHS designs and implements a wide range of health promotion activities to facilitate healthy living in healthy communities. Health promotion activities are based on models proven to be effective. The LPHS applies a variety of strategies and methods to affect change on multiple levels of the social and physical environment (e.g., individual, family, organizational, and community levels) in order to accomplish desired health promotion goals and objectives. A strong collaborative network, including public agencies, private sector organizations, voluntary associations, the faith community, and community groups is active in health promotion activities.

To accomplish this, the LPHS:

- Conducts health promotion activities for the community-at-large or for populations at increased risk for negative health outcomes.
- Develops collaborative networks for health promotion activities that facilitate healthy living in healthy communities.
- Assesses the appropriateness, quality, and effectiveness of health promotion activities at least every two years.

Please answer the following questions related to Indicator 3.2:

3.2.1 In the past year, has your LPHS implemented one or more health promotion activities?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

3.2.1.1 Were these health promotion activities based on models that were proven to be effective?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.2.1.2 Were multiple interventions used to affect change or accomplish health improvement objectives (e.g., reducing/preventing youth smoking by limiting access to tobacco products, instituting an elementary school's curriculum to prevent tobacco use, and raising tax on tobacco products)?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.2.1.3 Were health promotion activities targeted to the general public?

If so,

3.2.1.3.1 Did the health promotion activities improve the community's capacity to enable healthy behaviors (e.g., playgrounds or sidewalks to promote physical activity, heart healthy menus in schools and restaurants)?

3.2.1.4 Were any of the health promotion activities tailored for specific populations?

If so,

3.2.1.4.1 Were these activities designed to address language, culture, or other characteristics of the target audience?

3.2.2 Have collaborative networks for health promotion been established among LPHS entities such as public and private agencies, voluntary organizations, and community groups?

If so, do network participants play a role in the following:

3.2.2.1 Planning health promotion activities?

3.2.2.2 Providing resources for health promotion activities (e.g., award funds, facilities)?

3.2.2.3 Conducting health promotion activities?

3.2.2.4 Evaluating health promotion activities?

3.2.3 Within the past two years, has the LPHS assessed its health promotion activities?

If so, did the assessment consider the appropriateness of the:

3.2.3.1 Health issues addressed?

3.2.3.2 Populations served?

3.2.3.3 LPHS partners involved?

3.2.3.4 Settings for health promotion activities (e.g., school, worksite, faith institution, community-at-large)?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

3.2.3.5 Did the assessment evaluate the quality of its health promotion activities?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

3.2.3.5.1 Are health promotion activities either theory-based (e.g., theories of social exchange, social ecology, empowerment) or evidence-based (e.g., *The Guide to Community Preventive Services*)?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.2.3.5.2 Are health promotion activities tailored for the target population?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.2.3.5.3 Are health promotion activities tailored for the target settings (e.g., school, worksite, faith institution, community-at-large)?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.2.3.6 Did the assessment evaluate whether the health promotion activities achieved the intended outcomes?

YES HIGH PARTIALLY LOW PARTIALLY NO

3.2.4 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25% 26-50% 51-75% 76-100%

3.2.4.1 What percent of the answer reported in question 3.2.4 is the direct contribution of the local public health agency?

0-25% 26-50% 51-75% 76-100%

Mobilize Community Partnerships to Identify and Solve Health Problems

This service includes:

- Identifying potential stakeholders who contribute to or benefit from public health, and increase their awareness of the value of public health.
- Building coalitions to draw upon the full range of potential human and material resources to improve community health.
- Convening and facilitating partnerships among groups and associations (including those not typically considered to be health-related) in undertaking defined health improvement projects, including preventive, screening, rehabilitation, and support programs.

Indicator 4.1

Constituency Development

LPHS Model Standard:

Constituents of the LPHS include all persons and organizations that directly contribute to or benefit from public health. These may include members of the public served by the LPHS, the governmental bodies it represents, and other health, environmental, and non-health-related organizations in the community. Constituency development is the process of establishing collaborative relationships among the LPHS and all current and potential constituents.

As part of constituency development activities, the LPHS develops a communications/media strategy designed to educate the community about the benefits of public health and the role of the LPHS in improving community health. The LPHS operationalizes the communications/media strategy through formal and informal community networks, which may include schools, the faith community, and community associations.

For effective constituency development, the LPHS:

- Has a process to identify key constituents for population-based health in general (e.g., improved health and quality of life at the community level) or for specific health concerns (e.g., a particular health theme, disease, risk factor, life stage need).
- Encourages the participation of its constituents in community health activities, such as in identifying community issues and themes and in engaging in volunteer public health activities.
- Establishes and maintains a comprehensive directory of community organizations.
- Uses broad-based communication strategies to strengthen linkages among LPHS organizations and to provide current information about public health services and issues.

Please answer the following questions related to Indicator 4.1:

4.1.1 Does the LPHS have a process for identifying key constituents?

If so,

4.1.1.1 Are key constituents identified for population-based health in general (e.g., improved health and quality of life at the community level)?

4.1.1.2 Are key constituents identified for specific health concerns (e.g., a particular health theme, disease, risk factor, life stage need)?

4.1.1.3 Does the LPHS maintain a list of the names and contact information for individuals and groups for constituency building?

4.1.1.4 Is there a protocol and/or suggested approach for contacting potential constituents?

4.1.2 Does the LPHS encourage the participation of constituents in improving community health?

If so,

4.1.2.1 Does the LPHS encourage constituents from the community-at-large to identify community issues and themes through a variety of means (e.g., using on-line resources, community/town hall meetings, ballot votes, community surveys, focus groups)?

4.1.2.2 Does the LPHS provide opportunities for volunteers to help in community health improvement?

If so, does the LPHS:

4.1.2.2.1 Have mechanisms to recruit and retain volunteers?

4.1.2.2.2 Publicize these volunteer opportunities?

4.1.3 Does the LPHS maintain a current directory of organizations that comprise the LPHS?

If so,

4.1.3.1 Is the directory accessible to the public?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

Does the directory include information on the following:

- 4.1.3.2 The local governmental public health agency?
- 4.1.3.3 The local governing entity, (e.g., board of health)?
- 4.1.3.4 Other governmental entities (e.g., state agencies, other local agencies)?
- 4.1.3.5 Hospitals?
- 4.1.3.6 Managed care organizations?
- 4.1.3.7 Primary care clinics and physicians?
- 4.1.3.8 Social service providers?
- 4.1.3.9 Civic organizations?
- 4.1.3.10 Professional organizations?
- 4.1.3.11 Local businesses and employers?
- 4.1.3.12 Neighborhood organizations?
- 4.1.3.13 Faith institutions?
- 4.1.3.14 Transportation providers?
- 4.1.3.15 Educational institutions?
- 4.1.3.16 Public safety and emergency response organizations?
- 4.1.3.17 Environmental or environmental-health agencies?
- 4.1.3.18 Non-profit organizations/advocacy groups?
- 4.1.3.19 Local officials who impact policy and fiscal decisions?
- 4.1.3.20 Other community organizations?

- 4.1.4 Does the LPHS use communications strategies to strengthen organizational linkages and/or to inform community constituents about public health issues and services?

If so,

- 4.1.4.1 Are there any mechanisms or events (e.g., council, newsletter, community/town hall meetings, list serves) to facilitate communication among organizations?

If so,

- 4.1.4.1.1 Is there an established frequency for these communication mechanisms or events?

- 4.1.4.2 Are there any mechanisms or events (e.g., websites, listserves, community/town hall meetings) to facilitate communication with the community-at-large?

If so,

- 4.1.4.2.1 Is there an established frequency for holding these events and/or reviewing these communication mechanisms?

<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO

<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
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<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
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<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
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<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
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<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
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4.1.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

4.1.5.1 What percent of the answer reported in question 4.1.5 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

Indicator 4.2

Community Partnerships

LPHS Model Standard:

Community partnerships describe a continuum of relationships that foster the sharing of resources and accountability in undertaking community health improvement. Public health agencies may convene or facilitate the collaborative process. The multiple levels of relationships among public, private, or nonprofit institutions have been described as 1) networking, exchanging information for mutual benefit; 2) coordination, exchanging information and altering activities for mutual benefit and to achieve a common purpose; 3) cooperation, exchanging information, altering activities, and sharing resources for mutual benefit and to achieve a common purpose; and 4) collaboration, exchanging information, altering activities, sharing resources, and enhancing the capacity of another for mutual benefit and to achieve a common purpose. Multi-sector collaboration is thus defined as: a voluntary strategic alliance of public, private, and nonprofit organizations to enhance each other's capacity to achieve a common purpose by sharing risks, responsibilities, resources, and rewards.

Multi-sector partnerships such as community health improvement committees (community committees) exist in some communities as formally constituted bodies (e.g., a community health planning council) while in other communities they are less formal groups. The community committee is a dynamic collaboration designed to be comprehensive and inclusive in its approach to community health improvement. Participation in the community committee varies to address priority health issues, leverage community resources, and to provide the essential service of public health.

To accomplish this, the LPHS:

- Establishes community partnerships to assure a comprehensive approach to improving health in the community.
- Assures the establishment of a broad-based community health improvement committee.
- Assesses the effectiveness of community partnerships in improving community health.

Please answer the following questions related to Indicator 4.2:

4.2.1 Do partnerships exist in the community to assure coordination of public health activities?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, is there coordination to provide:

4.2.1.1 A comprehensive approach to improving community health?

YES HIGH PARTIALLY LOW PARTIALLY NO

4.2.1.2 Health promotion services?

YES HIGH PARTIALLY LOW PARTIALLY NO

4.2.1.3 Disease prevention services?

YES HIGH PARTIALLY LOW PARTIALLY NO

4.2.2 Does the LPHS assure the establishment of a broad-based community health improvement committee?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does this committee:

- 4.2.2.1 Participate in the community assessment process?
- 4.2.2.2 Participate in the implementation of a community health improvement process?
- 4.2.2.3 Monitor progress toward prioritized goals?
- 4.2.2.4 Leverage community resources?
- 4.2.2.5 Meet at least four times per year?

<input checked="" type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO

- 4.2.3 Does the LPHS assess the effectiveness of community partnerships developed to improve community health?

<input checked="" type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
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If so, does the assessment include:

- 4.2.3.1 Process measures?
- 4.2.3.2 Outcome measures?

<input checked="" type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO

- 4.2.4 How much of this LPHS Model Standard is achieved by the local public health system collectively?

<input checked="" type="radio"/> 0-25%	<input type="radio"/> 26-50%	<input type="radio"/> 51-75%	<input type="radio"/> 76-100%
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- 4.2.4.1 What percent of the answer reported in question 4.2.4 is the direct contribution of the local public health agency?

<input checked="" type="radio"/> 0-25%	<input type="radio"/> 26-50%	<input type="radio"/> 51-75%	<input type="radio"/> 76-100%
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This service includes:

- An effective governmental presence at the local level.
- Development of policy to protect the health of the public and to guide the practice of public health.
- Systematic community-level and state-level planning for health improvement in all jurisdictions.
- Alignment of LPHS resources and strategies with the community health improvement plan.

Indicator 5.1**Governmental Presence at the Local Level****LPHS Model Standard:**

Every community must be served by a governmental public health entity. As the first line of defense, local governmental public health agencies play an especially vital role in ensuring the safety, health, and well-being of communities. The governmental public health entity works in partnership with the community to assure the development and maintenance of a flexible and dynamic public health system that provides the Essential Public Health Services. In doing this, the local governmental public health entity coordinates or assures the provision of quality public health services. Typically, the local health department or a local branch of the state health agency serves as the local governmental public health entity.

The LPHS includes a local governmental public health entity. A governmental public health entity within the LPHS assures:

- Delivery of the Essential Public Health Services to the community.
- The participation of all relevant stakeholders in the development and implementation of the community health improvement plan.
- An appropriate relationship with its local governing entity (e.g., local board of health, county commission, state health agency).
- Coordination with the state public health system.

Please answer the following questions related to Indicator 5.1:

- 5.1.1 Does the LPHS include a local governmental public health entity to assure the delivery of the Essential Public Health Services to the community?

YES

HIGH PARTIALLY

LOW PARTIALLY

NO

If so, does the local governmental public health entity maintain current documentation describing its:

- 5.1.1.1 Mission?
- 5.1.1.2 Statutory responsibilities?
- 5.1.1.3 Chartered and/or legal responsibilities?
- 5.1.1.4 Does the local governmental public health entity assure resources to provide the Essential Public Health Services to the community?

If so, do these resources include:

- 5.1.1.4.1 The availability of legal counsel on issues related to the provision of Essential Public Health Services?
- 5.1.1.4.2 Adequate funding for mandated public health programs?
- 5.1.1.4.3 The personnel, facilities, equipment, and supplies required to deliver the Essential Public Health Services?

- 5.1.2 Does the local governmental public health entity assure the participation of all relevant stakeholders in the implementation of a community health improvement plan?
- 5.1.3 Does a local board of health or other governing entity conduct oversight for the local governmental public health entity?

If so,

- 5.1.3.1 Has this local board of health or other governing entity completed the National Public Health Performance Standards Program Local Public Health Governance Performance Assessment Instrument?

- 5.1.4 Does the local governmental public health entity work with the state public health system (and specifically the state public health agency) to assure the provision of public health services?

If so,

- 5.1.4.1 Have state partners completed the National Public Health Performance Standards Program State Public Health System Performance Assessment Instrument?

If so,

- 5.1.4.1.1 Was input from the local level considered and included in the responses?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

5.1.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

5.1.5.1 What percent of the answer reported in question 5.1.5 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

Indicator 5.2

Public Health Policy Development

LPHS Model Standard:

As used in this instrument, the phrase “policy development” involves the means by which problem identification, technical knowledge of possible solutions, and societal values join to set a course of action (IOM, 1988). Policy development is not synonymous with the development of laws, rules, and regulations (which are the focus of Essential Service # 6). Laws, rules, and regulations may be adopted as tools to implement policy, but good policies must precede good legislation. Policy development is a process that enables informed decisions to be made concerning issues related to the public’s health.

To assure effective public health policy, the LPHS:

- Contributes to the development and/or modification of public health policy by facilitating community involvement in the process and by engaging in activities that inform the process.
- Reviews existing policies at least every two years and alerts policymakers and the public of potential unintended outcomes and consequences.
- Advocates for prevention and protection policies, particularly for policies that affect populations who bear a disproportionate burden of mortality or morbidity.

Please answer the following questions related to Indicator 5.2:

5.2.1 Does the LPHS contribute to the development of public health policies?

If so,

5.2.1.1 Does the LPHS provide forums for constituents to raise and analyze issues?

5.2.1.2 Within the past two years, has the LPHS been involved in activities that influenced or informed the public health policy process?

If so, has the LPHS:

5.2.1.2.1 Prepared issue briefs?

5.2.1.2.2 Given public testimony?

5.2.1.2.3 Participated on local boards or advisory panels responsible for health policy advisement?

5.2.1.2.4 Participated on state boards or advisory panels responsible for health policy advisement?

5.2.1.2.5 Participated on national boards or advisory panels responsible for health policy advisement?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

5.2.1.2.6 Met with elected officials to inform them of potential public health impacts of actions under their consideration?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

5.2.1.2.7 Have any of these activities resulted in change in public health policy?

YES HIGH PARTIALLY LOW PARTIALLY NO

5.2.2 Does the LPHS review public health policies at least every two years?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the review include:

5.2.2.1 Assessment of outcomes and/or consequences?

YES HIGH PARTIALLY LOW PARTIALLY NO

5.2.2.2 Examination of potential community health impact of other policy areas (e.g., fiscal, social, environmental)?

YES HIGH PARTIALLY LOW PARTIALLY NO

5.2.2.3 A plan to alert policymakers and the public on unintended consequences?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the review process include:

5.2.2.4 Community constituents, including those affected by the policy?

YES HIGH PARTIALLY LOW PARTIALLY NO

5.2.3 Does the LPHS advocate for the development of prevention and protection policies in the interest of those in the community who bear disproportionate burdens of mortality or morbidity?

YES HIGH PARTIALLY LOW PARTIALLY NO

5.2.4 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25% 26-50% 51-75% 76-100%

5.2.4.1 What percent of the answer reported in question 5.2.4 is the direct contribution of the local public health agency?

0-25% 26-50% 51-75% 76-100%

- 5.3.1.1.13 Faith institutions?
- 5.3.1.1.14 Transportation providers?
- 5.3.1.1.15 Educational institutions?
- 5.3.1.1.16 Public safety and emergency response organizations?
- 5.3.1.1.17 Environmental or environmental-health agencies?
- 5.3.1.1.18 Non-profit organizations/advocacy groups?
- 5.3.1.1.19 Local officials who impact on policy and fiscal decisions?

If so, does the process include:

- 5.3.1.2 Information from the community health assessment?
- 5.3.1.3 Issues and themes identified by the community?
- 5.3.1.4 Identification of community assets and resources?
- 5.3.1.5 Prioritization of community health issues?
- 5.3.1.6 Development of measurable health objectives?

If so,

- 5.3.1.7 Does the process result in the development of a community health improvement plan?

If so,

- 5.3.1.7.1 Is the community health improvement plan linked to the state health improvement plan?

- 5.3.2 Has the LPHS developed strategies to address community health objectives?

If so,

- 5.3.2.1 Have the individuals or organizations accountable for the implementation of these strategies been identified?

If so, have the individuals or organizations:

- 5.3.2.1.1 Agreed to defined responsibilities and timetables for activities?
- 5.3.2.1.2 Started to implement these strategies?
- 5.3.2.1.3 Determined how to effectively utilize the community assets and resources that were identified?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

5.3.3 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☒ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

5.3.3.1 What percent of the answer reported in question 5.3.3 is the direct contribution of the local public health agency?

☒ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

Indicator 5.4

Strategic Planning and Alignment with the Community Health Improvement Process

LPHS Model Standard:

Strategic planning is a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it. Strategic planning requires information gathering, an exploration of alternatives, and an emphasis on the future implications of present decisions. The strategic planning process can facilitate communication and participation, accommodate divergent interests and values, and foster orderly decision-making that leads to successful implementation, and, ultimately, quality improvement.

Strategic planning includes the identification of forces and trends in the external environment that might impact the health of individuals, the health of the community or the effectiveness of the LPHS. Strategic planning also includes the assessment of the strengths and weaknesses of the organization.

To optimize community resources and encourage complementary action, each organization within the LPHS:

- Conducts organizational strategic planning activities.
- Reviews its organizational strategic plan to determine how it can best be aligned with the community health improvement process.

Because the activities of the local governmental public health entity should be focused on community public health needs and issues, specific attention is given to this organization's strategic plan. The local governmental public health entity:

- Conducts organizational strategic planning activities and uses strategic planning to align its goals, objectives, strategies, and resources with the community health improvement process.

Please answer the following questions related to Indicator 5.4:

5.4.1 Does each organization in the LPHS conduct a strategic planning process?

YES HIGH PARTIALLY LOW PARTIALLY NO

(If a partial response was recorded above, please respond to the questions below by considering the organizations that do have strategic plans.)

5.4.2 Does each organization in the LPHS review its organizational strategic plan to determine how it can best be aligned with community health improvement process?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does each organization,

5.4.2.1 Incorporate information from the community health improvement process into the strategic plan?

YES HIGH PARTIALLY LOW PARTIALLY NO

5.4.3 Does the local governmental public health entity conduct strategic planning activities?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the local governmental public health entity:

- 5.4.3.1 Identify forces (trends, events, or factors) that may impact health or the local public health system?
- 5.4.3.2 Assess organizational strengths and weaknesses?
- 5.4.3.3 Use strategic planning to align its goals, objectives, strategies, and resources with the community health improvement process?
- 5.4.3.4 Does the local governmental public health entity have a strategic plan?

If so, is the plan:

- 5.4.3.4.1 Reviewed annually?
- 5.4.3.4.2 Revised at least every five years?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

- 5.4.4 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

- 5.4.4.1 What percent of the answer reported in question 5.4.4 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

This service includes:

- The review, evaluation, and revision of laws and regulations designed to protect health and safety to assure that they reflect current scientific knowledge and best practices for achieving compliance.
- Education of persons and entities obligated to obey or to enforce laws and regulations designed to protect health and safety in order to encourage compliance.
- Enforcement activities in areas of public health concern, including, but not limited to the protection of drinking water; enforcement of clean air standards; regulation of care provided in health care facilities and programs; re-inspection of workplaces following safety violations; review of new drug, biologic, and medical device applications; enforcement of laws governing the sale of alcohol and tobacco to minors; seat belt and child safety seat usage; and childhood immunizations.

Indicator 6.1**Review and Evaluate Laws, Regulations, and Ordinances****LPHS Model Standard:**

The LPHS reviews existing federal, state, and local laws and regulations relevant to the public health of the community, including laws and regulations addressing environmental quality and health-related behavior. The review focuses on the authority established for laws and regulations as well as the impact of existing laws and regulations on the health of the community. The review also assesses compliance, opinions of constituents, and whether laws and regulations require updating.

In order to accomplish this, the LPHS:

- Identifies public health issues that can only be addressed through laws, regulations, or ordinances.
- Has access to a current compilation of federal, state, and local laws, regulations, and ordinances that protect the public's health.
- Reviews public health laws and regulations at least once every 5 years.
- Has access to legal counsel for assistance in the review of laws, regulations and ordinances.

Please answer the following questions related to Indicator 6.1:

6.1.1 Does the LPHS identify public health issues that can only be addressed through laws, regulations, or ordinances?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2 Does the LPHS have access to a current compilation of federal, state, and local laws, regulations, and ordinances that protect the public's health?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the compilation include regulations for:

6.1.2.1 Food handling?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2.2 Water quality?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2.3 Clean air?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2.4 Injury prevention (e.g., safety inspection of work-sites, schools, swimming pools)?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2.5 Toxic waste and chemical treatment?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2.6 Exposure-related diseases?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2.7 Nursing home and other long-term care?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2.8 Home health care providers?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.2.9 Day care centers?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.3 Does the LPHS review the public health laws and regulations at least once every 5 years?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do reviews:

6.1.3.1 Determine whether laws and regulations provide the authority to carry out the Essential Public Health Services?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.3.2 Determine the impact of existing laws and regulations on the health of the community?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.3.3 Assess the opinions of constituents of the LPHS?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.3.4 Determine whether public health laws and regulations require updating?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.3.5 Assess compliance with public health laws and regulations?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.4 Do entities within the LPHS (e.g., governmental public health entity, governing entity), have access to legal counsel to assist with the review of laws, regulations and ordinances?

YES HIGH PARTIALLY LOW PARTIALLY NO

6.1.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

6.1.5.1 What percent of the answer reported in question 6.1.5 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

Indicator 6.2

Involvement in the Improvement of Laws,
Regulations, and Ordinances

LPHS Model Standard:

Having identified local public health issues that are not adequately being addressed through existing laws and regulations, the LPHS participates actively in the modification of existing laws and regulations and the formulation of new laws and regulations designed to assure and improve the public's health. This participation includes the drafting of proposed legislation and regulations, involvement in public hearings, and periodic communication with legislators and regulatory officials.

In order to accomplish this, the LPHS:

- Identifies local public health issues that are not adequately addressed through existing laws, regulations, and ordinances.
- Participates in the modification of existing laws, regulations, and and/or the formulation of new laws, regulations, and ordinances designed to assure and improve the public's health.
- Provides technical assistance for drafting proposed legislation, regulations, and ordinances.

Please answer the following questions related to Indicator 6.2 :

6.2.1 Does the LPHS identify local public health issues that are not adequately addressed through existing laws, regulations, and ordinances?

If so,

6.2.1.1 Did the identification process lead to action to address these inadequacies?

6.2.2 Within the past five years, have organizations in the LPHS participated in the development or modification of laws, regulations or ordinances?

6.2.2.1 Communication with legislators, regulatory officials, or other policymakers regarding proposed legislation, regulations, or ordinances?

6.2.2.2 Involvement in public hearings regarding proposed legislation, regulations, or ordinances?

6.2.3 Do organizations within the LPHS provide technical assistance to legislative, regulatory or advocacy groups for drafting proposed legislation, regulations, or ordinances?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

6.2.4 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

6.2.4.1 What percent of the answer reported in question 6.2.4 is the direct contribution of the local public health agency?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

Indicator 6.3

Enforce Laws, Regulations, and Ordinances

LPHS Model Standard:

The LPHS recognizes the unique role of the government to enforce public health laws, regulations, and ordinances. The authority of the governmental organizations within the LPHS to enforce public health laws, regulations, and ordinances varies from state to state and between jurisdictions within states. In many communities, the local public health agency exercises regulatory enforcement that is delegated or contracted to it by federal, state, county, or municipal government entities. In other communities, enforcement authority may be retained by the state or delegated to one or more private entities whose authority may cross local jurisdictional boundaries.

To enforce laws, regulations, and ordinances, the LPHS:

- Identifies organizations within the LPHS that have authority to enforce public health laws, regulations, or ordinances.
- Assures that all enforcement activities are conducted in a timely manner in accordance with laws, regulations, and ordinances.
- Informs and educates individuals and organizations of the meaning and purpose of public health laws, regulations, and ordinances with which they are required to comply.
- Evaluates the compliance of regulated organizations and entities.

Please answer the following questions related to Indicator 6.3:

6.3.1 Do organizations within your LPHS have the authority to enforce public health laws, regulations, or ordinances?

If so,

6.3.1.1 Does a document (paper or electronic) exist that identifies the roles and responsibilities of each organization with enforcement authority?

6.3.1.2 Do staff who engage in or support enforcement activities receive formal training on compliance and enforcement?

6.3.1.3 Is enforcement integrated with other public health activities (e.g., health education, communicable disease control, health assessment, planning)?

6.3.2 Does the LPHS assure that all enforcement activities are conducted in a timely manner?

6.3.3 Does the LPHS provide information to individuals and organizations about public health laws, regulations, and ordinances with which they are required to comply?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the information explain:

- 6.3.3.1 The meaning of applicable laws, regulations, and ordinances?
 6.3.3.2 The purpose of applicable laws, regulations, and ordinances?
 6.3.3.3 How to comply with applicable laws, regulations, and ordinances?

YES HIGH PARTIALLY LOW PARTIALLY NO
 YES HIGH PARTIALLY LOW PARTIALLY NO
 YES HIGH PARTIALLY LOW PARTIALLY NO

- 6.3.4 In the past five years, has the governmental public health entity reviewed the activities of institutions and businesses in the community (e.g., schools, food establishments, day care facilities) to assess their compliance with laws, regulations, and ordinances designed to ensure the public's health?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, did reviews:

- 6.3.4.1 Include input from the regulated institutions and businesses regarding their perceived difficulties with compliance?
 6.3.4.2 Assess the extent of resistance to or support for enforcement activities by regulated institutions and businesses?
 6.3.4.3 Include input from intended beneficiaries of those laws, regulations, and ordinances regarding the extent of their support for enforcement activities?

YES HIGH PARTIALLY LOW PARTIALLY NO
 YES HIGH PARTIALLY LOW PARTIALLY NO
 YES HIGH PARTIALLY LOW PARTIALLY NO

- 6.3.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25% 26-50% 51-75% 76-100%

- 6.3.5.1 What percent of the answer reported in question 6.3.5 is the direct contribution of the local public health agency?

0-25% 26-50% 51-75% 76-100%

Link People to Needed Personal Health Services and Assure the Provision of Health Care when Otherwise Unavailable

This service includes:

- Identifying populations with barriers to personal health services.
- Identifying personal health service needs of populations with limited access to a coordinated system of clinical care.
- Assuring the linkage of people to appropriate personal health services through coordination of provider services and development of interventions that address barriers to care (e.g., culturally and linguistically appropriate staff and materials, transportation services).

Indicator 7.1

Identification of Populations with Barriers to Personal Health Service

LPHS Model Standard:

The LPHS assures equitable access to personal health services for all community residents. It identifies populations who may encounter barriers to personal health services. Vulnerable populations may encounter barriers to personal health services due to age, a lack of education, poverty, culture, race, language barriers, religion, national origin, physical disability, mental disability, or lack of health insurance.

Please answer the following questions related to Indicator 7.1:

7.1.1 Does the LPHS identify any populations who may encounter barriers to the receipt of personal health services?

If so, do these populations include:

- 7.1.1.1 Children? (less than 18 years of age)
- 7.1.1.2 Persons 65 years of age and older?
- 7.1.1.3 Persons who may encounter barriers due to a lack of education?
- 7.1.1.4 Persons with low income?
- 7.1.1.5 Persons with cultural or language barriers?
- 7.1.1.6 Persons who may encounter barriers because of their race or ethnicity?
- 7.1.1.7 Persons with physical disabilities?
- 7.1.1.8 Persons with mental illness?
- 7.1.1.9 Uninsured or under-insured persons?
- 7.1.1.10 Persons who may encounter barriers due to geographic location?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

7.1.2 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☒ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

7.1.2.1 What percent of the answer reported in question 7.1.2 is the direct contribution of the local public health agency?

☒ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

Indicator 7.2

Identifying Personal Health Services Needs of Populations

LPHS Model Standard:

The LPHS provides personal health services that are accessible, acceptable, and available to its population. The LPHS has defined and agreed upon relative roles and responsibilities for the local governmental public health entity, hospitals, managed care plans, and other community health care providers in relation to providing these services.

In order to accomplish this, the LPHS:

- Defines personal health service needs for the general population. This includes defining specific preventive, curative, and rehabilitative health service needs for the catchment areas within its jurisdiction.
- Assesses the extent to which personal health services are provided.
- Identifies the personal health service needs of populations who may encounter barriers to the receipt of personal health services.

Please answer the following questions related to Indicator 7.2:

7.2.1 Has the LPHS defined personal health service needs for all of its catchment areas?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.2.2 Has the LPHS assessed the extent to which personal health services are being provided?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, did the assessment address the extent to which personal health services are:

7.2.2.1 Accessible?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.2.2.2 Acceptable?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.2.2.3 Available?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.2.3 Does the LPHS identify the personal health services (including preventive, curative, and rehabilitative services) of populations who encounter barriers to personal health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do these populations include:

7.2.3.1 Children? (less than 18 years of age)

YES HIGH PARTIALLY LOW PARTIALLY NO

7.2.3.2 Persons 65 years of age and older?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.2.3.3 Persons who may encounter barriers due to lack of education?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.2.3.4 Persons with low income?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 7.2.3.5 Persons with cultural or language barriers?
- 7.2.3.6 Persons who may encounter barriers because of their race or ethnicity?
- 7.2.3.7 Persons with physical disabilities?
- 7.2.3.8 Persons with mental illness?
- 7.2.3.9 Uninsured or under-insured persons?
- 7.2.3.10 Persons who may encounter barriers due to geographic location?

<input checked="" type="radio"/> YES	<input checked="" type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input checked="" type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input checked="" type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input checked="" type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input checked="" type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
<input checked="" type="radio"/> YES	<input checked="" type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO

7.2.4 How much of this LPHS Model Standard is achieved by the local public health system collectively?

<input type="radio"/> 0-25%	<input checked="" type="radio"/> 26-50%	<input type="radio"/> 51-75%	<input type="radio"/> 76-100%
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7.2.4.1 What percent of the answer reported in question 7.2.4 is the direct contribution of the local public health agency?

<input type="radio"/> 0-25%	<input checked="" type="radio"/> 26-50%	<input type="radio"/> 51-75%	<input type="radio"/> 76-100%
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Indicator 7.3

Assuring the Linkage of People to Personal Health Services

LPHS Model Standard:

The organizations within the LPHS (e.g., the local public health agency, hospitals, managed care plans, other community health care providers) agree on their roles and responsibilities in order to provide needed personal health services. The LPHS supports and coordinates partnerships and referral mechanisms among the community's public health, primary care, oral health, social service, and mental health systems to optimize access to needed personal health services. The LPHS seeks to create innovative partnerships with other organizations such as libraries, parenting centers, and service organizations that will help to enhance the effectiveness of LPHS personal health services.

In order to accomplish this, the LPHS:

- Assures the linkage of individuals to personal health services, including populations who may encounter barriers to care.
- Provides community outreach and linkage services in a manner that recognizes the diverse needs of unserved and underserved populations.
- Enrolls eligible beneficiaries in state Medicaid or Medical Assistance Programs.
- Coordinates the delivery of personal health and social services with service providers to optimize access.
- Conducts an analysis of age-specific participation in preventive services.

Please answer the following questions related to Indicator 7.3:

7.3.1 Does the LPHS assure the provision of needed personal health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the LPHS assure the provision of services to the following populations who may encounter barriers to care:

7.3.1.1 Children? (less than 18 years of age)

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.2 Persons 65 years of age and older?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.3 Persons who may encounter barriers due to lack of education?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.4 Persons with low income?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.5 Persons with cultural or language barriers?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.6 Persons who may encounter barriers because of their race or ethnicity?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.7 Persons with physical disabilities?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.8 Persons with mental illness?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.9 Uninsured or under-insured persons?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.1.10 Persons who may encounter barriers due to geographic location?

YES HIGH PARTIALLY LOW PARTIALLY NO

7.3.2	Does the LPHS provide outreach and linkage services for the community?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
	<i>If so, does the LPHS assure:</i>	
7.3.2.1	Culturally and linguistically appropriate staff to assist population groups in obtaining personal health services?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.2.2	Culturally and linguistically appropriate materials?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.2.3	Transportation services for those with special needs?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.2.4	Targeted health promotion and disease prevention programs for specific populations?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.3	Does the LPHS have initiatives to enroll eligible beneficiaries in state Medicaid or medical assistance programs?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.4	Does the LPHS assure the coordinated delivery of personal health services to populations who may encounter barriers to obtain health care?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
	<i>If so, are specific responsibilities assumed by:</i>	
7.3.4.1	The local governmental public health agency?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.4.2	Other governmental agencies providing services to these populations, (e.g., social services)?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.4.3	Hospitals providing services to the community?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.4.4	Managed care plans active in the community?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.4.5	Charitable organizations active in the community?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.4.6	Organizations representing populations within the community?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
	<i>If so, are programs which target the same populations (e.g., WIC and childhood immunizations):</i>	
7.3.4.7	Co-located to optimize access?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.4.8	Coordinated to optimize access?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO
7.3.5	Within the past three years, has the LPHS conducted an analysis of age-specific participation in preventive services?	<input checked="" type="radio"/> YES <input type="radio"/> HIGH PARTIALLY <input type="radio"/> LOW PARTIALLY <input type="radio"/> NO

7.3.6 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%	26-50%	51-75%	76-100%
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7.3.6.1 What percent of the answer reported in question 7.3.6 is the direct contribution of the local public health agency?

0-25%	26-50%	51-75%	76-100%
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This service includes:

- Assessment of workforce (including volunteers and other lay community health workers) to meet community needs for public and personal health services.
- Maintaining public health workforce standards, including efficient processes for licensure/credentialing of professionals and incorporation of core public health competencies needed to provide the Essential Public Health Services into personnel systems.
- Adoption of continuous quality improvement and life-long learning programs for all members of the public health workforce, including opportunities for formal and informal public health leadership development.

Indicator 8.1**Workforce Assessment****LPHS Model Standard:**

Workforce assessment is the process of determining the competencies, skills, and knowledge; categories and number of personnel; and training needed to achieve community public and personal health goals. It is a community process that includes the identification of those available to contribute to the provision of the Essential Public Health Services and the particular strengths and assets that each brings. Workforce assessment includes the projection of optimal numbers and types of personnel and the formulation of plans to address identified workforce shortfalls or gaps.

To accomplish this, organizations within the LPHS:

- Establish a collaborative process to periodically determine the competencies, composition, and size of the public and personal health workforce that provides the Essential Public Health Services.
- Identify and address gaps in the public and personal health workforce, using information from the assessment.
- Distribute information from the workforce assessment to community organizations, including governing bodies and public and private agencies, for use in their strategic and operational plans.

Please answer the following questions related to Indicator 8.1:

8.1.1 Has the LPHS conducted a workforce assessment within the past three years?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, did the workforce assessment:

8.1.1.1 Include participation from multiple organizations within the LPHS?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.1.2 Identify workforce competencies within the framework of the Essential Public Health Services?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.1.3 Determine the composition of the public and personal health workforce?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.1.4 Determine the size of the public and personal health workforce?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.1.5 Address the role of volunteers and other lay community health workers?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.1.6 Identify areas for improvement through continuing education and training?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.2 Have gaps within the public and personal health workforce been identified?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

8.1.2.1 Were gaps related to workforce composition identified?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.2.2 Were gaps related to workforce size identified?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.2.3 Are the results of the workforce assessment used to develop plans to address workforce gaps?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.2.4 Have the organizations within the LPHS implemented plans for correction?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.2.5 Is there a formal process to evaluate the effectiveness of plans to address workforce gaps?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.3 Were the results of the workforce assessment disseminated for use in LPHS organizations' strategic or operational plans?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, was this information provided to:

8.1.3.1 Community leaders?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.3.2 Governing bodies?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.3.3 Public agencies?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.1.4 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%☒ 26-50%☐ 51-75%☐ 76-100%

8.1.4.1 What percent of the answer reported in question 8.1.4 is the direct contribution of the local public health agency?

☐ 0-25%☒ 26-50%☐ 51-75%☐ 76-100%

Indicator 8.2

Public Health Workforce Standards

LPHS Model Standard:

Organizations within the LPHS develop and maintain public health workforce standards for individuals who deliver and/or contribute to the Essential Public Health Services. Public health workforce qualifications include certifications, licenses, and education required by law or established by local, state, or federal policy guidelines. In addition, core and specific competencies that are needed to provide the Essential Public Health Services are incorporated into personnel systems. These standards are linked to job performance through clearly written position descriptions and regular performance evaluations.

To accomplish this, organizations within the LPHS:

- Are aware of and in compliance with guidelines and/or licensure/certification requirements for personnel contributing to the Essential Public Health Services.
- Periodically develop, use, and review job standards and position descriptions that incorporate specific competency and performance expectations.
- Evaluate members of the public health workforce on their demonstration of core public health competencies and those competencies specific to a work function or setting and encourage staff to respond to evaluations and performance goal adjustments by taking advantage of continuing education and training opportunities.

Please answer the following questions related to Indicator 8.2:

Workforce standards are essential for each organization within the local public health system, but are particularly important for the local public health agency where the largest concentration of public health professionals exists. Specific questions devoted to the local public health agency have been added in the assessment for Indicator 8.2.

- 8.2.1 Are organizations within the LPHS aware of and in compliance with guidelines and/or licensure/certification requirements for personnel contributing to the Essential Public Health Services?
- 8.2.2 Have organizations within the LPHS developed written job standards and/or position descriptions for all personnel contributing to the Essential Public Health Services?
- 8.2.3 Does the local public health agency develop written job standards and/or position descriptions for all personnel contributing to the Essential Public Health Services?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

- 8.2.3.1 Are job competencies specified for each position?
- 8.2.3.2 Are types and levels of experience and education specified for each position?
- 8.2.2.3 Are required certifications or licenses specified for positions?
- 8.2.2.4 Are performance expectations included in job descriptions?
- 8.2.2.5 Are volunteer and lay community health positions included?
- 8.2.2.6 Are the job standards and/or position descriptions reviewed periodically?

If so, does the review:

- 8.2.2.6.1 Occur annually?
- 8.2.2.6.2 Include employee input?
- 8.2.2.6.3 Include supervisory input?
- 8.2.2.6.4 Lead to revision of the job standards and/or position descriptions?

- 8.2.4 Do organizations within the local public health system conduct performance evaluations?
- 8.2.5 Does the local public health agency conduct performance evaluations?

If so,

- 8.2.5.1 Are performance evaluations conducted annually?
- 8.2.5.2 Are performance evaluations based on the demonstration of core public health competencies?
- 8.2.5.3 Are performance evaluations based on demonstration of competencies specific to a work function or setting?
- 8.2.5.4 Are performance evaluations based on direct observations of staff performance?
- 8.2.5.5 Are performance goals for individual workers adjusted as part of the performance evaluation?
- 8.2.5.6 Are employees encouraged to respond to performance evaluations?

If so,

- 8.2.5.6.1 Are employees encouraged to participate in continuing education and training?
- 8.2.5.7 Are evaluators trained in techniques for performance appraisal as part of an overall performance improvement process?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

8.2.6 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

8.2.6.1 What percent of the answer reported in question 8.2.6 is the direct contribution of the local public health agency?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

Indicator 8.3

Life-Long Learning Through Continuing Education, Training, and Mentoring

LPHS Model Standard:

Continuing education and training include formal and informal educational opportunities. This may encompass distance learning, workshops, seminars, national and regional conferences, and other activities intended to strengthen the professional knowledge and skills of employees contributing to the provision of the Essential Public Health Services. Experienced mentors and coaches are available to less experienced staff to provide advice, assist with skill development and other needed career resources. Opportunities are available for staff to work with academic and research institutions, particularly those connected with schools of public health, public administration, and population health disciplines. Through these academic linkages, the public health workforce, faculty, and students are provided opportunities for relevant interaction, which enriches both settings.

The complexity of promoting health and preventing disease in a country as diverse as the United States requires the public health workforce to continually learn and apply this new knowledge. The population in the United States continues to be diverse in terms of race, ethnicity, faith beliefs, age, economics, education, life-style preference and other demographic characteristics. Factors such as the social environment, physical environment, economic status, genetic predisposition, behavioral risk factors, and health care also influence health and well-being. An understanding and respect for this diversity and the underlying factors that address health are critical to the performance of all of the Essential Public Health Services. The LPHS respects diverse perspectives and cultural values and expects staff to demonstrate cultural competence in all interactions based on the dignity and value of each individual as a professional colleague or community member.

To accomplish this, organizations within the LPHS:

- Identify education and training needs and encourage opportunities for public health workforce development.
- Provide opportunities for all personnel to develop core public health competencies.
- Provide incentives (e.g., improvements in pay scale, release time, tuition reimbursement) for the public health workforce to pursue education and training.
- Provide opportunities for public health workforce members, faculty and student interaction to mutually enrich practice-academic settings.

Please answer the following questions related to Indicator 8.3:

- 8.3.1 Does the LPHS identify education and training needs and encourage opportunities for public health workforce development?

If so,

- 8.3.1.1 Does public health workforce development utilize a variety of training modalities?

If so, does this include:

- 8.3.1.1.1 Distance learning technology?
 8.3.1.1.2 National and regional conferences?
 8.3.1.1.3 Staff cross-training?
 8.3.1.1.4 Coaching?
 8.3.1.1.5 Mentoring and modeling?

- 8.3.2 Does the local governmental public health entity provide opportunities for all personnel to develop core public health competencies?

If so, do these core competencies include:

- 8.3.2.1 An understanding of the Essential Public Health Services?
 8.3.2.2 An understanding of the multiple determinants of health to develop more effective public health interventions?
 8.3.2.3 Cultural competence to interact with colleagues and community members?

- 8.3.3 Are incentives provided to the workforce to participate in educational and training experiences?

If so, do these incentives include:

- 8.3.5.1 Career advancement?
 8.3.5.2 Time off for coursework or conferences?
 8.3.5.3 Tuition reimbursement?
 8.3.5.4 Recognition by supervisors?

- 8.3.4 Are there opportunities for interaction between staff of LPHS organizations and faculty from academic and research institutions, particularly those connected with schools of public health?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

8.3.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

8.3.5.1 What percent of the answer reported in question 8.3.5 is the direct contribution of the local public health agency?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

Indicator 8.4

Public Health Leadership Development

LPHS Model Standard:

Public health leadership is demonstrated by both individuals and organizations that are committed to improving the health of the community. Leaders play a vital role in assuring the creation of a public health system, the implementation of the Essential Public Health Services, and the creation and achievement of a shared vision of community health and well-being. LPHS leadership may be provided by the local governmental public health entity, may emerge from the public and private sectors or the community, or may be shared by multiple stakeholders. The LPHS encourages the development of leadership capacity that is inclusive, representative of community diversity, and respectful of the community's perspective.

To accomplish this, the organizations within the LPHS:

- Provide formal (e.g., educational programs, leadership institutes) and informal (e.g., coaching, mentoring) opportunities for leadership development for employees at all organizational levels.
- Promote collaborative leadership through the creation of a local public health system with a shared vision and participatory decision-making.
- Assure that organizations and/or individuals have opportunities to provide leadership in areas where their expertise or experience can provide insight, direction, or resources.
- Provide opportunities for development of diverse community leadership to assure sustainability of public health initiatives.

Please answer the following questions related to Indicator 8.4 :

8.4.1 Do organizations within the LPHS promote the development of leadership skills?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, is leadership skill development promoted by:

8.4.1.1 Encouraging potential leaders to attend formal leadership training?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do members of the LPHS workforce participate in the following:

8.4.1.1.1 National Public Health Leadership Institute?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.1.1.2 Regional or state public health leadership institutes?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.1.1.3 Executive management seminars or programs?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.1.1.4 Graduate programs in leadership/management?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.1.2 Mentoring personnel in middle management/supervisory positions?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.1.3 Promoting leadership at all levels within organizations that comprise the LPHS?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

8.4.1.3.1 Within LPHS organizations, are communication mechanisms that encourage informed participation in decision-making (e.g., staff meetings, listserve) established?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.1.4 Using performance evaluation plans to establish leadership expectations and to recognize leadership competence—both individual and collaborative—in team, unit, and other internal and external settings?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.2 Do organizations within the LPHS promote collaborative leadership through the creation of a shared vision and participatory decision-making?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

8.4.2.1 Across LPHS organizations, are communication mechanisms that encourage informed participation in decision-making (e.g., forums, listserve) established?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.3 Does the LPHS assure that organizations and/or individuals have opportunities to provide leadership in areas where their expertise or experience can provide insight, direction, or resources?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.4 Does the LPHS provide opportunities to develop community leadership through coaching and mentoring?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

8.4.4.1 Does the LPHS recruit new leaders who are representative of the diversity within their community?

YES HIGH PARTIALLY LOW PARTIALLY NO

8.4.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

8.4.5.1 What percent of the answer reported in question 8.4.5 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

This service includes:

- Assessing the accessibility and quality of services delivered and the effectiveness of personal and population-based programs provided.
- Providing information necessary for allocating resources and reshaping programs.

Indicator 9.1**Evaluation of Population-Based Health Services****LPHS Model Standard:**

The LPHS regularly evaluates the accessibility, quality, and effectiveness of population-based health services (e.g., injury prevention, physical activity, immunizations) and progress towards program goals. Using established criteria for performance, LPHS organizations and their contractors are evaluated against specific indicators for population-based services. The evaluation of population-based health services is built on the analysis of health status, service utilization, and community satisfaction data to assess program effectiveness and to provide information to allocate resources and reshape programs.

To accomplish this, the LPHS:

- Evaluates population-based health services against established criteria for performance, including the extent to which program goals are achieved for these services.
- Assesses community satisfaction with population-based services and programs through a broad-based process, which includes residents who are representative of the community and groups at increased risk of negative health outcomes.
- Identifies gaps in the provision of population-based health services.
- Uses evaluation findings to modify the strategic and operational plans of LPHS organizations to improve services and programs.

Please answer the following questions related to Indicator 9.1:

9.1.1 In the past three years, has the LPHS evaluated population-based health services?

YES

HIGH PARTIALLY

LOW PARTIALLY

NO

If so,

- 9.1.1.1 Are established criteria used to evaluate population-based health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do these criteria include:

- 9.1.1.1.1 Established targets for access to population-based health services (e.g., immunization rates)?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.1.1.2 Quality standards for population-based health services (e.g., The Guide to Community Preventive Services)?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.1.1.3 Established targets for the effectiveness of population-based health services (e.g., Healthy People 2010 objectives)?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.1.2 Does the evaluation determine the extent to which program goals are achieved for population-based health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does evaluation of program goals include determining:

- 9.1.1.2.1 Access to population-based health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.1.2.2 Quality of the population-based health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.1.2.3 Effectiveness of the population-based health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.2 Does the LPHS assess community satisfaction with population-based health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the assessment:

- 9.1.2.1 Gather input from residents representing a cross-section of the community?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.2.2 Determine if residents' needs are being met, including those groups at increased risk of negative health outcomes?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.2.3 Determine residents' satisfaction with the responsiveness to their complaints or concerns regarding population-based health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.2.4 Identify areas where population-based health services can be improved?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.3 Does the LPHS identify gaps in the provision of population-based health services?

YES HIGH PARTIALLY LOW PARTIALLY NO

- 9.1.4 Do organizations within the LPHS use the results of the evaluation in the development of their strategic and operational plans?

YES HIGH PARTIALLY LOW PARTIALLY NO

9.1.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

9.1.5.1 What percent of the answer reported in question 9.1.5 is the direct contribution of the local public health agency?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

Indicator 9.2

Evaluation of Personal Health Services

LPHS Model Standard:

The LPHS regularly evaluates the accessibility, quality, and effectiveness of personal health services, ranging from prevention services to acute care to hospice care. Special attention is given to the ability of community providers to deliver services across life stages and population groups. An important component of the evaluation is a survey of client satisfaction. The clients surveyed are representative of all actual and potential users of the system. The survey addresses satisfaction with access to the system by populations with barriers to personal health services, usability of the system by all clients, and inclusiveness of services.

To accomplish this, organizations within the LPHS:

- Evaluate the accessibility, quality, and effectiveness of personal health services.
- Evaluate personal health services against established criteria.
- Assess the satisfaction of clients (including those at increased risk of negative health outcomes).
- Use information technology to assure quality of personal health services and connections among providers.
- Use evaluation findings to modify their strategic and operational plans and to improve services and programs.

Please answer the following questions related to Indicator 9.2:

9.2.1. In the past three years, have organizations within the LPHS evaluated personal health services for the community?

If so, were the following assessed:

9.2.1.1 Access to personal health services?

9.2.1.2 The quality of personal health services?

9.2.1.3 The effectiveness of personal health services?

9.2.2 Were specific personal health services in the community evaluated against established criteria?

If so, does the evaluation include an assessment of:

9.2.2.1 Clinical preventive services?

9.2.2.2 Primary health care services?

9.2.2.3 Specialty care services?

9.2.2.4 Outpatient surgery services?

9.2.2.5 Emergency care services?

9.2.2.6 Hospital care services?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

9.2.2.7	Rehabilitative care services?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.2.8	Home health care services?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.2.9	Long-term care services?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.2.10	Hospice care services?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.3	Does the LPHS assess client satisfaction with personal health services?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
	<i>If so,</i>				
9.2.3.1	Do clients or community groups help plan the assessment process?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.3.2	Does the assessment determine the adequacy of the scope of personal health services offered?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.3.3	Does the assessment examine how well services meet personal health needs of clients, including those at increased risk of negative health outcomes?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.3.4	Does the assessment identify areas for improvement?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.3.5	Does the assessment determine client satisfaction with the responsiveness to their complaints or concerns regarding personal health services?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.3.6	Does the assessment determine client satisfaction with systems related to payment for personal health services (e.g., Medicaid, Medicare, managed care plans, preferred provider plans)?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.3.7	Were surveyed clients representative of actual and potential users of services?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.4	Do organizations within the LPHS use information technology to assure quality of personal health services?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
	<i>If so,</i>				
9.2.4.1	Do organizations use computerized medical records?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.4.2	Is information technology used to facilitate connections among providers?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.2.5	Do organizations within the LPHS use the results of the evaluation in the development of their strategic and operational plans?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO

9.2.6 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%

☐ 26-50%

☐ 51-75%

☐ 76-100%

9.2.6.1 What percent of the answer reported in question 9.2.6 is the direct contribution of the local public health agency?

☐ 0-25%

☐ 26-50%

☐ 51-75%

☐ 76-100%

Indicator 9.3

Evaluation of the Local Public Health System

LPHS Model Standard:

A local public health system includes all public, private, and voluntary entities, as well as individuals and informal associations, that contribute to the delivery of the Essential Public Health Services within a jurisdiction. The evaluation focuses primarily on the performance of the local public health system as a whole. The local governmental public health entity takes a lead role in convening a collaborative evaluation process. Organizations engaged in the evaluation process use established criteria to assess LPHS activities, the achievement of goals, and any lapses in quality. The criteria used meet or exceed the standards laid out in the National Public Health Performance Standards Program. Community perceptions are a vital component of the evaluation. The evaluation findings are regularly used to inform the community health improvement process and to improve services and programs.

To accomplish this, the LPHS:

- Identifies community organizations or entities that contribute to the delivery of the Essential Public Health Services.
- Evaluates the comprehensiveness of LPHS activities against established criteria at least every five years and ensures that all organizations within the LPHS contribute to the evaluation process.
- Assesses the effectiveness of communication, coordination, and linkage among LPHS entities.
- Uses information from the evaluation process to refine existing community health programs, to establish new ones, and to redirect resources as needed to accomplish LPHS goals.

Please answer the following questions related to Indicator 9.3:

9.3.1 Has the LPHS identified community organizations or entities that contribute to the delivery of the Essential Public Health Services?

YES HIGH PARTIALLY LOW PARTIALLY NO

9.3.2 Is an evaluation of the LPHS conducted every three to five years?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does the evaluation:

9.3.2.1 Assess the comprehensiveness of LPHS activities?

YES HIGH PARTIALLY LOW PARTIALLY NO

9.3.2.2 Use established criteria?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so,

9.3.2.3 Do LPHS entities participate in the evaluation of the LPHS?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do the participating organizations include:

9.3.2.3.1 The local governmental public health agency?

YES HIGH PARTIALLY LOW PARTIALLY NO

9.3.2.3.2	The local governing entity (e.g., board of health)?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.3	Other governmental entities (e.g., state agencies, other local agencies)?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.4	Hospitals?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.5	Managed care organizations?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.6	Primary care clinics and physicians?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.7	Social service providers?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.8	Civic organizations?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.9	Professional organizations?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.10	Local businesses and employers?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.11	Neighborhood organizations?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.12	Faith institutions?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.13	Transportation providers?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.14	Educational institutions?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.15	Public safety and emergency response organizations?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.16	Environmental or environmental-health agencies?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.17	Non-profit organizations/advocacy groups?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.18	Local officials who impact policy and fiscal decisions?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.2.3.19	Other community organizations?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.3	Are the linkages and relationships among organizations that comprise the LPHS assessed?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
	<i>If so,</i>				
9.3.3.1	Is the exchange of information among the organizations in the LPHS assessed?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.3.2	Are linkage mechanisms among the providers of population-based services and personal health services assessed (e.g., referral systems, memoranda of understanding)?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.3.3	Is the use of resources (e.g., staff, communication systems) to support the coordination among LPHS organizations assessed?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.4	Does the LPHS use results from the evaluation process to guide community health improvements?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
	<i>If so, are the results from the evaluation process used:</i>				
9.3.4.1	To refine existing community health programs?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.4.2	To establish new community health programs?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.4.3	To redirect resources?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO
9.3.4.4	To inform the community health improvement process?	<input type="radio"/> YES	<input type="radio"/> HIGH PARTIALLY	<input type="radio"/> LOW PARTIALLY	<input type="radio"/> NO

9.3.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

9.3.5.1 What percent of the answer reported in question 9.3.5 is the direct contribution of the local public health agency?

☐ 0-25%☐ 26-50%☐ 51-75%☐ 76-100%

This service includes:

- A continuum of innovative solutions to health problems ranging from practical field-based efforts to foster change in public health practice, to more academic efforts to encourage new directions in scientific research.
- Linkages with institutions of higher learning and research.
- Capacity to mount timely epidemiological and health policy analyses and conduct health systems research.

Indicator 10.1

Fostering Innovation

LPHS Model Standard:

Organizations within the LPHS foster innovation to strengthen public health practice. Innovation includes practical field-based efforts to foster change in public health practice as well as academic efforts to encourage new directions in scientific research.

To accomplish this, organizations within the LPHS:

- Enable staff to identify new solutions to health problems in the community by providing the time and resources for staff to pilot test or conduct experiments to determine the feasibility of implementing new ideas.
- Propose to research organizations one or more public health issues for inclusion in their research agenda.
- Research and monitor best practice information from other agencies and organizations at the local, state, and national level.
- Encourage community participation in research development and implementation (e.g., identifying research priorities, designing studies, preparing related communications for the general public).

Please answer the following questions related to Indicator 10.1:

10.1.1 Do LPHS organizations encourage staff to develop new solutions to health problems in the community?

If so,

10.1.1.1 Do LPHS organizations provide time and/or resources for staff to pilot test or conduct experiments to determine new solutions?

10.1.1.2 Have LPHS organizations identified barriers to implementing innovative solutions to health problems within the community?

10.1.1.3 Do LPHS organizations implement innovations determined to be most likely to lead to improved public health practice?

10.1.2 During the past two years, have LPHS organizations proposed to research organizations one or more public health issues for inclusion in their research agenda?

10.1.3 Do LPHS organizations identify and/or monitor best practices developed by other public health agencies or organizations?

10.1.4 Do LPHS organizations encourage community participation in the development or implementation of research?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

10.1.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

10.1.5.1 What percent of the answer reported in question 10.1.5 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

Indicator 10.2

Linkage with Institutions of Higher Learning and/or Research

LPHS Model Standard:

The LPHS establishes a wide range of relationships with institutions of higher learning and/or research organizations, including patterns of mutual consultation, and formal and informal affiliation. Such relationships can occur with schools of public health as well as with schools and departments of medicine, nursing, pharmacy, allied health, business and environmental science. The LPHS establishes linkages with other research organizations, such as federal and state agencies, associations, private research organizations, and research departments or divisions of business firms. The LPHS links with one or more institutions of higher learning and/or research organizations to co-sponsor continuing education programs. Resources such as a technical library, on-line services, and information technology support these linkages.

To accomplish this, the LPHS:

- Partners with institutions of higher learning or research to conduct research activities related to the Essential Public Health Services.
- Develops relationships with these institutions that range from patterns of consultation to formal and informal affiliations.
- Encourages proactive interaction between the academic/research and practice communities, including field training experiences and continuing education opportunities.

Please answer the following questions related to Indicator 10.2:

10.2.1 Does the LPHS partner with at least one institution of higher learning and/or research organization to conduct research related to the Essential Public Health Services?

YES HIGH PARTIALLY LOW PARTIALLY NO

10.2.2 Does the LPHS develop relationships with institutions of higher learning and/or research organizations?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do these relationships include:

10.2.2.1 Consultations?

YES HIGH PARTIALLY LOW PARTIALLY NO

10.2.2.2 Formal affiliations?

YES HIGH PARTIALLY LOW PARTIALLY NO

10.2.2.3 Informal affiliations?

YES HIGH PARTIALLY LOW PARTIALLY NO

10.2.2.4 Technical assistance?

YES HIGH PARTIALLY LOW PARTIALLY NO

10.2.3 Does the LPHS encourage proactive interaction between the academic and practice communities?

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, does this interaction include:

- 10.2.3.1 Exchange of faculty and public health workforce members?
- 10.2.3.2 Arrangements with institutions of higher learning and/or research organizations to provide field training or work-study experiences for their students or interns?
- 10.2.3.3 Co-sponsored continuing education for the public health workforce?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

10.2.4 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%

26-50%

51-75%

76-100%

10.2.4.1 What percent of the answer reported in question 10.2.4 is the direct contribution of the local public health agency?

0-25%

26-50%

51-75%

76-100%

Indicator 10.3

Capacity to Initiate or Participate in Timely Epidemiological,
Health Policy, and Health Systems Research

LPHS Model Standard:

Organizations within the LPHS initiate and/or participate in research that contributes to epidemiological and health policy analyses and improved health system performance. Health systems research encompasses both population-based and personal health care services research. This research includes the examination of factors related to the efficient and effective implementation of the Essential Public Health Services (public health systems research) as well as the study of variables that influence health care quality and service delivery (health services research).

The capacity to initiate or participate in timely epidemiological, policy, and health systems research begins with ready access to researchers with the knowledge and skill to design and conduct research in those areas. This capacity also includes the availability of resources, facilities for analyses, and the ability to disseminate and apply research findings to improve public health practice.

To accomplish this, the LPHS:

- Has access to researchers with the knowledge and skill to design and conduct health-related studies.
- Ensures the availability of resources (e.g., databases, information technology) to facilitate research.
- Plans for the dissemination of research findings to public health colleagues (e.g., publication in journals, websites).
- Evaluates the development, implementation, and impact of LPHS research efforts.

Please answer the following questions related to Indicator 10.3:

10.3.1 Does the LPHS have access to researchers (either on staff or through other arrangements)?

If so, do one or more of the researchers have training or experience in the following research methods:

- 10.3.1.1 Epidemiology?
- 10.3.1.2 Health policy?
- 10.3.1.3 Health economics?
- 10.3.1.4 Health services?
- 10.3.1.5 Health systems?

10.3.2 Within the community, are there resources to facilitate research within the LPHS?

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

YES HIGH PARTIALLY LOW PARTIALLY NO

If so, do these resources include:

- 10.3.2.1 Databases?
- 10.3.2.2 Technical libraries?
- 10.3.2.3 Distance learning?
- 10.3.2.4 On-line resources?

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO

- 10.3.3 Does the LPHS plan for the dissemination of research findings to public health colleagues?

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
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If so,

- 10.3.3.1 Does the LPHS publish findings from their research?

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
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- 10.3.4 Does the LPHS evaluate its research activities?

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
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If so, does the LPHS evaluate the:

- 10.3.4.1 Development of research activities?
- 10.3.4.2 Implementation of research activities?
- 10.3.4.3 Impact of research activities?

YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO
YES	HIGH PARTIALLY	LOW PARTIALLY	NO

- 10.3.5 How much of this LPHS Model Standard is achieved by the local public health system collectively?

0-25%	26-50%	51-75%	76-100%
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- 10.3.5.1 What percent of the answer reported in question 10.3.5 is the direct contribution of the local public health agency?

0-25%	26-50%	51-75%	76-100%
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APPENDIX B: IRB APPROVAL LETTER

February 12, 2009

Jeffrey Kuhr
Department of Educational Psychology
12954 Margo St Omaha, NE 68138

Ian Newman
Department of Educational Psychology
232 TEAC UNL 68588-0345

IRB Number: 2009029669 EX

Project ID: 9669

Project Title: Modifying National Public Health Performance Standards for Local Public Health Department Accreditation.

Dear Jeffrey:

This letter is to officially notify you of the approval of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board's opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study based on the information provided. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as exempt.

You are authorized to implement this study as of the Date of Final Approval: 02/12/2009. This approval is Valid Until: 02/11/2010.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

- Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- Any breach in confidentiality or compromise in data privacy related to the subject or others; or
- Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes

that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board. For projects which continue beyond one year from the starting date, the IRB will request continuing review and update of the research project. Your study will be due for continuing review as indicated above. The investigator must also advise the Board when this study is finished or discontinued by completing the enclosed Protocol Final Report form and returning it to the Institutional Review Board.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,

A handwritten signature in black ink, appearing to read "Mario Scalora". The signature is fluid and cursive, with the first name "Mario" and last name "Scalora" clearly distinguishable.

Mario Scalora, Ph.D.
Chair for the IRB

