

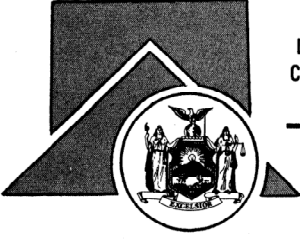
STRENGTHENING
NEW YORK'S
PUBLIC HEALTH SYSTEM
FOR THE 21ST CENTURY

REPORT TO THE COMMISSIONER OF HEALTH

Antonia C. Novello, M.D., M.P.H., Dr. P.H.

FROM THE NEW YORK STATE PUBLIC HEALTH COUNCIL

December 2003



STATE OF NEW YORK
DEPARTMENT OF HEALTH
CORNING TOWER BUILDING
ALBANY, N.Y. 12237

PUBLIC HEALTH COUNCIL

November 2003

Antonia C. Novello, M.D., M.P.H., Dr. P.H.
Commissioner of Health
New York State Department of Health
Corning Tower Building
Albany, NY 12237

Dear Dr. Novello:

On behalf of the Public Health Infrastructure Work Group, I am pleased to submit our assessment of the public health infrastructure in New York State: Strengthening New York's Public Health System for the 21st Century. The Public Health Council unanimously adopted the report at its November 14, 2003 meeting.

The primary goal of this Work Group of the New York State Public Health Council was to evaluate the needs of New York State's public health system at the county and state levels and make recommendations for strengthening the system. For purposes of our review, we accepted the Centers for Disease Control and Prevention definitions for infrastructure comprising three components: workforce, organizational systems and relationships and data and information systems.

We began our work in February of 2002 and enjoyed the full support and assistance of the many leaders and experts who work so faithfully in the public health system throughout the State and nationally. In particular, we would commend the cooperation and participation of many state and county professionals engaged in public health services and programs. Their leadership and contributions proved invaluable to our better understanding of the challenges currently facing public health. In addition, the activities of the Work Group would not have been successful without the support and dedication of the State Health Department staff and consultant.

Our findings underscore the need for public health to be considered in a dynamic context given the many changes occurring in the world today. Moreover, our recommendations presume an essential investment through funding that is flexible and sustainable. Failure to address the gaps in the public health infrastructure to meet new needs will put communities at greater risk in a world where risks have already risen to new levels.

It has been a privilege for the Work Group to undertake this important study. The Work Group stands ready to assist the Public Health Council and the Department of Health to maintain and improve New York's Public Health Infrastructure.

Sincerely yours,

Joan H. Ellison, R.N., M.P.H.
Chairperson, Public Health Infrastructure
Work Group
Member, NYS Public Health Council

PUBLIC HEALTH INFRASTRUCTURE WORK GROUP MEMBERS

Jo Ivey Boufford, MD
Professor
Robert F. Wagner School of Public Service
New York University

Trish McBreen
Vice President
Quality & Research Initiative
HANYS

Robert Denz, PE
Director, Environmental Health Services
Broome County Health Department

Ben Mojica, MD, MPH
Vice President
NYC Health and Hospitals Corporation

Andrew Doniger, MD, MPH
Commissioner
Monroe County Health Department

Ana Oliveria
Executive Director
Gay Men's Health Crisis

Joan H. Ellison, RN, MPH
Public Health Director
Livingston County Department of Health

Ed Reinfurt
Vice President
The Business Council of NYS, Inc.

Kristine Gebbie, DrPH, RN
Director
Center for Health Policy
Columbia University School of Nursing

Suzanne Rose
Comptroller
St. Mary's Hospital

Paul Halverson, Dr. PH
Director
Division of Public Health Systems
Development & Research, PHPPPO CDC

Edward Salsberg, MPA
Executive Director
Center for Health Workforce Studies

Karen Hein, MD
President
William T. Grant Foundation

Rogelio Thomas, MD, MPP, CMD
Special Care Medical Associates

Stephen Jennings
Health Planner
Jefferson County Public Health Service

Sue Ellen Wagner
Director
Community Health & Continuing Networks
HANYS

Peter Levin, ScD
Dean
University at Albany SPH

Bridget Walsh
Schuyler Center for Analysis and Advocacy

Paul Macielak, Esq.
President/CEO
NY Health Plan Association

Isaac Weisfuse, MD, MPH
Deputy Commissioner
NYC DOH & Mental Hygiene

**REPORT OF THE PUBLIC HEALTH INFRASTRUCTURE WORK GROUP
TO THE PUBLIC HEALTH COUNCIL**

PREFACE.....	i-iv
I. EXECUTIVE SUMMARY	1
II. INTRODUCTION.....	7
A. Charge to the Work Group	
B. Mission	
C. Vision	
III. DEFINITION OF TERMS.....	9
A. Definition of Public Health	
B. Specific Responsibilities of the Public Health System	
C. Core Functions	
D. Ten Essential Public Health Services	
E. Public Health Infrastructure	
IV. WORK GROUP METHODS	12
A. Phase I - General Review	
B. Phase II – Subcommittee Assessments	
C. Phase III – Development of Findings and Recommendations	
V. THE NATIONAL PUBLIC HEALTH CONTEXT.....	14
A. Overview	
B. Economic Realities	
C. The Federal Government’s Role	
VI. NEW YORK STATE PUBLIC HEALTH SYSTEM	17
A. New York State Health Department	
B. Local Health Departments	
C. Community Health Partners	
D. Public Health Information Systems	
E. Public Health Work Force Competency and Training Initiatives	
VII. MEASURING PERFORMANCE OF THE NEW YORK PUBLIC HEALTH SYSTEM	24
A. National Public Health Performance Standards	
B. Public Health Emergency Preparedness	

VIII.	CONTEXT FOR MAJOR FINDINGS	27
	A. Public Health Focuses on Prevention	
	B. Public Health is both Local and Global	
	C. Public Health is an Essential Investment for Society	
	D. Public Health Must Engage the Public as its Partner	
IX.	SUMMARY OF MAJOR FINDINGS	30
	A. General	
	B. Workforce	
	C. Organizational Systems and Relationships	
	D. Data and Information Systems	
X.	PRIORITY RECOMMENDATIONS.....	33
	A. General	
	B. Workforce	
	C. Organizational Systems and Relationships	
	D. Data and Information Systems	
XI.	LONG TERM RECOMMENDATION	37
	A. Workforce	
	B. Organizational Systems and Relationships	
	C. Data and Information Systems	
XII.	CONCLUSION	39
XIII.	APPENDICES.....	40
	A. Workforce Subcommittee Report	43
	B. Organizational Systems and Relationships Subcommittee Report.....	54
	C. Data and Information Systems Subcommittee Report.....	64
	D. New York Demographic Profile	73
	E. Communities Working Together for a Healthier New York: 2001 Update	76
	F. Staff to Public Health Infrastructure Work Group.....	80

REPORT OF THE PUBLIC HEALTH INFRASTRUCTURE WORK GROUP TO THE PUBLIC HEALTH COUNCIL

I. EXECUTIVE SUMMARY

Background

The New York State Public Health Council has had a long-standing interest in the effectiveness of the public health system in New York State. In 1996, the Council appointed a committee to identify public health priorities for New York State. The report issued by the committee, *Communities Working Together for a Healthier New York (CWT)*, noted that a strong public health infrastructure is essential in helping New York achieve its public health objectives. In early 2001, the Public Health Council asked for an update on the CWT project to assess progress in achieving the 12 priorities that had been targeted. During this update, the Council learned that while many objectives had been achieved or surpassed since 1996 (see Appendix E), other challenges still remained. As a natural follow-up to the CWT findings, the Council expressed an interest to study how the public health system infrastructure supported communities in their efforts to achieve these health priorities. In particular they directed that a review of the public health infrastructure in New York State be undertaken.

In late 2001, in the face of increasing demands on the public health system, the Public Health Council appointed a Public Health Infrastructure Work Group to assess the public health system throughout the state. The Council requested that this body provide recommendations on how to strengthen the system. The Work Group's members included individuals in positions of public health leadership and expertise, in academia, medicine, public policy, government, private foundations, business, and the voluntary sector.

The Work Group's goals were to understand the current organizations and systems that comprise New York State's public health infrastructure and evaluate its strengths and weaknesses; to identify strategies to strengthen the capabilities of the public health system; and to make appropriate recommendations for improvement to the Public Health Council.

The Work Group endorsed a vision for a public health system that incorporates the core public health functions of assessment, policy development and assurance together with the ten essential public health services. These services are delivered from an infrastructure platform made up of three components: the *public health workforce*, *public health organizational systems and relationships*, and *public health data and information systems*.

The group further emphasized a vision of public health that encompasses the efforts of private and voluntary partners in communities in addition to the traditional public health agencies. Importantly, the vision assumes an enterprise funded to achieve its goals and mandates, informed by the best science and technology, efficiently and effectively coordinated and poised to meet society's needs into the 21st century.

Work Group Assessment Methods

The Work Group began its task in February 2002 with a broad orientation to the New York State public health system. Members considered the organization of state and local government in

New York State (NYS) with its particular reliance on a local, county-based system for delivery of public health services. The Work Group reviewed the findings of numerous studies, publications and background reports. In particular, the Work Group benefited from the work of two IOM committees that were examining specific aspects of the national public health infrastructure at the time the Work Group was conducting its assessment. The Work Group established subcommittees to address each of the three infrastructure areas in greater depth. Local health departments (LHDs) were invited to provide their insights into New York State's public health infrastructure: its capacity, capabilities, competencies and needs. The LHD representatives came from a cross section of urban, suburban and rural counties and participated in one of three infrastructure component assessments including a survey questionnaire, telephone interview and focus group.

Overview

Emerging trends currently impact the nation's health. Many of these trends intersect and inter-relate:

- Globalization has created more movement between and among individuals and nations;
- New infectious diseases and the reoccurrence of old pathogens have emerged; sometimes with antibiotic resistance;
- Changing demographics have increased numbers of immigrant and elderly persons;
- The character of many diseases has shifted from acute to chronic; and
- Technological and scientific advances have occurred in communication and biomedicine, both curative and preventive.

These developments are social, geopolitical and economic as well as medical. While some hold great promise for the future, they also pose significant current challenges for America's and New York's health. All carry a cost and the potential for unintended consequences.

In addition, there are other broad principles that provide a context for a contemporary understanding of public health today. To the degree that they also inform and influence New York State's public health system, they provide a foundation for an assessment of public health infrastructure needs. Their impact came into particular focus and offered important background for the Work Group as it reviewed data and held many discussions with its public health colleagues at the state and county level.

- *Public Health focuses on Prevention*
- *Public Health is both Local and Global*
- *Public Health is an Essential Investment for Society*
- *Public Health Must Engage the Public as a Partner*

Major Findings

Moving from this larger context to the particular one of New York State, the Work Group found that certain realities cut across New York State's public health system and are central to its effectiveness. The Work Group identified five key findings:

1. An adequate investment in the public health infrastructure is an essential responsibility of federal, state and local governments.¹ Investments in NYS must meet increasing demands on governmental public health agencies. Moreover, in an environment of emerging needs from emergency readiness to programs such as chronic disease control, resources must be sufficient to ensure that essential services are not neglected or, worse still, abandoned. The federal government, New York State and local governments must assure that localities have the assets and resources necessary to carry out both the traditional essential public health services as well as the new emergency preparedness and other programs designed to address emerging needs.

Substantial investments have been made in New York's state and local public health agencies through a complex array of funds including federal and state grants, state aid reimbursement for general public health work activities, third party reimbursement, local aid and fees. NYS has benefited greatly from the most recent influx of federal dollars for emergency preparedness. However, it is unclear whether these funds will be sustained or remain sufficient into the future. Ongoing analysis of financing for local health departments is essential to assure that there is a proper balance between federal, state and local investments and that incentives are in place to encourage effective public health service delivery. Local health departments must effectively manage the provision of essential and mandated public health services, set priorities, maximize revenue and be responsive to local needs.

2. Public health leaders face challenges related to increasing demands on public health, engaging the public in public health activities and programs, and assuring a balance between policy driven decisions and certain political realities such as financial and legal constraints or the priorities of elected officials, for instance. In response, leadership development and capacity strengthening should be a priority at every level of the NYS public health system.
3. Regional, multi-county approaches have proven to represent innovative models in NYS for strengthening local health departments' capacities to assure community access to the essential public health services as well as for securing specialized expertise when necessary.
4. Work force recruitment challenges in NYS include budgetary constraints, aging of the work force and a scarcity of qualified public health professionals such as public health nurses, sanitarians and health educators. Improvement in work force training is essential to ensure that there is a pool of trained professionals entering the work force and that continuing education is accessible, relevant and linked to core competencies.
5. Public health data in NYS at the county level in particular, if it is to be useful, must be timely, integrated, and meaningful; expertise in data analysis and data interpretation is essential to good outcome measurement, performance monitoring, and program management.

¹ The Future of the Public's Health in the 21st Century, Institute of Medicine, National Academy Press, 2002, p. 148.

Priority Recommendations

These recommendations are directed at all components of the public health system from every level of government including town boards of health or legislatures, county officials, state legislatures, and the federal government. They are also directed to key health care contributors such as physicians, hospitals, social service agencies, insurers, voluntary groups, employers and businesses. These recommendations are advanced in the certain knowledge that public health today is a *system* of alliances, partnerships and coalitions all of whose goal is to protect the health of the *whole* community in order to assure the well being of each of its members. In addition to these priority recommendations, a list of long-term recommendations can be found at the end of the full report.

The Work Group recommends that:

1. *The Public Health Council appoint a standing Public Health Committee to oversee implementation of this report and to report on progress in achieving the actions recommended. In particular, this Committee should focus on implementing recommendations 2, 3 and 5 below.*
2. *The Public Health Council invite representatives of the NYS Department of Health and other members of the NYS public health system to update the Council at each meeting about the current challenges and issues facing public health at all levels of government and throughout the broader system of private and voluntary agencies.*
3. *The Federal Government, New York State and localities support a sustainable and flexible funding stream that assures that the State and localities can support the essential public health services and also emerging issues. Traditional essential programs should not have their resources depleted with the advent of new priorities.*

The Work Group also recommends that the Public Health Council work with the NYS DOH to examine all funding sources that support local health departments and make recommendations for financing mechanisms that ensure effective public health service delivery. Improved mechanisms for management reporting and performance accountability linked to funding should be proposed.

Workforce

4. *A statewide public health training task force be convened including the schools of public health in New York State, representatives from the State and local health departments and other academic partners. This Task Force will consider issues of access, competency based training, leadership subjects and public health career curricula at schools and colleges.*
5. *The Public Health Council review the NYS Sanitary Code to ensure that job titles and minimum qualifications are appropriate to today's public health needs and examine how the sanitary code qualifications and training requirements can be revised to support career ladders.*

Organizational Systems and Relationships

6. *The New York State Department of Health (NYS DOH) and local health departments examine regional, multi-county models for providing essential public health services in which specialty knowledge, expertise or other resources might be shared across regions. Such models represent one way to address the uneven distribution of work force specialists that currently exists in many areas of the state. This examination will need to address the legal barriers existing now that may constrain such a solution or make regional approaches more difficult to put in place.*
7. *The New York State Department of Health and its academic partners creatively use and make available to counties expert resources organized by and available in the disciplines of disease surveillance, epidemiological analysis, behavioral science, environmental health, social marketing, community organizing, and public health administration. This need is particularly acute for counties that lack the resources to purchase or leverage such services independently.*
8. *The state and local health departments together with academic institutions and others develop strong leadership training opportunities for public health professionals. The curriculum content should focus on team building, creating and sustaining coalitions, forging strong partnerships, communicating with diverse publics, inspiring a steady community engagement, fiscal and program management and overcoming competing agendas and conflicts.*
9. *The state and local health departments work with the media to consider a campaign to improve public understanding about the public health system and its benefits. To begin, findings from research about what the public knows and understands should be used to support a campaign to educate the public about the benefits of the public health system and increase the public's involvement in this partnership.*

Data and Information Systems

10. *With assistance from the NYS Office for Technology (OFT), the NYS DOH, NYSACHO, and the New York State Association of Information Technology Directors develop a Comprehensive New York State Data and Information System Plan. The objective of this assessment and plan would be a comprehensive design and execution strategy for a system architecture capable of meeting today's public health infrastructure requirements for the State of New York.*
11. *The federal, state and local governments standardize public health program indicators so that effectiveness can be measured, benefits communicated, and shifts in policy direction or service delivery appropriately made.*
12. *The NYS DOH and its academic partners collaborate to develop methods to teach public health evaluation methodologies to strengthen and increase the capacity at the State and LHDs to undertake evaluations. Such evaluations are critical to understanding a program's effectiveness, to improving accountability and to communicating the value of public health to the public.*

Conclusion

Continuous quality improvement requires periodic assessment of public health in order to identify gaps and provide appropriate solutions. With demands on public health changing and accelerating, this infrastructure assessment is regarded as all the more timely. The broad public health system must be responsive to new thinking, new initiatives and emerging issues. Leaders must continuously appraise the opportunities and threats to the population's health and assure that public health is positioned with its community partners to meet these adequately. All the assets of the infrastructure must demonstrate proficiency, accountability, competence and readiness if public health is to function well in ordinary and extraordinary times.

The public health system must be strengthened to meet emerging threats while still maintaining the traditional core services at the community and state level. Funding when weighed against documented needs and new priorities must be studied, quantified and changed to sustain investments in public health.

Failure to renew the public health infrastructure to more effectively meet tomorrow's priorities will put communities at greater risk in a world where risks to good health have already risen to new levels.

II. INTRODUCTION

In accordance with New York State Public Health Law § 225, the Public Health Council shall consider any matter related to the preservation and improvement of public health. Further, the law provides that the Public Health Council may, from time to time, appoint advisory committees that are expert in the major areas of public health to make recommendations pertinent to the public health system.

Consistent with this role, the Public Health Council has had a long- standing interest in the effectiveness of the public health system. In 1996, the Council appointed a committee to identify public health priorities for New York State. Among other findings, the report issued by the committee, *Communities Working Together for a Healthier New York (CWT)*, noted that a strong public health infrastructure is essential in helping New York achieve its public health objectives. In early 2001, the Public Health Council asked for an update on the CWT project to assess progress in achieving the 12 priorities that had been targeted. During this update, the Council learned that while many objectives had been achieved or surpassed since 1996 (see Appendix E), other challenges still remained. As a natural follow- up to the CWT findings, the Council also expressed an interest in a study of how the public health system infrastructure supports communities in their efforts to achieve these health priorities. In particular they directed that a review of the public health infrastructure in New York State be undertaken.

The events of September 11, 2001 followed by anthrax attacks and their subsequent investigations occurred after this New York State Public Health Council dialogue on infrastructure had begun. As a consequence, expectations for the public health system in general were raised to a compelling new level across the nation. While public health had always performed an important role in helping communities prepare for and respond to emergencies, public health was now being asked to assume an ever more critical role. Assuring the capacity of the public health system to carry out effective emergency preparedness and response became essential at all levels. These events underscored the Public Health Council's established commitment to assess New York State's public health infrastructure as a platform on which to deliver effective services and achieve a newly strengthened emergency readiness system.

Charge to the Workgroup

Accordingly, in late 2001 the New York State Public Health Council appointed a Public Health Infrastructure Work Group and charged it with the task of assessing the public health system infrastructure in New York State. The Council requested that this body provide the Council with recommendations on how to strengthen the system with particular focus on infrastructure. The members of this newly constituted Work Group included individuals in positions of public health leadership and expertise in academia, medicine, public policy, government, private foundations, the business community, and the voluntary sector.

Mission

The Work Group adopted a mission statement to guide its evaluation of the New York State public health infrastructure. The mission of the work group was:

1. To understand the current organizations and systems that comprise New York State's public health infrastructure and evaluate its strengths and weaknesses;
2. To identify strategies to strengthen the capabilities of the public health system; and
3. To make appropriate recommendations for improvement to the Public Health Council.

Vision

The Work Group envisions a state and local public health system in New York State that focuses on the core public health functions of assessment, policy development and assurance, and on ensuring conditions under which all New Yorkers can lead healthy and productive lives. Public health agencies must deliver the essential public health services from an infrastructure platform comprised of three elements: *public health workforce*, *public health organizational systems and relationships*, and *public health data and information systems*. These infrastructure elements must have adequate resources and be competent to meet the demands and opportunities presented to public health in New York State today. Also, state and local public health agencies are the focus of the public health efforts at their respective levels, and should serve as the conveners, facilitators and coordinators of community wide public health efforts.

The public health system must strive for integration of these infrastructure elements within state and local government and through government's effective partnerships with private and voluntary health and human service providers, academia, community and business leaders, and citizens. Partners share a common purpose and stand to mutually benefit from coordinated joint efforts to promote health and prevent disease. The vision assumes an enterprise that is adequately funded to achieve its goals and mandates, informed by the best science and technology, efficiently and effectively coordinated and poised to meet society's needs into the 21st century.

III. DEFINITION OF TERMS

A. Definition of Public Health

The Work Group used a public health definition statement prepared by a member of the Work Group, Kristine Gebbie, Dr. PH, RN as a point of reference.

“Public Health is the set of organized community efforts that fulfill society’s interest in assuring conditions in which people can be healthy by applying scientific and technical knowledge to prevent disease and promote health. The goal of public health is to improve the health status of the population, with careful attention to and respect for the perspectives and values of the diverse members of the community being served. There is a public health system in each community defined as the wide range of public, private and voluntary organizations such as governmental agencies, academia, health care providers, hospitals, community-based organizations, associations, businesses and individuals. The unique function of governmental public health agencies within this broad infrastructure framework is to see that all vital system elements are in place; that all core functions and essential services (see below) are coordinated; and that the mission of improving the health of the community is adequately addressed, using if necessary, the regulatory powers of the state.”²

B. Specific Responsibilities of the Public Health System

The *specific responsibilities* of the entire public health system are to:

- Prevent epidemics and the spread of disease
- Protect against environmental hazards and prevent injuries
- Promote and encourage healthy behaviors
- Assure the quality and accessibility of health services
- Respond to disasters and assist communities in recovery³

C. Core Functions

The *core functions* of public health agencies that must be carried out at all levels of government for the overall public health system to function effectively include:

- Assessment: regular, systematic collection, assembly, analysis and distribution of information on the health of the community, including statistics on health status, community health needs, and epidemiological and other studies of health problems;
- Policy development: using the scientific knowledge base in decision-making about public health and taking a strategic approach to leadership for public health policy with a positive appreciation for the democratic political process;

² Adapted from The Future of Public Health, Institute of Medicine, National Academy Press, 1988.

³ Adapted from Public Health in America, Public Health Functions Steering Committee, US Department of Health and Human Services, 1994.

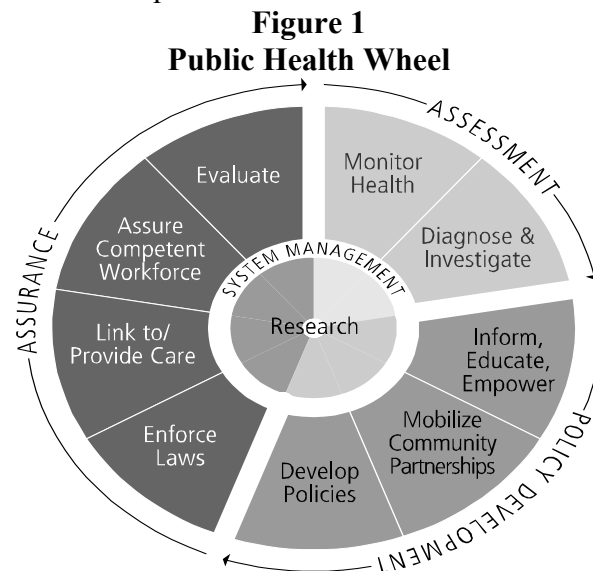
- **Assurance:** engaging policy-makers and the public in determining those services that will be guaranteed to every member of the community, and making services necessary to achieve agreed-upon goals available by encouraging action by public and private entities, implementing regulatory requirements, or directly providing services.⁴

D. Ten Essential Public Health Services

The *ten essential public health services* derive from the *specific responsibilities* and *core functions* and form the basis of all public health programs. The Work Group shares the view of the Institute of Medicine (IOM) that all communities should have access to these ten essential public health services.⁵

1. Monitor health status
2. Diagnose and investigate health problems and health hazards
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
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 health and personal health care workforce
9. Evaluate the effectiveness, accessibility and quality of personal and population-based health services
10. Conduct research for new insights and innovative solutions to health problems⁶

The Public Health Wheel best illustrates the relationship among core functions, specific responsibilities and the ten essential public health services.



Source: CDC

⁴ Adapted from *The Future of Public Health*, Institute of Medicine, National Academy Press, 1988.

⁵ *The Future of the Public's Health in the 21st Century*, Institute of Medicine, National Academy Press, 2002

⁶ *Public Health in America*, Public Health Functions Steering Committee, US Department of Health and Human Services, 1994.

E. Public Health Infrastructure

The public health infrastructure provides the platform on which the ten essential public health services and programs can be built and is comprised of:

- Public Health Workforce: Those persons responsible for providing essential public health services regardless of the organization in which they work, who are competent to perform public health functions and assure the delivery of essential public health services;
- Public Health Organizational Systems and Relationships: The organizational network that links governmental public health at federal, state and local levels together with all other key infrastructure partners (e.g. legal and organizational structures of governmental public health, intergovernmental agreements, organized coalitions, community partnerships, funding streams); and
- Public Health Data and Information Systems: The knowledge and management of health status, health resources and threats to health specific to the jurisdiction or community of interest (e.g. health statistics, public health surveillance of reportable diseases, environmental monitoring, health services statistics, community resources inventories).⁷

The Work Group focused much of its review on the strengths and needs of these components of the public health infrastructure at the local level in New York State.

⁷ Adapted from Healthy People 2010, US Department of Health & Human Services, 2000.

IV. WORK GROUP METHODS

The Public Health Infrastructure Work Group began its work in February 2002 with a review of public health priorities established for New York State by the Public Health Council in 1996 through the *Communities Working Together for a Healthier New York* project. It reviewed the progress made to date on achieving these priorities and considered the challenges still remaining. It subsequently proceeded with a three-phase review process to develop ultimate findings and recommendations.

A. Phase I – A General Review

In Phase I the Work Group conducted a general review of state and local government public health systems in New York State with its particular reliance on local (county and NYC-based) systems for delivery of public health services. Work Group members reviewed background materials on the public health infrastructure including:

- Federal and state public health programs;
- NYS Public Health Law Article 6, the statutory authority for state aid for general public health work;
- Public health work force position descriptions and qualifications as described in state Sanitary Code;
- Information technology systems and specialized electronic health networks;
- Emerging public health initiatives on emergency preparedness and bioterrorism; *and*
- Nationally sponsored grant demonstration projects such as the *Assessment Initiative* funded by the Centers for Disease Control and Prevention (CDC) and the national *Turning Point Initiative* funded by the Robert Wood Johnson Foundation.

During Phase I, the Work Group also reviewed the findings of a number of studies that considered the public health system from multiple perspectives including:

- The National Public Health Performance Standards Program/ New York, conducted by the Centers for Disease Control and Prevention (CDC Study);
- The Department of Justice /CDC Public Health Performance Assessment of Emergency Preparedness: State-Wide Preliminary Results (DOJ Survey);
- Healthy People 2010, the national health objectives promulgated by US Department of Health and Human Services (2000);
- The New York State Department of Health (NYSDOH) and New York State Association of County Health Officers (NYSACHO) Spring 2002 County Connectivity Survey;
- Communities Working Together for a Healthier New York, September 1996.

Upon their publication in late 2002 and early 2003, the findings from two additional studies published by the Institute of Medicine were incorporated into the Work Group's general review of public health system infrastructure. These studies included:

- The Future of the Public's Health in the 21st Century, Institute of Medicine of the National Academies, 2003; and
- Who Will Keep the Public Healthy: Education of Public Health Professionals for the 21st Century, Institute of Medicine of the National Academies, 2002.

B. Phase II – Subcommittee Assessments

In Phase II, the Work Group appointed three subcommittees to address the three key elements of the public health infrastructure - *work force, organizational systems and relationships*, and *data and information systems*- more fully at the county level. The subcommittees invited fifteen local health departments (LHDs) to provide insight into current public health infrastructure strengths and gaps. The local health department participants represented a cross section of urban, suburban and rural counties. Each subcommittee selected specific assessment methods appropriate to their task. The *Work Force Subcommittee* employed a telephone survey, the *Organizational Systems and Relationship Subcommittee* used telephone interviews; and the *Data and Information Systems Subcommittee* convened a Focus Group using a discussion guide provided in advance and scripted questions. The participating local health departments had the opportunity to consider the content of their respective assessments in advance. Moreover they were encouraged to participate as teams in the discussions to insure a diversity of viewpoint and enrich the exchange.

New York State was enrolled in the initial trials of the *National Public Health Performance Standards Program* assessment conducted by the Centers for Disease Control and Prevention. In the course of their review of these trial findings, the Public Health Infrastructure Work Group used the New York performance data results to form a better understanding of the state's infrastructure needs. In particular, the Work Group was most interested in those essential services in which the state's aggregate performance fell below the New York State overall average. These performance findings framed the subcommittees' reviews of what factors constrain public health and what steps might be undertaken to strengthen infrastructure in New York State. (See Section VII of this report for the statewide data on the standards assessment). The three Subcommittee Reports are included in the Appendix accompanying this report.

C. Phase III – Development of Findings and Recommendations

In Phase III, the Work Group considered findings from their various reviews and developed a set of priority and long-term recommendations. These were presented as preliminary *Findings and Recommendations* to the Public Health Council at its May 16, 2003 meeting. This report provides a final discussion and documentation of the Work Group's assessment of New York State's public health system infrastructure with recommendations for further action.

V. THE NATIONAL PUBLIC HEALTH CONTEXT

A. Overview

Emerging trends currently impact the nation's health. Many of these phenomena intersect and inter-relate:

- Globalization has created more movement between and among individuals and nations;
- New infectious diseases and the reoccurrence of old pathogens have emerged; sometimes with antibiotic resistance;
- Changing demographics have increased numbers of immigrant and elderly persons;
- The character of many diseases has shifted from acute to chronic; and
- Technological and scientific advances have occurred in communication and biomedicine, both curative and preventive.

These developments are social, geopolitical and economic as well as medical. While some hold great promise for the future, they also pose significant current challenges for America's and New York's health. All carry a cost and the potential for unintended consequences. The emergence of AIDS, West Nile Virus and most recently SARS provides examples of the impact global travel, in-migrations and encroachment of people into natural environments can have on populations previously sheltered from one another.⁸

Other national health trends appear to be related. An increasingly elderly population accounts in part for the statistical shift away from acute disease toward chronic disease. By the year 2010, the percentage of the US population over the age of 65 is projected to be 13.3%; by the year 2025, it will represent 18.5% (US Census Bureau, 1996a). With chronic disease more prevalent among the elderly, an aging population carries obvious implications for the need for health and public health services. A racially and culturally diverse population with lower levels of education and employment introduces further complexity to the mix. Persons who face greater risks associated with socioeconomic status may be more likely to experience compromised access to medical care. To quote from the Institute of Medicine's (IOM) publication, The Future of the Public's Health in the 21st Century, "...socioeconomic status may influence health status: access, resource distribution, psychosocial conditions, physical/toxic environments, and personal behaviors...."⁹

Along with age and socioeconomic status, the American lifestyle with its reliance on fast foods, inactivity, work-family demands, and alcohol and tobacco use is also implicated in the rising incidence of chronic disease. One apparent consequence of lifestyle is obesity, a disease that is increasing at such an alarming rate that it has been described as an epidemic. The prevalence of obesity has grown by nearly 20% over the past 30 years. Today, 61% of adults are either overweight or obese. More critical for the future, 15% of children and teens ages 6 to 19 are deemed to be overweight, and over 10% of young children ages 2-5 are overweight.¹⁰ The obesity epidemic has led to increases in other chronic diseases such as heart disease, arthritis

⁸ The Future of the Public's Health in the 21st Century, Institute of Medicine 2003, p. 33.

⁹ Ibid. p. 59.

¹⁰ National Health and Nutrition Examination Survey, CDC, 1999.

and Type II diabetes. These diseases are chronic and occur more commonly among a growing number of persons who are overweight, under active and aging in the US population.

B. Economic Realities

Overall health care spending in the US is substantial with approximately 13% of the nation's GDP directed toward health related expenditures. This amounted to \$1.3 trillion in 2000.¹¹ At the same time, it is important to note that nearly 95% of health care spending in the US is applied to direct curative medical care and biomedical research.¹² Put differently, spending is directed more at personal health care than at population-based interventions to improve health. The Medicaid budget in 2002 was a portion of this expenditure at \$142 billion serving 11.2 % of the population (OMB, 2001b).¹³ In the same fiscal year, the Department of Health and Human Services (DHHS) was granted a discretionary budget for public health service agencies of \$41 billion of which \$23.2 billion was designated for the National Institutes of Health. As reported by the IOM however, "...very little of this (DHHS) discretionary money (went) directly to the states for government agency public health infrastructure."¹⁴

C. The Federal Government's Role

While the primary constitutional responsibility for public health rests with the states, the federal government exercises significant authority overseeing and influencing:

1. Policy making;
2. Law enactment;
3. Protections through agencies such as the Food and Drug Administration (FDA) and Centers for Medicare & Medicaid Services (CMS);
4. Financing of entitlement programs like Medicare (Title XVIII) and Medicaid (Title XIX);
5. Collection and distribution of health data through organizations such as the National Center for Health Statistics at the Centers for Disease Control and Prevention (CDC);
6. Capacity of the hospital industry (Hill-Burton) or other health system interventions through the Department of Health and Human Services (DHHS); and
7. Direct services such as the Indian Health Service.¹⁵

Working with other federal agencies, with the Congress of the United States, as well as with state and local legislatures and boards of health, the federal government has contributed to important improvements in health during the last century. These advances illustrate how government's policies and programs, when combined with community action, private enterprise and public education, can reverse dangerous trends and improve the overall well being of a nation. Key examples include:

- Providing research funding to develop new antibiotics;
- Spearheading national immunization programs;

¹¹ The Future of the Public's Health in the 21st Century, Institute of Medicine 2003. p. 20.

¹² McGinnis MJ, Williams-Russo P, Knickman JR. Health Affairs 21(2): 78-93.

¹³ The Future of the Public's Health in the 21st Century, Institute of Medicine 2003. p. 219.

¹⁴ Ibid. p. 115.

¹⁵ Ibid. p. 106.

- Requiring safer workplaces;
- Funding research to prove that early screening procedures can be cost effective and life-saving;
- Funding research to make the connection between lifestyle and disease;
- Monitoring food and drugs;
- Reducing pollution;
- Controlling toxic waste; and
- Funding research to show the benefit of fluoridating public water.

Even automobile travel poses less risk today due to safer vehicle design and seat belt requirement. At the same time, automobiles produce fewer emissions thus reducing harm to the environment.

In an ever more interconnected world, much still remains to be done by the federal government. Actions must be informed and driven by the changing needs and problems the new century poses. Conflicts and priorities are inevitable but must be managed in the face of increasing complexity. The IOM report observes that “...*health stands in the balance between economic, political, and social priorities, and is caught in the middle of necessary and important tensions between rights and responsibilities – individual freedoms and community or social needs, regulation and free enterprise.*”¹⁶ Governments make policy, enact laws, provide financing, collect and report data, direct or oversee services that enhance the public’s health. It is also true that governments continue to face constraints in fulfilling their mission. Some obstacles derive from a legacy of governmental initiatives undertaken piecemeal during the last century. Of particular concern is a legal and financial framework for public health that is hindered by antiquated laws, stove piped funding that is disease based, and statutory mandates that are not integrated, or worse still, are duplicative. To quote from the IOM report “...*With more than 200 categorical public health programs in DHHS and a variety of health related programs in other federal agencies, the alignment of policies and strategies is challenging.*”¹⁷ Strengthening public health infrastructure to make it more effective will depend upon these inefficiencies and limitations being adequately addressed.

¹⁶ *Ibid.* p. 23.

¹⁷ *Ibid.* p. 117

VI. THE NEW YORK STATE PUBLIC HEALTH SYSTEM

New York's public health system includes a large number of private, voluntary and public organizations including state and local government agencies, health care providers and insurers, and community organizations. The New York State Department of Health (NYS DOH) and 58 local health departments have the primary responsibility to promote and protect the health of the public.

A. New York State Health Department

1. Governance

The State Health Department's mission is to "protect and promote the health of New Yorkers through prevention, science and the assurance of quality health care delivery." Public Health Law defines the broad responsibilities of the NYS DOH. PHL §201 (1) (a) provides that "the Department shall, as provided by law: supervise the work and activities of the local boards of health and health officers throughout the state, unless otherwise provided by law." The law also provides that the DOH oversees reporting and control of disease, maintains vital records, and promotes the prevention and control of disease. The authority of the State Health Commissioner is described in PHL § 206 and includes investigating epidemics and causes of disease, enforcing the Public Health Law and the State Sanitary Code and inspecting State Institutions.

The New York State Public Health Council advises the Department of Health. The Public Health Council includes the Commissioner of Health and 14 members appointed by the Governor with the advice and consent of the New York State Senate. The Public Health Council duties are described in Public Health Law §225 and include any matter related to the preservation and improvement of public health, appointing advisory committees expert in the major areas of public health concern and submitting recommendations on public health concerns to the Commissioner. The Public Health Council can also establish, amend and repeal the State Sanitary Code subject to approval by the Commissioner of Health.

2. Program and Services

The New York State Department of Health has over a 100-year history of providing public health services. The Department administers a wide range of public health programs directly or through contracts that address disease prevention and control, environmental health protection, promotion of healthy lifestyles, and emergency preparedness and response. The Department also conducts health care surveillance in the state's hospitals, home care agencies and nursing homes, conducts research at the Wadsworth Laboratory, manages the state Medicaid program, administers health insurance programs for the uninsured and operates five health care institutions.

3. Resources

The State Department of Health (SDOH) employs over 4,300 people in its central, four regional offices, three field offices and nine district health offices across the state. An additional 2,000 individuals work in the five DOH-operated health care institutions. Almost three-quarters (72%) of the SDOH employees are professionals, while the remainder or 28% are paraprofessionals,

technical and support staff. In fiscal year 2003-04, the Department of Health's budget totaled \$39.3 billion. Of this amount, approximately \$37.8 billion was Medicaid-related, \$1.4 billion supported public health activities and \$0.1 billion supported the institutions operated by the Department.

B. Local Health Departments

1. Governance

The constitution of the United States describes a system of federalism that invests in the states the authority to determine what responsibilities they retain and what responsibilities are delegated to the local level in public health. There is no consistent organizational design or mandate for how public health services are delivered by states and localities across the country. The most recent Institute of Medicine publication has stated, "...*In the American system, local governments are the creatures of state government, from which they get their authority and resources (or authority to raise revenues).*"¹⁸ The IOM goes on to observe that, as a consequence, "...*their policy-making and managerial capacity is...variable, as are their capacities and resources in health.*"¹⁹

In New York, fifty-seven county health departments and the New York City Department of Health and Mental Health have the major responsibility for provision of public health services at the local level. New York is one of 26 states where the provision of public health services is decentralized; local public health departments operate under the administrative authority of local governments.²⁰ While federal and state public health statutes and regulations guide services, each local health department is best suited to address the needs of its own community. In 28 counties, the county legislature serves as the governing authority of the local health department while a local board of health governs fourteen counties. In 11 counties, the Legislature and Board of Health serve as the governing authority together; in 4 counties, the County Board of Supervisors is the governing authority, and in one county, both the County Executive and County Legislature serve as the governing authority.²¹

Public health regulations in NYS require that counties with more than 250,000 persons be led by a Commissioner of Health who must be a medical doctor and have a combination of a master's degree in public health or a related field and 3 years administrative experience in public health. Commissioners lead twelve local health departments in NYS. Public health directors lead the remaining 46 local health departments. Public health directors are required to have a master's degree in public health or a related field and three years of public health experience or an appropriate combination of education and experience.²²

Variability does exist across the county spectrum. Seven local health departments (including the NYC Department of Health and Mental Health) serve counties with more than 450,000 people

¹⁸ The Future of the Public's Health in the 21st Century. Institute of Medicine 2002. National Academy Press. p. 167

¹⁹ *Ibid.* p. 167.

²⁰ National Association of County and City Health Officials, Research Brief, October 1998, Number 2. All services are decentralized. However in 21 counties, the NYS Department of Health provides environmental health services because the local health department has opted out of that service.

²¹ New York State Association of County Health Officials, Local Health Department Survey, 2003

²² NYCRR Part 11.11, 11.182

including populations living in the state’s largest cities. Eight local health departments serve counties with populations ranging from 200,000 – 450,000, and 43 local health departments serve primarily rural populations or counties with populations less than 200,000.

2. Programs and Services

Local health departments (LHDs) provide a variety of services and programs to protect and promote the health of the communities they serve. All local health departments offer core public health services that include assessing the health of the community, disease control and prevention, family health services, and health education. An additional core service, environmental health, is provided directly by 37 local health departments. The other 21 local health departments rely on the NYS Department of Health to provide environmental health services in their counties.

In addition to the core responsibilities, many other services are provided. For example, 47 local health departments operate certified home health agencies, 53 administer the Early Intervention program, 32 operate well child clinics, 30 operate comprehensive diagnostic and treatment clinics, 20 manage Women, Infant and Children (WIC) nutrition programs, and 10 oversee public health laboratories.²³ Local health departments also manage public health programs as contractors of the State Department of Health (SDOH). Local health departments are among SDOH contractors in the Tobacco Control, Healthy Heart, and Lead Poisoning Prevention Programs, to name a few.

3. The New York City Department of Health and Mental Hygiene

The New York City Department of Health and Mental Hygiene deserves particular mention in this review of local governance and services. It is one of the world’s largest public health agencies, with nearly 7,000 employees and an annual budget of \$1.3 billion. The Department’s mission is to protect and promote the health and mental health of all New Yorkers, to promote the recovery of those with mental illness and chemical dependencies and to promote the realization of full potential for those with mental retardation and developmental disabilities. Serving the more than eight million people who make New York City their home, in addition to those three million persons who work in the city or travel there each year, the Department’s programs encompass areas of disease control, environmental health, epidemiology, health care access and improvement, health promotion and disease prevention, and mental hygiene services.

4. Resources

Local health departments rely on a combination of local appropriations, grants, state aid and revenue from third party reimbursement and fees to support local public health services. In calendar year 2001, total resources equaled almost \$990 million.

Figure 2

Funding for Local Public Health Departments, Calendar Year 2001	
State Aid	\$ 204,938,723
Local Appropriation	\$ 349,419,848
Grants	\$ 271,105,807
Revenue	\$ 164,232,391
TOTAL	\$ 989,696,769

Source: NYS DOH

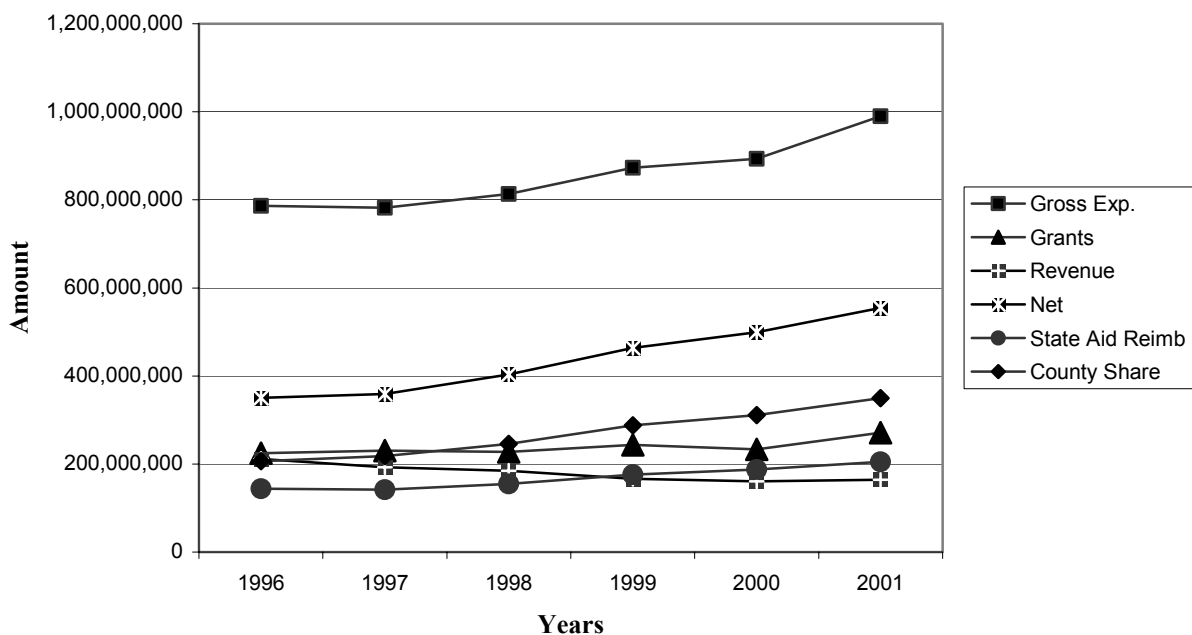
²³ Ibid.

Article 6 of the Public Health Law provides statutory authority for state aid for general public health work (GPHW). The GPHW program provides partial reimbursement for expenses incurred by local health departments for five basic public health areas as defined in law: community health assessment, family health, disease control, health education and environmental health. Reimbursement is also provided for optional public health services that may include emergency medical services, certified home health agencies, public health laboratories and some environmental health services. These services are considered optional since localities are not required to provide them.

Article 6 reimbursement is provided based on the net expenses of each LHD determined by subtracting revenues obtained from third party reimbursement, fees and grants from a county's gross expenditures for public health services. Full service local health departments – those providing all five basic services – are eligible to receive a base grant of up to \$0.45 per capita or \$450,000 per county, which ever is greater and 36% thereafter. Optional services are reimbursed at 30%. Less than full service local health departments – those not providing environmental health services – are eligible to receive a base grant of \$360,000, and 36% thereafter for basic services. Optional services provided by less than full service counties are also reimbursed at 30%.

Between 1996 and 2001, state aid reimbursement increased 43%, local revenue decreased by 22%, grants increased by 21%, and the local county share increased by 69%. County governments have noted that their ability to invest in local public health programs and services is limited because of mandated county spending for Early Intervention services and Medicaid. The average increase in state aid reimbursement is about 9.5% each year in this period.

Figure 3
General Public Health Work Expenditures and Revenues - 1996-2001



Source: NYS DOH Article 6 Program

New York City accounted for 46% of state aid costs in 2001. The next 6 largest counties (Suffolk, Nassau, Erie, Westchester, Monroe and Onondaga) accounted for an additional 22% of state aid costs. Together these seven counties, which account for 72% of the state's population, accounted for 70% of the state aid to local health departments.

A survey of local health departments conducted in 2001-02 provided in-depth data on the size and composition of the workforce.²⁴ Approximately 7,270 full time equivalent (FTE) public health workers are employed at LHDs across the state and nearly 69% of them worked in LHDs in urban counties. The survey provided information on the composition of the workforce:

- Nurses represented 22% of the total LHD workforce. They accounted for 42% of FTEs in rural LHDs, but only 14% of FTEs in urban LHDs. The large number of nurses in rural health departments is due, in part, to the fact that rural health departments, more often than urban health departments, operate Certified Home Health Agencies, which depend on nursing staff.
- Scientific/investigative staff comprised 20% of the total LHD work force. This included environmental health staff (i.e., engineers, sanitarians, and environmental technicians) that alone represented 15% of the total public health workforce. However in the 21 counties where environmental health services are provided by the NYS Department of Health, environmental health staff are not employed by the LHD.
- Epidemiologists, communicable disease staff and disease control investigators represented 5% of the total LHD work force.
- Education/outreach staff comprised 10% of the total LHD workforce, while health educators who were included in this category were only 2% of the total LHD work force.
- Physicians comprised 1% of the total LHD work force.²⁵
- Support personnel, including program aides and public health assistants, comprised nearly 28% of the total LHD workforce.

C. Community Health Partners

The NYS Health Department and local public health agencies work with a multitude of community health partners to identify and address public health issues. Partners include hospitals, health care providers, other local government agencies such as schools, fire and police departments, community based organizations, insurers, local community leaders and academic institutions. In 1997, following the release of the Public Health Council's report, *Communities Working Together for a Healthier New York*, the Department provided small grants to local health departments to establish community-based partnerships to identify community health priorities or to implement strategies to address already established priorities. The Department also began to require as part of specific grant applications that localities establish partnerships to

²⁴ DiManno, Pirani, Williams, Young, PHLI, 2001. Surveys were received from 54 of 58 LHDs, for a response rate of over 93%. Professionals working exclusively in the Early Intervention Program and Certified Home Health Agencies were not included in the totals.

²⁵ Includes physicians in clinical titles only.

address some specific health problems including cardiovascular disease, tobacco, obesity and nutrition issues, and youth development. A survey of 44 community-based partnerships by the NYS Community Health Partnership in 2000 found that many community health partnerships that were established in the late 1990s were still in existence. It also determined that government investment is an important source of funding and often a catalyst for private support. Moreover it established that coalitions need technical assistance on a host of issues including outreach, leadership, outcome monitoring and evaluation.²⁶

In 1999, the state obtained a grant from the Robert Wood Johnson *Turning Point Initiative* to strengthen the capacity of community-based organizations and local health departments to address public health issues. The State *Turning Point Initiative* has initiated many training opportunities for the public health work force, including the “Third Thursday Breakfast Broadcast Series”, a monthly one-hour satellite broadcast featuring experts on current public health issues that is watched by 300-800 public health professionals in NYS every month. The *Turning Point Initiative* has had a special focus on strengthening community health partnerships. In the end, community partnerships are at the heart of an effectively working public health enterprise. The Institute of Medicine’s report may have said it best:

“A community’s right to self-determination, its knowledge of local needs and circumstances, its human, social and cultural assets, including the linkages among individuals, businesses, congregations, civic groups, schools and innumerable others, are all important motivations for community health action.”²⁷

D. Public Health Information Systems

The public health infrastructure in New York State is making notable progress in upgrading its data and information systems. An electronic health information initiative was adopted in 1996. Its goal is to improve the health of New Yorkers by enabling effective interchange of data, information, and knowledge with its information trading partners. The trading partners include LHDs, hospitals, nursing homes, diagnostic and treatment centers, physicians, laboratories, provider networks such as managed care organizations, federal agencies (CDC, CMS), and even local entities like pharmacies. The system is enterprise-wide, Internet based with web-enabled applications, secure file interchange and access control. Additional attributes are that the system provides for a centrally integrated database with backup/fail-over redundancy and offsite disaster recovery. Three networks sit on this platform: the *Health Provider Network* (HPN), the *Health Information Network* (HIN), and the *Health Alert Network* (HAN). The first two serve discrete private and public trading partners which represent over 12,000 accounts as of early 2002; the third is a subset of these two, taking advantage of their intersecting network information to provide emergency health alerts. The applications of the network are:

- **Health Provider Network:** Integrated Information Systems, Electronic Surveillance and Reporting for Health Care Providers;
- **Health Information Network:** Integrated Information Systems, Electronic Surveillance and Reporting for Local Health Departments; and
- **Health Alert Network:** Bioterrorism and Emergency Preparedness Communication.

²⁶ NYS Community Health Partnership, 2000.

²⁷ *The Future of the Public’s Health in the 21st Century*. Institute of Medicine 2003. National Academy Press. P. 205.

The uses of these networks span the full spectrum of public health's essential services. They include laboratory reporting, surveillance (West Nile Virus, STD and TB case reports), physician profiles, managed care network surveys, nursing home and hospital cost reports, vital records and hospital/emergency room admission reports, and birth/death data to cite only a few.

At the same time, New York State has been involved in the implementation of a national data and information system through the National Electronic Disease Surveillance System (NEDSS). NEDSS will provide a standardized national database, reporting system and interchange for all public health information. The vision for such a system is an inter-operable, complementary architecture to assist in ongoing analyses of trends and emerging public health problems. It will also provide necessary data to inform public policy.

E. Public Health Workforce Competency and Training Initiatives

At the national level, recent attention has focused on the skills and knowledge, or competencies, of public health workers. Only 44% of public health workers nationally had formal academic training in public health and in 1997, 78% of local health department executives nationally did not have graduate degrees in public health.²⁸

In New York State, a 2001 survey of 32 local health departments on emergency preparedness found that there is an urgent need for training in biological, chemical and radiological emergency preparedness for a wide range of staff in local health departments and other settings. The survey also found that among those responding, there are public health personnel shortages of nurses and epidemiologists.²⁹ Surveys in 1998 and 1999 found that training is needed to strengthen capacity for conducting health assessments; that public health workers require training in a variety of disciplines; that working with community partners is especially challenging to local health workers; and additional training is needed.³⁰

In recent years, efforts have been made to strengthen continuing education opportunities for the public health work force. The NYS DOH established a Memorandum of Understanding (MOU) with the State University of New York at Albany School of Public Health to support the development of a wide range of continuing education opportunities. These include a basic public health course that covers the history and mission of public health, an environmental health course required of sanitarians employed by local health departments and a Surveillance Academy that trains the state public health work force employed to conduct hospital and nursing home surveillance. The MOU also supports the Third Thursday Breakfast Broadcast series. New York is the host of the *Northeast Public Health Leadership Institute* that trains public health leaders annually. New York is the home of two Centers for Public Health Preparedness (Columbia University and the State University of New York at Albany School of Public Health) and the New York/New Jersey Public Health Training Center, each aimed at strengthening the skills and competencies of public health workers in two states and New York City.

²⁸ HRSA 1992 and Gerzoff, Richards, J Public Health Mgmt Practice 1997.

²⁹ Local Emergency Preparedness Needs in NYS, Results of a Survey of LHDs, Center for Health Workforce Studies, SUNY Albany SPH 2001.

³⁰ NYS DOH Assessment Initiative Survey (1999), NY Turning Point Strategic Plan (1999).

VII. MEASURING PERFORMANCE OF THE NEW YORK PUBLIC HEALTH SYSTEM

A. The National Public Health Performance Standards Program

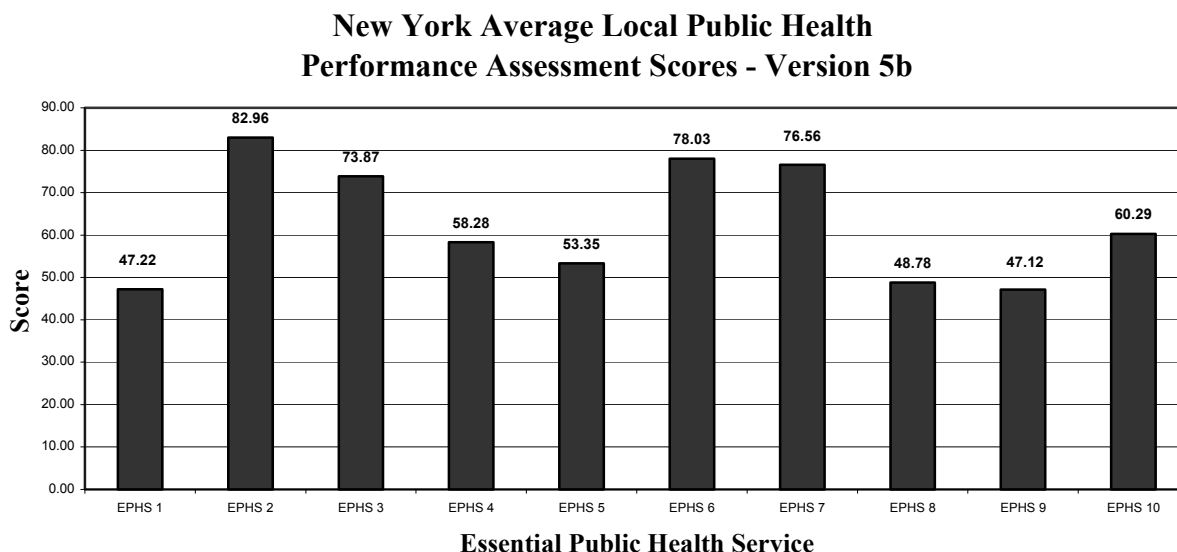
The *National Public Health Performance Standards Program* (NPHPSP) began with the mission “...to improve quality and performance, to increase accountability, and to increase the science base for public health.”³¹ Begun in 1998 by the federal Centers for Disease Control and Prevention (CDC), the program was developed in collaboration with many national organizations representing state and local health departments including:

- The National Association of County and City Health Officers (NACCHO),
- The American Public Health Association,
- The Association of State and Territorial Health Officials (ASTHO),
- The National Association of Local Boards of Health and
- The Public Health Foundation

The goal of the NPHPSP is to measure the practice of public health at the state and local levels using certain standards that describe best practices within the context of the ten essential public health services and their delineated subparts. The method of measurement is a self-applied questionnaire with multiple-choice questions that relate to these optimal standards. New York State was enrolled in the initial trials of the NPHPSP. Forty-nine local health departments used Version B of the instrument to assess the performance of their local health department while eight counties used Version C to assess the performance of their local public health system. The overall statewide average score for the local health departments participating in Version B and C was 64.

Figures 4 and 5 below illustrate the local health departments’ performance in both *Version 5b* and *Version 5c* of the *National Public Health Performance Standards Program*.

Figure 4

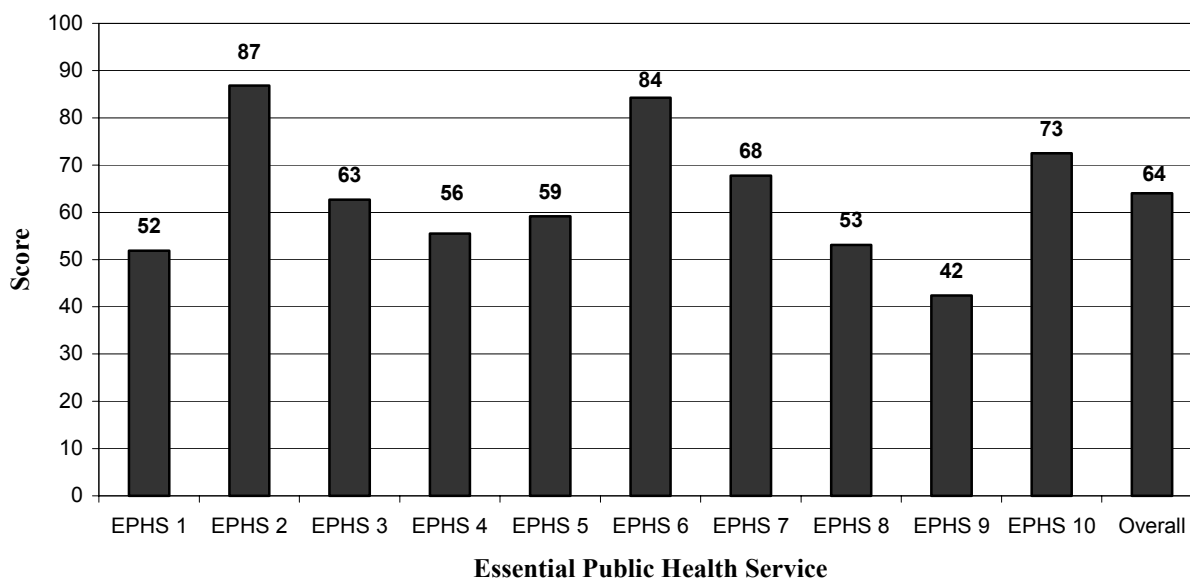


Source: CDC

³¹ *The Future of the Public’s Health in the 21st Century*, Institute of Medicine, National Academy Press, 2003.

Figure 5

**New York Average Local Public Health
Performance Assessment Scores - Version 5C**



Source: CDC

A review of these graphs illustrates that New York State local health departments rated their own performance above the statewide average in five essential services:

EPHS # 2- Diagnose and Investigate Health Problems/hazards

EPHS # 3- Inform, Educate and Empower People about Health Issues

EPHS # 6- Enforce Laws and Regulations that Protect Health and Ensure Safety

**EPHS # 7- Link People to Needed Personal Health Services and Assure the Provision of Health
When Otherwise Unavailable**

EPHS # 10- Conduct Research for New Insights and Innovative Solutions to Health Problems

Local health departments rated their own performance below the statewide average in five other essential services:

EPHS # 1 - Monitor Health Status to Identify Community Health Problems,

EPHS # 4 - Mobilize Community Partnerships to Identify and Solve Health Problems,

EPHS # 5 - Develop Policies and Plans that Support Individual and Community Health Efforts,

EPHS # 8 - Assure a Competent Public Health and Personal Health Care Workforce

**EPHS # 9 - Evaluate Effectiveness, Accessibility and Quality of Personal / Population-Based
Health Services.**

B. Public Health Emergency Preparedness

Even before September 11, 2001 and certainly since then, the New York State Department of Health in New York State has focused a considerable degree of attention on bioterrorism (BT) preparedness. The focus on BT has enabled the Department to bolster the state and local public health infrastructure, and has resulted in improved public health preparedness in general. The

Centers for Disease Control and Prevention (CDC) grant funds of \$27 million for BT have provided additional resources for disease surveillance and control, for communication and communication systems including Internet access and video conferencing, and for training and continuing education of public health system partners. It has also resulted in increased interaction with partners (hospitals, emergency management services and organizations, state wide associations) allowing the public health system to test regional planning approaches to delivery of public health services such as epidemiology services and to provide for an increased understanding of the function and value of public health. The grant funding from the CDC has been effective because it has been used to augment existing state and local investments in public health services and the work force.

VIII. CONTEXT FOR MAJOR FINDINGS

It should be noted at the outset that several broad issues and themes provide a context for a contemporary understanding of public health in the U.S. in general and in New York in particular. To the degree that they also inform and influence New York State's public health system, they provide a foundation for an assessment of its infrastructure needs. Their impact came into particular focus and offered important background for the Work Group as it reviewed data and held many discussions with its public health colleagues at the county level.

A. Public Health Focuses on Prevention

Public Health's commitment to prevention is at the heart of its mission. To do this it utilizes a comprehensive set of coordinated resources aimed at preserving and promoting the health of the whole population rather than focusing on the health of individual patients. This role can be undervalued however due to the fact that successful prevention is invisible. As Work Group Chairperson and Public Health Council member Joan Ellison, RN, MPH, observes, "...public health has all too often been the silent medical partner in the community." When one case of measles occurs, it makes the headlines. The fact that a measles case was preceded by public health immunizations that prevented measles from occurring in 3000 still healthy children is overlooked. When disease outbreaks are prevented and good population health prevails, public health's contribution to this state of good health can go unnoticed.

Public health efforts are focused at the local level where community partners cooperate in prevention programs as a matter of practical necessity. Attending to the population's health through prevention means performing functions that impact multiple areas of local interest. These targets can be populations defined by geography such as a town or by a physical setting such as a day care facility. They can also include populations defined by age, risk profile, family history or lifestyle. The environmental context in which public health delivers its preventive services thus spans a broad landscape from the home where lead paint screening may occur, to the school where immunizations are carried out, to the restaurant where food preparation is inspected to the nursing home where patient care standards are overseen. Informing much of the work of public health prevention today is an ecological model of health that argues that a population's health must be considered in the context of its total environment. Thus public health looks for relationships and determinants of health among social, economic, biological and behavioral factors.

B. Public Health is both Local and Global

The threat of global terrorism is transforming the way in which public health is practiced. Nowhere is this more dramatically experienced than at the level of local health departments. One minute a local health department is being asked to develop plans and protocols to respond to threats and emergencies anticipated from bioterrorism, the next minute it must develop smallpox plans and work with newly published Centers for Disease Control and Prevention (CDC) guidelines. In the midst of this, an epidemic of SARS redirects public health's focus yet again. The "routine" responsibilities of monitoring disease, providing immunizations, combating malnutrition and obesity, protecting the water supply, and other traditional public health activities still must be met in spite of competing demands.

The challenges to population health have accelerated and carry greater urgency. One result is a public health leadership that is more conspicuous from the local to the international stage. The convergence of people and place in time, the transfer of information instantly around the globe and an interested media mean that a community's attention is captured early in the cycle of a disease outbreak or a public emergency. The movement of people across the globe can complicate local health care delivery with a startling juxtaposition of old and new diseases. Infectious diseases previously thought eradicated have reappeared together with the introduction of new ones that are affecting unprepared populations. The global connection can have local consequences. In short, the public health system is learning to live at a higher state of alertness.

C. Public Health Is an Essential Investment for Society

A vast public and private financial network underwrites medical care in this country. Governments invest in both personal medical care systems (Medicaid and Medicare for instance) as well as public health care systems to protect their citizens (CDC, NIH). In the personal health care system, the medical model identifies individual patients as the focus of care. In the public health care system, the population is the focus of care. This personal medical care system is financed at a rate almost 20 times that of the public health system and historically has had mechanisms in place to allow for inflation and other cost-related adjustments. The national public health care system on the whole, however, is organized through disease specific grants, and lacks the opportunity for real-time funding increases even when demands on it change. Recent assessments have indicated that “*state and especially federal level investments in governmental public health infrastructure...have been uneven and unsystematic.*”³² In the main, public health funding at every level of government is not indexed to proportionate rising costs in the public sector associated with an acknowledged rising set of needs. This is worrisome at a time when public health is more and more on the front lines protecting the public from emerging new threats.

Investment in the public health system is cost effective. The 2003 SARS outbreak demonstrated how successful disease prevention can be. Public health leaders responded swiftly across most of the globe. At home, their protections assured that the virus did not overwhelm the US population or its medical system. Arguably, by preventing the potential human and economic consequences of SARS on the scale that occurred in China, both lives and dollars were saved in this country. An analysis of the potential costs to treat such an epidemic, when they are tallied from the losses that might be sustained by individuals, families, health care workers, medical institutions, businesses and other institutions of productive life, would make a sound case for investing in prevention. The same can be said for prevention efforts associated with West Nile Virus or other modern day contagion. The economic benefits are compelling to say nothing of the obvious human benefits.

D. Public Health Must Engage the Public as its Partner

The public is a critical partner in protecting the population's health, just as individuals are partners in maintaining personal health. This relationship is emphasized at times of crisis, but like individuals, the public may be a reluctant or uninitiated participant. Typically, the public enjoys the benefits of public health without necessarily possessing a great appreciation for the

³² The Future of the Public's Health in the 21st Century, Institute of Medicine, National Academy Press, 2003.

efforts advanced to produce such benefits. To assure effective community engagement, the public health system, especially governmental public health agencies and their leaders, must strengthen the system's capacity to communicate with the public about its role in promoting community health. It must also engage the public in the design, implementation and evaluation of critical public health programs, not just "inform" them when the programs are launched.

New times demand bold, new actions. Together with community partners, public health leaders must find innovative methods to engage and mobilize all of its public constituencies. Again to quote from the IOM publication "*...communities ... are the points of convergence for the interests of employers, business and academia...(etc.)...they are physical and cultural settings...*" where it can be assumed the interests of the individual must be balanced against the needs of the whole.³³ In reaching out to the public however, it needs to be remembered that it is a public with a transformed demographic. The population is older and more racially and culturally diverse. These changes demand communication strategies that are customized and culturally sensitive. At the same time, the public has a heightened sense of its own self-interest in the face of the many new threats that now traverse the globe. It may be more willing to listen and act. The public health system must strengthen its resolve and invite citizens to join community efforts in the practice of good health.

³³ *Ibid.* p. 181.

IX. SUMMARY OF MAJOR FINDINGS

A. General

Moving from this larger context to the particular one of New York State, the Work Group found that certain realities cut across the state public health system and are judged as central to its effectiveness. The Work Group identified five key findings:

1. An adequate investment in the public health infrastructure is an essential responsibility of federal, state and local governments.³⁴ Investments in NYS must meet increasing demands on governmental public health agencies. Moreover, in an environment of emerging needs from emergency readiness to programs such as chronic disease control, resources must be sufficient to ensure that essential services are not neglected or, worse still, abandoned. The federal government, New York State and local governments must assure that localities have the assets and resources necessary to carry out both the traditional essential public health services as well as the new emergency preparedness and other programs designed to address emerging needs.

Substantial investments have been made in New York's state and local public health agencies through a complex array of funds including federal and state grants, state aid reimbursement for general public health work activities, third party reimbursement, local aid and fees. NYS has benefited greatly from the most recent influx of federal dollars for emergency preparedness. However, it is unclear whether these funds will be sustained or remain sufficient into the future. Ongoing analysis of financing for local health departments is essential to assure that there is a proper balance between federal, state and local investments and that incentives are in place to encourage effective public health service delivery. Local health departments must effectively manage the provision of essential and mandated public health services, set priorities, maximize revenue and be responsive to local needs.

2. Public health leaders face challenges related to increasing demands on public health, engaging the public in public health activities and programs, and assuring a balance between policy driven decisions and certain political realities such as financial and legal constraints or the priorities of elected bodies, for instance. In response, leadership development and capacity strengthening should be a priority at every level of the NYS public health.
3. Regional, multi-county approaches have proven innovative models in NYS for strengthening local health departments' capacities to assure community access to the essential public health services as well as for securing specialized expertise when necessary;
4. Work Force recruitment challenges in NYS include budgetary constraints, aging of the work force and a scarcity of qualified public health professionals including public health nurses, sanitarians and health educators. Improvement in work force training is essential to ensure that there is a pool of trained professionals entering the work force and that continuing education is accessible, relevant and linked to core competencies;

³⁴ The Future of the Public's Health in the 21st Century, Institute of Medicine, National Academy Press, 2002, p. 148.

5. Public health data in NYS at the county level in particular, if it is to be useful, must be timely, integrated, and meaningful; expertise in data analysis and data interpretation is essential to good outcome measurement and performance monitoring.

B. Workforce

6. The NYS Work Force enumeration reveals that the level of specialization and differentiation of personnel is greater in the more urban settings than in the rural settings. Epidemiologists, disease control specialists, health scientific investigators and health educators represent a higher proportion of the total full time equivalent (FTE) staff in city or urban local health departments than they do in rural county departments where public health nursing staff number among the largest single job category represented.
7. Improvement in Work Force training is a need throughout the New York State public health system. At the local health departments, in particular, training access, relevance, its relation to core competencies, and limited funding are concerns.
8. Work Force recruitment challenges at the county level in NYS derive from budgetary constraints as well as from lengthy hiring procedures, non-competitive salaries and labor market shortages.
9. Work Force retention has not been a problem however the aging of the work force is becoming an issue due to the anticipated retirement of many professionals with long years of service. As vacancies result, there is concern about how labor market shortages or a less than competitive recruitment environment may impact new hiring.

C. Organizational Systems and Relationships

10. Leadership and effective communication are critical elements to a well functioning public health system infrastructure. Leadership is key to public health's success by assuring maximum participation of appropriate system partners and by securing optimal outcomes for the public. County governments, legislatures and boards of health can facilitate or impede LHD efforts with support for or resistance to new policy and program initiatives.
11. Regional networks formed from multi-county alliances as well as partnerships with local academic institutions are critical to organizing the necessary resources to meet existing public health challenges. Inter-county LHD collaborations providing epidemiology services within a region funded by the recent CDC bioterrorism grant are potentially a model of such an alliance. Other examples also pertain to emergency preparedness. Local law enforcement, fire, emergency medical personnel, hospital emergency room staff, physicians and county health departments are forming new coalitions prepared to bring their respective expertise and assets to a planned response in the event of an emergency. This inclusive approach to plan and execute public health initiatives is an emerging model to be used more broadly by public health to secure community wide commitment;

12. Expertise in epidemiological analysis, surveillance monitoring, data analysis, leadership, communication skills, and evaluation methods were identified as critical needs for improving public health performance throughout the NYS DOH system.
13. Without regard to the size, character or financial resources of local health departments, there is ample evidence of the need for, and desire to, have public health programs and services be “data driven” and “evidence based.”
14. There is an expressed tension between a totally data driven approach to setting policy and program direction versus one that recognizes resource, administrative and public perception issues. Finding the balance between these two considerations was an acknowledged challenge.
15. Federal, state and local governments must cooperate and offer standardized outcome indicators for public health programs. Local health departments are finding ways to quantify certain program benefits through the use of partnerships with schools of public health, medical schools and neighboring counties. More effort to measure outcomes must occur, however.

D. Data and Information Systems

16. The results of the *National Public Health Performance Standards Program/New York* revealed that local health departments experience more difficulty carrying out surveillance and disease monitoring than diagnosing and investigating health problems and hazards. Part of this can be attributed to the limits of local health departments to access sophisticated epidemiological analysis associated with surveillance. Part of this is also a function of competing priorities and limited resources, particularly in the small counties.
17. The present communication networks such as the *Health Alert Network* (HAN), the *Health Provider Network* (HPN) and the *Health Information Network* (HIN) were felt to be both very helpful and very under utilized. Additional training and education to community health partners, including hospitals, about the benefits of using these systems is needed.
18. Information Technology (IT) varies across all counties with respect to its organization; so too does its support of the LHD. Similarly, some local health departments and their IT staff have very fine rapport with the NYS DOH IT staff and some seem less informed about how to leverage its resources. Better communication and outreach should occur between state and local health agencies.
19. There are too many data collection systems, too many databases, too many data collection points, and too little standardization across all IT systems. As a consequence, linkage between various computer systems is made more difficult. Common definitions, terms and conventions would improve system integration.

X. PRIORITY RECOMMENDATIONS

These recommendations are directed at all components of the public health system from every level of government including town boards of health and legislatures, county officials, the state legislature, state officials and the federal government. They are also directed to key health care contributors such as physicians, hospitals, social service agencies, voluntary groups, employers, insurers and small businesses. These recommendations are advanced in the certain knowledge that public health today is a system of alliances, partnerships and coalitions all of whose goal is to protect the health of the whole community in order to assure the well being of each of its members.

A. General

The Public Health Infrastructure Work Group recommends that:

1. *The Public Health Council appoint a standing Public Health Committee to oversee implementation of this report and to report on progress in achieving the actions recommended. In particular, this Committee should focus on implementing recommendations 2, 3 and 5 below.*
2. *The Public Health Council invite representatives of the NYS Department of Health and other members of the NYS public health system to update the Council at each meeting about the current challenges and issues facing public health at all levels of government and throughout the broader system of private and voluntary agencies.*
3. *The Federal Government, New York State and localities support a sustainable and flexible funding stream that assures that the State and localities can support the essential public health services and also emerging issues. Traditional essential programs should not have their resources depleted with the advent of new priorities.*

The Work Group also recommends that the Public Health Council work with the NYS DOH to examine all funding sources that support local health departments and make recommendations for financing mechanisms that ensure effective public health service delivery. Improved mechanisms for management reporting and performance accountability linked to funding should be proposed.

B. Public Health Work Force

To address the findings related to work force, the Work Group recommends that:

4. *A statewide public health training task force be convened including the schools of public health in New York State, representatives from the State and local health departments and other academic partners. This Task Force will consider issues of access, competency based training, leadership skills and public health career curricula at schools and colleges. It will develop specific initiatives that will:*

- Support the development of accessible, competency-based training and continuing education programs that meet the needs of the state and local public health work force;
 - Ensure that all state and local public health workers at all levels have an orientation to the key concepts of public health so that they have a basic understanding of the public health enterprise: its history, its focus on population health, its basis in legal authority, and the many disciplines involved;
 - Address the need for focused training for public health leaders on leadership, community partnerships and coalition building as well as risk communication and general communication approaches to an increasingly culturally diverse community;
 - Explore a public health leadership training scholarship program to facilitate participation by state and local leaders in the North East Public Health Leadership Institute or the National Public Health Leadership Institute;
 - Develop partnerships with academic, public health and medical institutions that keep the focus on training professionals for employment in state and local health departments and support core curriculum that trains graduates for governmental public health careers;
 - Promote attention to public health careers with public school systems and colleges/universities.
5. *The Public Health Council review the NYS Sanitary Code to ensure that job titles and minimum qualifications are appropriate to today's public health needs and examine how the sanitary code qualifications and training requirements can be revised to support career ladders. Specifically the Council should:*
- Ensure that minimum qualifications are appropriate to today's public health needs and reflect current public health core functions and competencies;
 - Examine how the state sanitary code qualifications for specific job titles (e.g. sanitarians, public health nurses, public health educators) can be revised to support career ladders and career mobility while at the same time maintaining the standards needed for specific positions;
 - Examine how changes to the state sanitary code could facilitate training while not posing additional resource burdens on local health departments.

C. Public Health Organizational Systems and Relationships

To address the findings related to organizational systems and relationships, the Work Group recommends that:

6. *The New York State Department of Health and local health departments examine regional, multi-county models for providing essential public health services in which*

specialty knowledge, expertise or other resources might be shared across regions. Such models represent one way to address the uneven distribution of work force specialists that currently exists in many areas of the state. This examination will need to address the legal barriers existing now that may constrain such a solution or make regional approaches more difficult to put in place.

7. *The New York State Department of Health and its academic partners creatively use and make available to counties expert resources organized by and available in the disciplines of disease surveillance, epidemiological analysis, behavioral science, environmental health, social marketing, community organizing, and public health administration. This need is particularly acute for counties that lack the resources to purchase or leverage such services independently.*
8. *The state and local health departments together with academic institutions and other resources develop strong leadership training opportunities for public health professionals. The curriculum content should focus on team building, creating and sustaining coalitions, forging strong partnerships, communicating with diverse publics, inspiring a steady community engagement, fiscal and program management and overcoming competing agendas and conflicts.*
9. *The state and local health departments consider a campaign to improve public understanding about the public health system and its benefits. To begin, findings from research about what the public knows and understands should be used to support a campaign to educate the public about the benefits of the public health system and increase the public's involvement in this partnership.*

D. Public Health Data and Information Systems

To address the findings related to data and information systems, the Work Group recommends that:

10. *With assistance from the NYS Office for Technology (OFT), the NYS DOH, NYSACHO, and the New York State Association of Information Technology Directors develop a Comprehensive New York State Data and Information System Plan. The objective of this assessment and plan would be a comprehensive design and execution strategy for a system architecture capable of meeting today's public health infrastructure requirements for the State of New York.*

Such a plan would:

- *Inventory and quantify the various systems currently in place;*
- *Describe their functions;*
- *Quantify the resulting data and information gaps;*
- *Identify a set of system and user needs in order of priority.*

11. *The Federal and State governments standardize public health program indicators so that effectiveness can be measured, data and benefits communicated to a wide audience including researchers, and shifts in policy direction or service delivery appropriately made.*

12. *The NYS DOH and its academic partners collaborate to develop methods to teach public health evaluation methodologies to strengthen and increase the capacity at the State and LHD levels to undertake evaluations. Such evaluations are critical to understanding a program's effectiveness, to improving accountability and to communicating the value of public health to the public.*

XI. LONG TERM RECOMMENDATIONS

A. Public Health Work Force

To address the findings related to work force, the Work Group recommends that:

- 1. The Public Health Council monitor the national discussion about certification of the public health work force. This assessment of the possible role of certification should clarify the standard set of core competencies that should be used as a framework for hiring, for performance evaluation and for training by state and local health departments. A national recommendation for PH worker certification of basic competencies requires further study before implementation.*
- 2. The Public Health Council call on all members of the public health system to develop service obligated scholarship programs for students in Schools of Public Health, Nursing, Health Education and other fields linked to working in governmental public health agencies in NYS upon completion of training.*
- 3. The PHC, the NYS DOH and local health departments consider how to address long-term shortages in the public health work force based on projected future retirements of state and local staff.*
- 4. The NYS DOH and local health departments engage in a regular assessment and reporting of public health work force needs, supply, and projected vacancies based on normal levels of turnover, including those occasioned by retirement.*

B. Public Health Organizational Systems and Relationships

To address the findings related to organizational systems and relationships, the Work Group recommends that:

- 5. The NYS DOH, its academic partners and LHDs develop training for State and LHDs on how to build and sustain community partnerships. Based on these strategies and best practices, local health leaders must increasingly use coalitions and partnerships to execute their programs. Getting things done through regional, cooperative approaches such as those used to undertake bioterrorism planning is key. This model (the BT Grant) serves as a useful process for other community partnerships in the future.*
- 6. The NYS DOH, its academic partners and LHDs expand training to include targeted skills building for public health directors on leadership, coalition building, and notably on the art of effective communication, particularly to an increasingly culturally diverse community.*
- 7. The NYS DOH, its academic partners and LHDs implement training for public health staff on the new science of informatics and on data analysis techniques in order to support smart use of resources, set policy and determine priorities; alternatively, to properly document and communicate the consequences when resources are reduced or eliminated.*

C. Public Health Data and Information Systems

To address the findings related to data and information systems, the Work Group recommends that:

8. *The NYS DOH institute periodic and ongoing review of existing data systems and information technology resources (platform, software, databases, networks and users) at the state and local level to determine gaps and redundancies.*
9. *The NYS DOH, LHDs, and NYS OFT fund a “best practices” pilot in one county to demonstrate an ideal data and information system operation. It should specify and demonstrate integrated data collection using common intake, common database, common definitions, common data fields and standardized outcome indicators. Key health partners should have authorized access to the system through a secured user password network. This pilot should be undertaken in concert with a comprehensive strategic plan referenced in the priority recommendations.*
10. *The NYS DOH, LHDs, DHHS establish standardized, public health program outcome indicators (federal, state and local) so that effectiveness can be measured and benefits communicated when useful and appropriate; conversely so that shifts in policy direction or service delivery can be made.*
11. *NYS DOH develop, publish and monitor information technology “best practice” standards for individuals and contractors working with new or existing public health information systems in NYS.*
12. *NYSDOH continue its commitment to improve and provide continuous technical assistance and training on specific Information technology (IT) networks. These would include such systems as the Health Provider Network (HPN), the Health Information Network (HIN) and the Health Alert Network (HAN) for local health department (LHD) personnel and their community partners (local hospitals) for whom the HPN delivers particular benefit.*
13. *NYS DOH, OFT, LHDs schedule and carry out effective and efficient training and technical assistance to state and LHD staff to assure competence and currency with current technology and data analysis.*

XII. CONCLUSION

The current economic challenges facing governments throughout the nation makes the public health infrastructure assessment all the more timely. Continuous quality improvement requires periodic evaluation in order to identify gaps and provide appropriate solutions. The public health system must be responsive to new thinking, emerging issues, innovative solutions and smarter investments in its infrastructure. Leaders must continuously appraise and prioritize the opportunities and the threats to the population's health. Community partners must join in efforts to safeguard the population's safety and health beginning at the local level. All the assets of the infrastructure must demonstrate proficiency, competence and emergency readiness if the full public health system is to function well in ordinary and extraordinary times.

The public health system must be strengthened to meet today's emerging threats while still maintaining the traditional essential core services at community and state levels. The tensions existing in the system as a whole due to expanding challenges must be resolved. The Institute of Medicine has correctly identified the current dilemma as a potential conflict for society. They have observed that "*... health is part individual good served by medicine, part public health activities. Instead of complementary and collaborating systems, the two disciplines, their institutional cultures, their agencies and organizations, and the public's opinion of them, have often been deeply divergent, and the individual focus of one and the population focus of the other have become further reinforced and polarized.*"³⁵ Funding when weighed against documented needs and new priorities must be studied, quantified, and changed to sustain investments in public health.

Failure to renew the public health infrastructure to more effectively meet tomorrow's priorities will put communities at greater risk in a world where risks to good health have already risen to new levels.

³⁵ *Ibid.* p. 23

APPENDIX A

WORK FORCE SUBCOMMITTEE REPORT

Background

The public health work force is an essential element of the public health infrastructure. The public health work force is defined as “...those individuals responsible for providing essential public health services regardless of the organization in which they work and who are competent to perform public health functions and assure the delivery of essential public health services.”³⁶ A public health professional is defined as: “...a person educated in public health or a related discipline who is employed to improve health through a population focus.”³⁷ Because local health departments are seen as “the primary organizing and mobilizing forces for public health practice in most communities”³⁸ the committee conducted its assessment on the public health work force employed by local health departments in NYS.

Membership

- Kristine Gebbie, Dr. Ph., RN, Co-Chair, Director of Center for Health Policy, Columbia University School of Nursing
- Edward Salsberg, MPA, Co-Chair, Executive Director, Center for Health Workforce Studies, University at Albany School of Public Health
- Robert Denz, P.E., Director of Environmental Health, Broome County Health Department
- Claudine Jones-Rafferty, Center for Environmental Health, NYS DOH
- Bridget Walsh, President, NYS Public Health Association
- Sue Ellen Wagner and Trish McBreen, Healthcare Association of NYS
- Sylvia Pirani, MPH, Director Office of Local Health Services, NYSDOH
- Jean Moore, Deputy Director, Center for Health Workforce Studies, University at Albany School of Public Health

Objective

The objective of the *Work Force Subcommittee* was to assess the supply, distribution, recruitment, retention, training and competencies of the public health work force in local health departments. The ultimate goal was to understand the most compelling work force issues facing the local public health infrastructure in NYS and make recommendations for ways to overcome

³⁶All definitions are from “Concepts and Definitions” provided by Kristine Gebbie, Dr. PH, RN, Member of Public Health Infrastructure Work Group. Adapted from US Department of Health and Human Services. 2000. Healthy People 2010.

³⁷IOM, Future of the Public’s Health, 2003

³⁸ APHA, 2000

barriers and facilitate higher performance. From the broadest perspective, the subcommittee was concerned with work force capacity and capabilities in the context of contemporary public health challenges and emerging expectations. While the subcommittee focused its assessment on the local public health work force, findings and recommendations related to training may apply equally to the state public health work force.

Methodology

The *Subcommittee* undertook its assessment by examining statewide data and background on the state and local public health work force including the following:

1. *CDC National Public Health Performance Standards Program/New York, Versions 5B and 5C referencing data submitted May-November 2001.*
2. *“The Public Health Work Force Enumeration 2000” by HRSA and a NYS specific local health department enumeration conducted by DiManno, P., Pirani, S., Williams, D., Young, C. as part of the National Public Health Leadership Institute sponsored by the University of North Carolina and the Centers for Disease Control. See Attachment I for additional background on the local survey.*
3. *NYS Sanitary Code Part 11, which establishes minimum qualifications of public health personnel. The NYS Sanitary Code also requires continuing education training for public health sanitarians, but not for any other title.*
4. *Nationally developed core competencies for public health nurses, environmental health sanitarians and public health educators.*
5. *The committee also conducted a Telephone Survey of 5 local health departments representing the diverse urban, suburban and rural regions in NYS. The survey included questions about specific job titles including public health nurse, public health educator, sanitarian, epidemiologist and/or disease outbreak managers and public health physician. See Attachment II for survey instrument.*

Findings

CDC National Public Health Performance Standards Program Results:

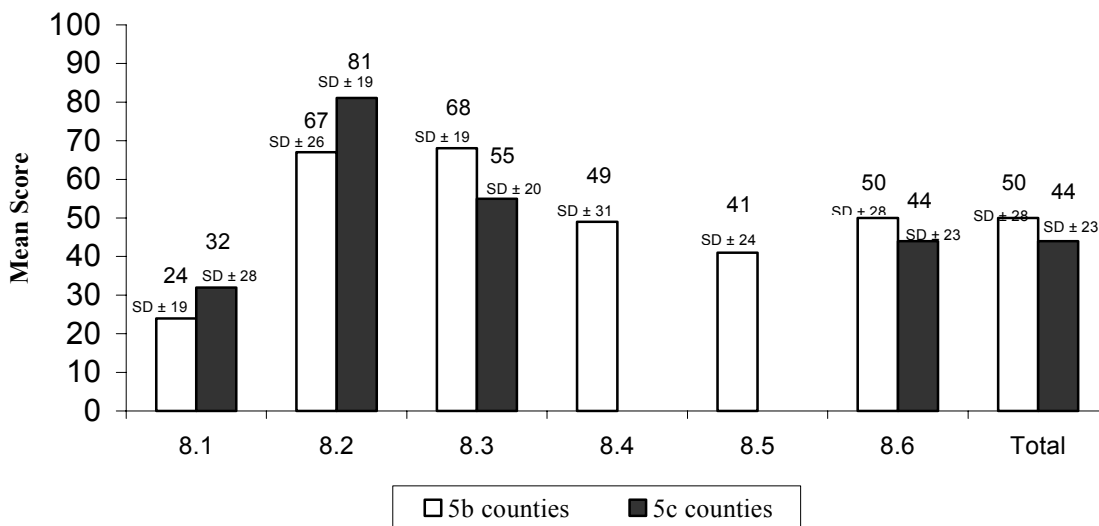
- LHDs in NYS participated in a field test of the CDC national public health performance standards from May - November 2001. The local health departments were asked to assess their performance in delivering all 10 public health essential services (see Section VII in the main report for further delineation). Of the participating counties, 49 LHDs completed survey instrument 5b that asked them to assess the performance of their local health department. Another 8 LHDs engaged community partners to assess the performance of their public health system.
- Central to this review was the assessment from the LHDs on how they performed Public Health Essential Service # 8: *Assure a Competent Public Health and Personal Health*

Care Workforce. The LHDs were asked to self evaluate the following aspects of work force development:

- 8.1 Workforce Assessment,
- 8.2 Workforce Standards,
- 8.3 Continuing Education,
- 8.4 Understanding Determinants of Health,
- 8.5 Cultural Competence,
- 8.6 Leadership Development

Figure1 shows that that the variability among scores was high, with the LHDs rating themselves the highest for developing public health workforce standards (question 8.2) and the lowest for conducting a work force assessment (question 8.1).

**Figure 1:
Essential Public Health Service # 8: Assure a competent Public Health and
Personal Health Care
Workforce**



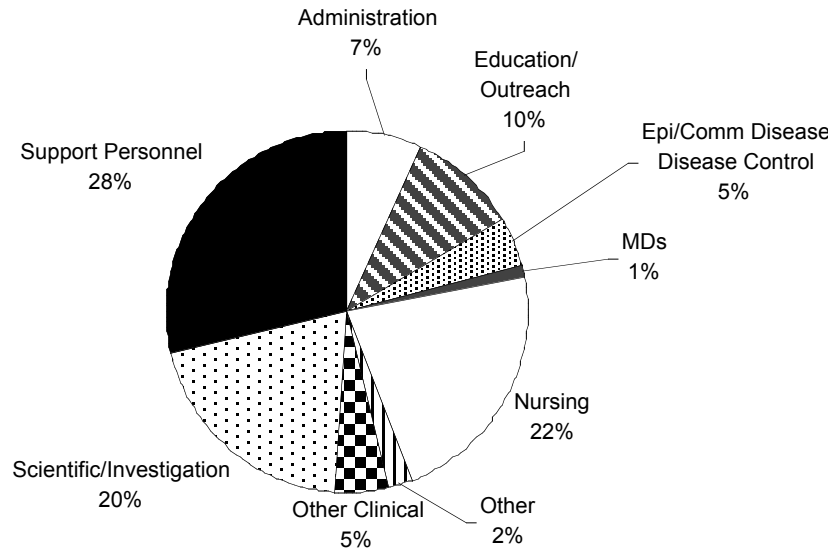
Source: CDC

Public Health Work Force Enumeration

Of the 11 million workers employed in the health sector in 2000, a national enumeration of the public health workforce estimated that over 448,000 of them were public health workers, by the broadest definition, i.e. individuals who provide one or more of the essential public health services, regardless of discipline or work setting. Using the same definition, the study found that New York State had approximately 18,700 public health workers or 73 workers per 100,000 population, compared to 158 per 100,000 for the entire country. New York was found to be in the lower third of states in public health workers per capita.³⁹

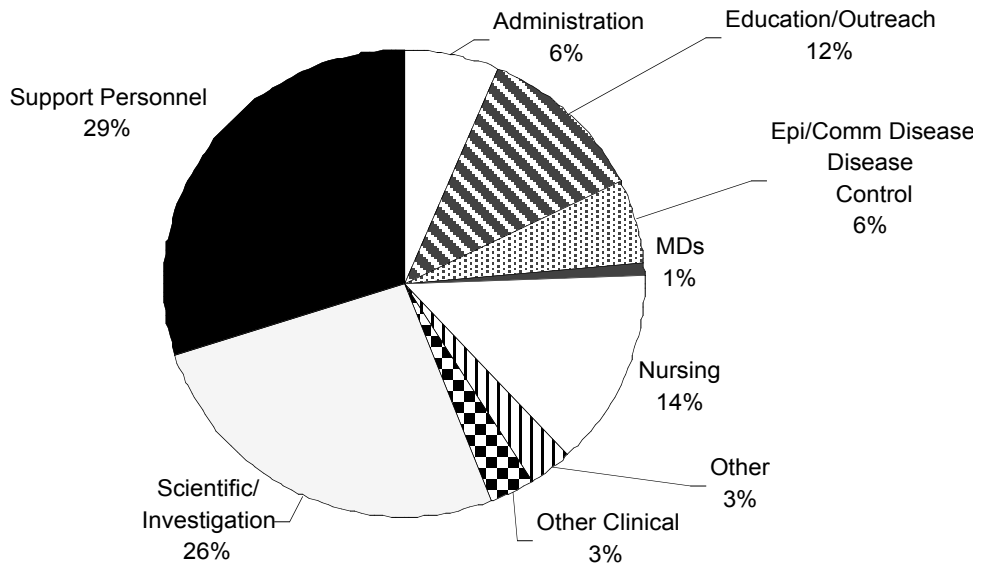
³⁹ U.S. Department of Health and Human Services, Health Resources and Services Administration. (2000a). *The Public Health Work Force: Enumeration 2000*. Washington, DC.

Figure 2
Total LHD FTEs in New York State, 2002
By Job/Occupational Category



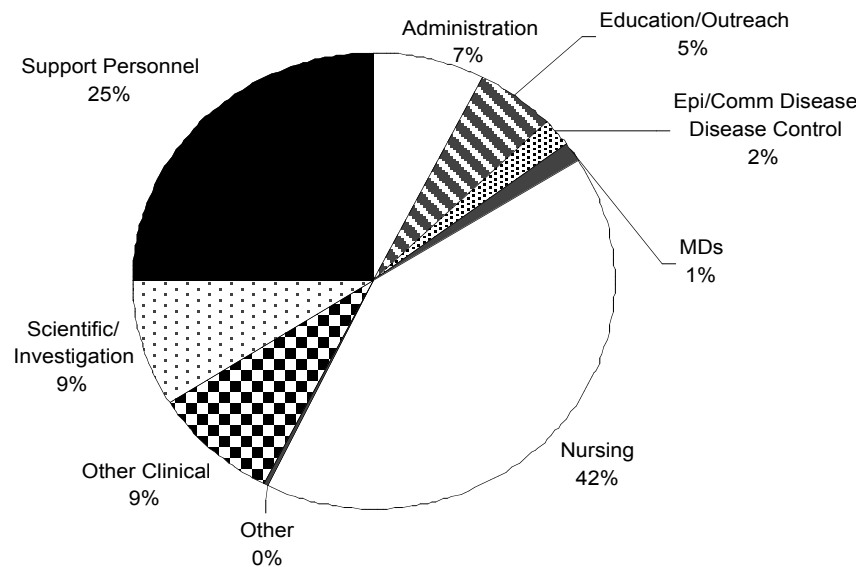
Source: 2000-01 Public Health Leadership Institute Project Survey

Figure 3
Total Urban Local Public Health Agency FTEs in New York State, 2002
By Job/Occupational Category



Source: 2001 Public Health Leadership Institute Project Survey

Figure 4
Total Rural Local Public Health Agency FTEs in New York State, 2002
By Job/Occupational Category



Source: 2001 Public Health Leadership Institute Project Survey

In 2002, it was estimated that more than 12,700 full time equivalent (FTE) public health workers were employed by the state and local health departments in New York State.⁴⁰ Of the total, nearly 57% worked in local health departments across the state while the remainder worked for the New York State Department of Health. A survey of local health departments conducted in 2001-02 provided in-depth data on the size and composition of their workforce and is detailed below.⁴¹

Geographic Distribution of the Workforce of Local Health Departments (LHDs) in NYS

Survey respondents reported approximately 7,270 FTE public health workers employed at LHDs across the state and nearly 69% of them worked in LHDs in urban counties. However, there were more public health workers per capita in LHDs in rural counties⁴² than in urban counties.

- There were nearly 5,000 FTE public health workers employed by local health departments in urban areas or 35.6⁴³ FTEs per 100,000 population.
- There were over 2,275 FTE public health workers employed by local health departments in rural areas or 76.2 FTEs per 100,000 population.

Composition of the Workforce of Local Health Departments in NYS

Survey respondents reported over 70 occupational titles in the LHD workforce. While there are certain differences between urban and rural counties in the configuration of their workforces, these differences may reflect the scope of services provided. Appendix I provides a list of these titles, grouped into nine occupational categories.

- While nurses represented 22% of the total LHD workforce, they accounted for 42% of FTEs in rural LHDs, but only 14% of FTEs in urban LHDs.
- Scientific/investigative staff comprised 20% of the total LHD work force. This included environmental health staff (i.e., engineers, sanitarians, and environmental technicians) who alone represented 15% of the total public health workforce. However, in the 21 counties where environmental health services is provided by the NYS Department of Health, environmental health staff are not employed by the LHD.
- Epidemiologists, communicable disease staff and disease control investigators represented 5% of the total LHD work force.
- Education/outreach staff comprised 10% of the total LHD workforce, while health educators who were included in this category were only 2% of the total LHD work force.
- Physicians⁴⁴ comprised 1% of the total LHD work force.
- Support personnel, including program aides, public health assistants and support staff, comprised nearly 28% of the total LHD workforce.

⁴⁰ Based on data provided by the New York State Department of Health and a survey of local health departments in New York State conducted by Peggy DiManno, Sylvia Pirani, Dwight Williams and Carol Young as part of a Public Health Leadership Institute Project.

⁴¹ Surveys were received from 54 of 58 LHDs, for a response rate of over 93%. Staff working exclusively for Early Intervention Programs or in Certified Home Health Agencies were not included in the enumeration.

⁴² Using the definition in NYS Public Health Law (a county with a total population of less than 200,000 is considered rural), there are 19 urban counties and 43 rural counties in New York State.

⁴³ Total FTEs and per capita calculations reflect only those counties that responded to the survey. No adjustment was made for non-respondents.

⁴⁴ Includes physicians in clinical titles only.

Telephone Survey Findings:

Recruitment and Retention

1. The LHDs surveyed identified budget constraints as the most significant barrier to adequate staffing. Lengthy hiring procedures also contributed to the problem.
2. Public health nurses, public health sanitarians and public health educators are the titles that pose recruitment difficulties, i.e. finding qualified candidates, particularly in rural areas.
3. The LHDs surveyed reported success with career ladders for public health nurses (PHNs) and sanitarians, i.e. recruiting RNs who pursue the required education to become PHNs and recruiting environmental technicians who would qualify to fill vacant sanitarian positions.
4. Some LHDs facing hiring difficulties for public health educators reported using staff in other titles to perform health education functions. These LHDs indicated that the minimum qualifications for public health educators in the State Sanitary Code were too narrow to enable them to recruit needed candidates for these positions.
5. While the LHDs surveyed reported good retention of their workforce, most are concerned with the aging of their workforce and future loss of staff through retirement.
6. The LHDs surveyed reported a variety of strategies to address their need for epidemiology services: the larger LHDs have epidemiologists on staff while the smaller LHDs recruit staff from other professions, such as RNs who receive additional training in epidemiology. The rural LHDs reported successfully using either state DOH regional epidemiology resources or those provided via a regional bioterrorism/epidemiology pilot project.
7. The larger LHDs surveyed were more likely to employ physicians for both administrative and clinical positions, while the smaller LHDs were more likely to contract with physicians to serve as clinical consultants.
8. Physicians in larger LHDs were more likely to have formal public health training than the physicians working in smaller LHDs.
9. Other titles identified as hard to recruit included home health aides.
10. The larger LHDs surveyed were more likely to have staff with formal public health training, usually working in program administration.

Competencies and Training

1. The LHDs surveyed all reported substantial need for continuing education, particularly in areas related to emerging public health issues.

2. Access to available training was constrained by limited resources, poorly designed training, competing priorities, and inaccessible times and locations.
3. The LHDs surveyed agreed that the environmental health course required of sanitarians was essential to assisting the staff to meet core competencies. From a broader perspective, the LHDs surveyed were in favor of adding additional training for key staff but concerns about unfunded mandates dampened their support for additional training requirements. They also reported that a national recommendation for PH worker certification of basic competencies requires further study before implementation.
4. While all LHDs surveyed reported linkages for training and recruitment with colleges and universities in their communities, not all reported a relationship with a School of Public Health.

Priority Recommendations:

Work Force Training: A statewide public health training task force should be convened in New York State including representatives from all schools of public health, the state and local health departments and other academic partners. This Task Force will consider issues of access, competency based training, leadership skills and public health career curricula at schools and colleges. It will develop specific initiatives that will:

- Support the development of accessible, competency-based training and continuing education programs that meet the needs of the state and local public health work force;
- Ensure that all state and local public health workers have an orientation to the key concepts of public health so that they have a basic understanding of the public health enterprise: its history, its focus on population health, its basis in legal authority, and the many disciplines involved;
- Address the need for focused training for public health leaders on leadership, community partnerships and coalition building, and risk communication and communication approaches to an increasingly culturally diverse community;
- Explore a public health leadership training scholarship program to facilitate participation by state and local leaders in the North East Public Health Leadership Institute or the National Public Health Leadership Institute;
- Develop partnerships with academic, public health and medical institutions that keep the focus on training professionals for employment in state and local health departments and support core curriculum that trains graduates for governmental public health careers;
- Promote attention to public health careers with public school systems and colleges/universities.

Work Force Recruitment: The Public Health Council should review the NYS Sanitary Code to ensure that job titles and minimum qualifications are appropriate to today's public health needs

and examine how the sanitary code qualifications and training requirements can be revised to support career ladders. Specifically, the Public Health Council should:

- Ensure that minimum qualifications are appropriate to today's public health needs and reflect current public health core functions and competencies;
- Examine how the state sanitary code qualifications for specific job titles (e.g. sanitarians, public health nurses, public health educators) can be revised to support career ladders and career mobility within local health departments while at the same time maintaining the standards needed for specific positions;
- Examine how changes to the state sanitary code could facilitate training while not posing additional resource burdens on local health departments.

Long Term Recommendations

- The Public Health Council (PHC) should monitor the national discussion about certification of the public health work force. This assessment of the possible role of certification should clarify the standard set of core competencies that should be used as a framework for hiring, for performance evaluation and for training by state and local health departments.
- The PHC should call on *all members of the public health system* to develop scholarship programs to increase the number of students graduating from schools of public health, nursing, health education and other fields who work in governmental public health agencies in NYS. The State should consider a scholarship program modeled on the National Health Service Corps to retire loans in return for service in the state or local health departments in NYS. Graduates could then be placed in parts of the state where staff shortages have been noted.
- The PHC, the NYS DOH and local health departments should consider how to address long-term shortages in the public health work force based on projected future retirements of state and local staff.
- The NYS DOH and local health departments should engage in a regular assessment and reporting of public health work force needs, supply, and projected vacancies based on normal levels of turnover, including those occasioned by retirement.

Attachment I
List of LHD Public Health Titles by Category

Category	Profession/Occupation	Category	Profession/Occupation
Administration	Admin/PH Leader	Other Clinical	Audiologist
	Dir. Weights & Measures		Clinic Aide
	Environmental Program Mgr.		Dental Staff
	Laboratory Supervisor		Forensic Attend
	Medical Service Analyst		Home Health Aide
	MERS Coordinator		Pharmacist
	Migrant Program Coordinator		Social Worker (MSW)
	Morgue Keeper		Radiology/x-ray
	PH Advisor		Social Worker Assistant
	Planner		Substance Abuse
	Program Coordinator	Scientific/ Investigation	Bacteriologist
	Project Manager		Biostatistician
	Staff Analyst		Bio-terrorism Staff
	Volunteer Coordinator		Engineer
Education/ Outreach	Community Health/Outreach	Environmental Specialist	
	EMS Instructor	Environmental Technician	
	Health Education	Industrial Hygienist	
	Lactation Consultant	Investigator	
	Nutritionist Aide	Laboratory Assistant	
	Nutritionist	Laboratory Technician	
	Public Health Representative	Laboratory Worker	
	Public Relations	Medical Investigation/Exam	
Epi/Disease Control	Comm. Disease Staff	Microbiologist	
	Dis. Control Investigator	Pest Control	
	Epidemiologist	Public Health Chemist	
MD	MD	Physicist	
Nursing	Nurse Practitioner/Specialist	Poison Information Specialist	
	Nurse	Research Scientist	
Other	Architect	Research Technician	
	Attorney	Sanitarian	
	Crime Analysis	Scientist	
	Dog Control	Toxicologist	
	Evidence Property Control	Support Personnel	Program Aide
	Graphic Artist		Public Health Assistant
	Medical Records		Support Staff
	Photographer		
	Plumber		
	Veterinarian		

Attachment II – Survey Instrument

I. LHD Programs

1. The attachment list shows the current programs that your agency provides, based on the NYSACHO survey and/or Municipal PH Service Plan. Please indicate on the Attachment which of the programs you provide directly or under contract or both.

II. Supply of Workers

2. The second attached list is the data on your workforce from a recent survey conducted by Peggy DiManno as part of a National Public Health Leadership Institute project. Does this accurately reflect the current staffing pattern at your agency? If not, please correct.

III. Specific Job Titles

3. We would like to know more about six specific job titles or occupations: public health nurse, all other registered nurse, public health physician, health educator, epidemiologist and disease control staff, and environmental sanitarian. Attachment III is a brief list of core functions and core competencies as defined by national professional organizations as well as NYS Sanitary Code requirements for these titles.

	Public Health Nurses	All Other Registered Nurses	Public Health Educators	Sanitarians	Epidemiologist/ Dx Outbreak Mgmt
1. a. Do you have a sufficient number of workers in this title to fulfill you MPHSP? b. If no, why not? ⁴⁵ (Select all that apply from the list below)	a. b.	a. b.	a. b.	a. b.	a. b.
2. What is your current vacancy rate ⁴⁶ in this title?					
3. What is average time to fill a vacancy in this title?					

⁴⁵ Reasons for insufficient number: (a) No/not enough budgeted lines (b) Cannot hire due to budgetary freeze; (c) Lack of qualified candidates; (d) Difficult to attract qualified candidates to this geographic area; (e) Pay and/or benefits not competitive; (f) Services or programs offered have recently expanded; (g) Sanitary code requirements limitations; (h) Other.

⁴⁶ Vacancy Rate = $\frac{\text{No. of vacancies}}{100 \times \text{No. of filled positions} + \text{No. of vacancies}}$

	Public Health Nurses	All Other Registered Nurses	Public Health Educators	Sanitarians	Epidemiologist/Dx Outbreak Mgmt
4. What is your annual turnover rate ⁴⁷ for this title?					
5. Do you expect many retirements or departures from this title? (many, some, or few)					
6. Do the workers in this title meet the minimal qualifications in the state sanitary code? ⁴⁸					
7. What are the top 5 training or continuing education needs for this title? Please indicate in rank order beginning with your most pressing need.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.
8. Are there sufficient training opportunities for this title?					
9. What resources are available to pay for training for this title?					
10. What kind of agency/ organization is best able to meet training needs for this title?					

⁴⁷ Turnover Rate = $\frac{\text{Total number of jobs}}{100 \times \text{Total Number of exits from an employer}}$

⁴⁸ See Attachment III for state sanitary code qualifications.

- 4a. Do you have a sufficient number of PH physicians to fulfill your MPHSP? If no, why not?⁴⁹ (Select all that apply from the list below).
- 4b. Do you employ or contract for PH physician services?
- 4c. What are the specialties of your PH physicians?
- 4d. What is the current vacancy rate⁵⁰ for PH physicians?
- 4e. What is your annual turnover rate⁵¹ for PH physicians?
- 4f. Do you expect many retirements or departures of PH physicians?
- 4g. What are the continuing education needs for PH physicians?
- 4h. Are there sufficient training opportunities for PH physicians?
- 4i. What resources are available to pay for training for PH physicians?
- 4j. What kind of agency/organization is best able to meet training needs of PH physicians?

IV. Other Public Health Titles

5. What are the other occupations that pose a significant recruitment and/or retention problem? Please indicate the occupation or job title, the vacancy rate, average time for fill the position, and the reason(s) it is difficult to recruit or retain individuals in these occupations. Use Attachment II to complete this question.

V. General Training Issues

6. In general, are there sufficient, accessible training opportunities available for your staff?
- 7a. Is your county familiar with the training or continuing education resources available from
- SUNY Albany SPH?
 - Columbia University SPH?
 - SUNY Buffalo SPH?

⁴⁹ Reasons for insufficient number: (a) No/not enough budgeted lines (b) Cannot hire due to budgetary freeze; (c) Lack of qualified candidates; (d) Difficult to attract qualified candidates to this geographic area; (e) Pay and/or benefits not competitive; (f) Services or programs offered have recently expanded; (g) Sanitary code requirements limitations; (h) Other.

⁵⁰ Vacancy Rate = $\frac{\text{No. of vacancies}}{100 \times \text{No. of filled positions} + \text{No. of vacancies}}$

⁵¹ Turnover Rate = $\frac{\text{Total number of jobs}}{100 \times \text{Total number of exits from employer}}$

➤ New York Medical College SPH?

- 7b. Are there other schools or programs your county has used? If yes, please identify.
8. Would state training requirements help to ensure staff was adequately trained? Please explain.
9. Is it important to your county to recruit graduates from MPH programs or encourage your staff to obtain MPHs?
10. Would a credentialing program for specific Public Health titles be helpful? Which titles?
11. What are the barriers to obtaining adequate training/continuing education for your staff?
- | | |
|--|--|
| <input type="checkbox"/> No budget supporting training | <input type="checkbox"/> Geographic inaccessibility |
| <input type="checkbox"/> Staff disinterest | <input type="checkbox"/> Supervisor disinterest |
| <input type="checkbox"/> Not valued | <input type="checkbox"/> Available training does not improve job performance |
| <input type="checkbox"/> Other _____ | |
- 12a. Is there a need to provide upgrading or promotional opportunities for staff in certain public health titles or occupations? If yes, which ones?
- 12b. Is the county engaging in succession planning? If yes, for which titles or occupations?

VI. General Issues related to Work Force

13. What can schools of public health and/or other academic institutions do to assist you to address your work force issues?
14. What can the SDOH do?
15. What can the Public Health Council do?

APPENDIX B

ORGANIZATIONAL SYSTEMS AND RELATIONSHIP SUBCOMMITTEE REPORT

Background

The public health system is defined as that “community of interest” comprised of state and local professionals from the public, private and voluntary sectors who protect the public’s health by preventing disease and promoting health. In a broad sense, the *Organizational Systems and Relationships* Subcommittee sought to assess the ability of the public health infrastructure, including governmental agencies and their community partners, to fulfill this role at the state and local levels. It did *not* seek a “best practices” model per se although its review included assessing the conditions or attributes that contribute to best practices and high performance. The Subcommittee was specifically concerned with identifying those assets that are critical to the successful function of public health organizations. In addition, the Subcommittee wanted to better understand and document the determinants of and barriers to quality and effectiveness for the public health delivery systems.

Membership

- Jo Ivey Boufford, MD, Professor, Wagner School of Public Service, New York University
- Joan Ellison, RN, MPH, Co- Chair, Chairman Work Group, Public Health Council member; Public Health Director, Livingston County
- Paul Halverson, Dr.Ph, Co-Chair, Senior Scientist and Director, Division of Public Health Systems Development and Research, Centers for Disease Control and Prevention
- Karen Hein, MD, President, William T. Grant Foundation
- Peter Levin, Sc.D., Dean, NY School of Public Health
- Benjamin Mojica, MD, MPH, Vice President, New York City Health and Hospitals Corporation
- Ana Olivera, Executive Director, Gay Men’s Health Crisis, Inc.
- Isaac Weisfuse, MD, MPH, Deputy Commissioner, NYC Department of Health and Mental Hygiene

Objectives

- To evaluate the key factors that contribute to operational effectiveness;
- To identify gaps in local or state resources;
- To identify the extent to which State and Local Health Departments (LHDs) are engaging partners and communities;
- To identify emerging or critical needs;
- To document barriers to success;
- To acknowledge new initiatives and opportunities for improved performance; and, if appropriate,
- To seek out best practice *attributes* that might be replicated elsewhere.

Methodology

The *Organizational Systems and Relationship Subcommittee* reviewed prior reports on the organizational structure and authority of public health, its private and public partnerships and its leadership challenges. These included:

1. Background information of the public health systems in NYS and agencies;
2. Information on state funding for LHDs; and
3. Updates on community health partnerships.

The *Subcommittee* directed particular attention to issues of resource adequacy, work force competence and system robustness, all of which contribute to a successful, well- integrated public health delivery system. In particular, the Subcommittee considered what barriers constrain performance, what organizational strengths hallmark success and what recommendations for improvement can be offered.

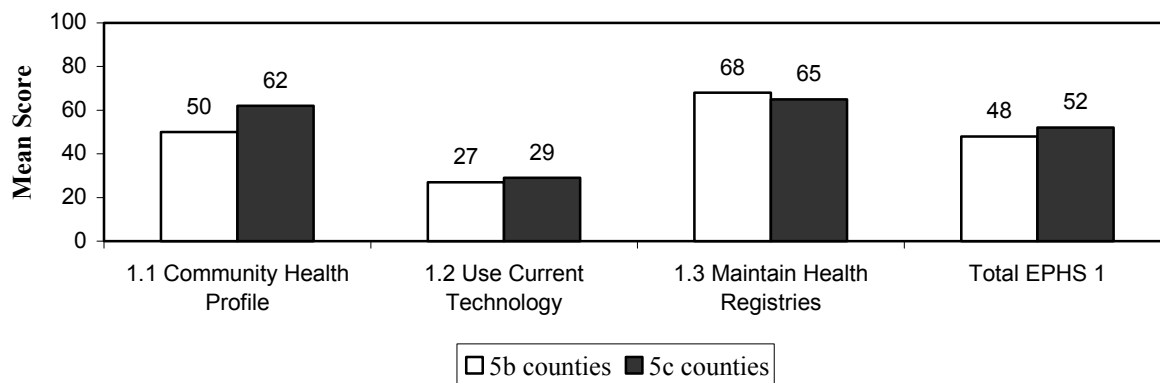
To organize their assessment, the *Subcommittee* framed their review based on the *National Public Health Performance Standards Program/New York* (NPHPSP) recently completed by the Centers for Disease Control and Prevention (CDC). This study asked all New York State counties to complete a self-assessment on performance within the 10 Public Health Essential Services. The CDC analyzed the data for each essential service, producing individual county and state average scores.

In choosing the CDC's NPHPSP evaluation, the *Subcommittee* concentrated on four essential public health services which in Version 5b and 5c had average local public health assessment scores below the *Overall New York Average Score* (N=64). The *Subcommittee* chose one more essential public health service (#2: *Plan for Emergencies*) to satisfy efforts being undertaken in the critical area of emergency preparedness.. (Please see Section VII in the full report for more information on the NPHPSP self-assessment by New York State Local Health Departments.) The five areas of essential service focus for this subcommittee were:

- **Essential Service # 1: Monitor Health Status to Identify Community Health Problems -** (average LPH Scores of 48 and 52)

Figure 1

EPHS 1: Monitor Health Status



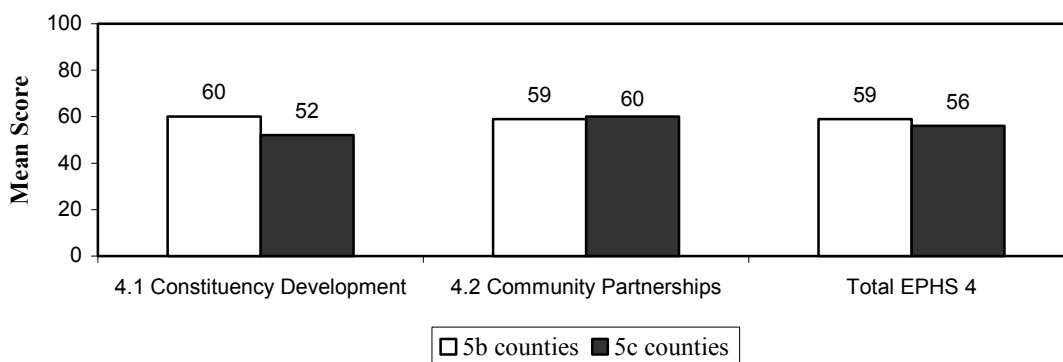
Source: CDC

As seen in **Figure 1**, counties had low scores for *Monitoring Health Status* as compared to the overall State average for all ten essential services of 64. Use of current technology was identified as a problem area.

- **Essential Service # 4: Mobilize Community Partnerships to Identify and Solve Health Problems -** (average LPH scores of 59 and 56)

Figure 2

EPHS 4: Mobilize Community Partnerships



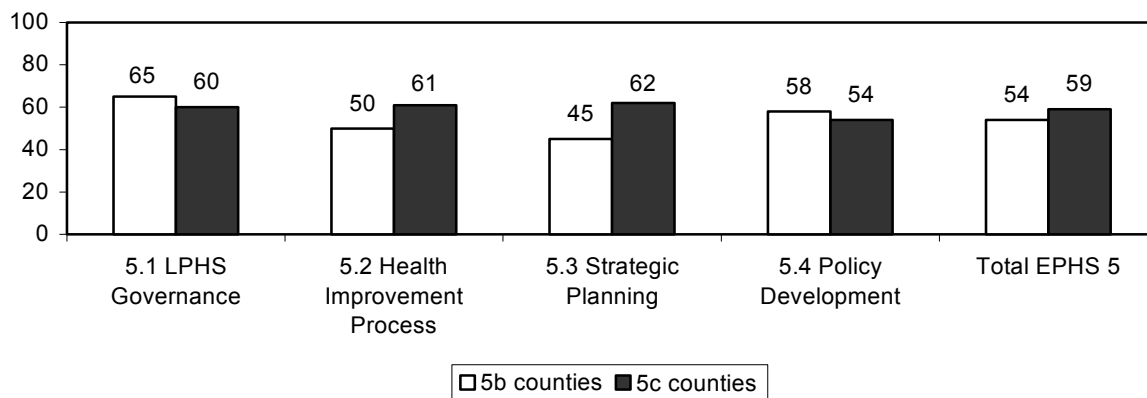
Source: CDC

Results for EPHS 4: *Mobilize Community Partnerships* fall just below the average for all essential services. Similar scores were given for *Constituency Development* (60, 52) and *Community Partnerships* (59, 60).

- **Essential Service # 5: Develop Policies and Plans that Support Individual and Community Health** – (average LPH scores of 54 and 59)

Figure 3

EPHS 5: Develop Policies and Plans



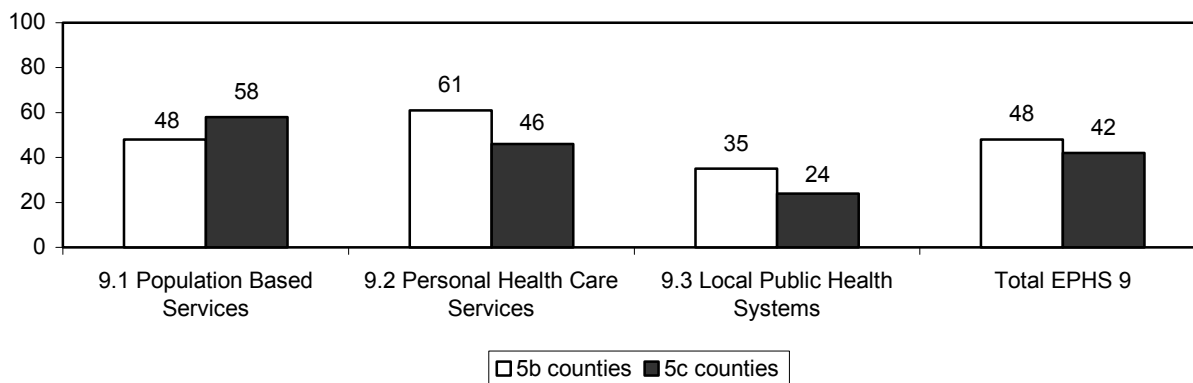
Source: CDC

Local health department responses for EPHS 5: *Develop Policies and Plans* show similar scores across the focus subcategories. All scores were slightly below the overall state average.

- **Essential Service # 9: Evaluate Effectiveness, Accessibility, and Quality of Personal and Population- Based Health Services** – (average LPH scores of 48 and 42)

Figure 4

EPHS 9: Evaluate Effectiveness

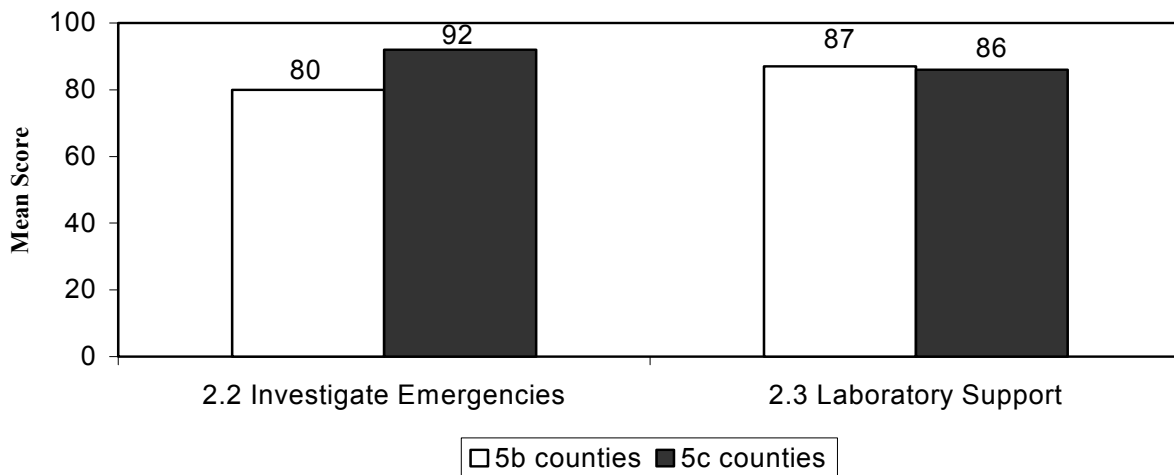


Source: CDC

As seen in **Figure 4**, counties had low scores for EPHS 9: *Evaluate Effectiveness*. Evaluation of local public health systems was identified as especially problematic (35, 24).

- **Essential Service # 2.2, 2.3: Plan For, Investigate and Respond to Public Health Emergencies: Investigate Emergencies and Laboratory Support** - (average LPH scores of 80 and 92; 87and 86)

Figure 5
EPHS 2.2,2.3: Plan for Emergencies



Source: CDC

County responses for both *Investigating Emergencies* and *Laboratory Support* were well above the overall state average for all essential services.

Subcommittee Interview Survey Instrument

The *Subcommittee* developed a set of questions related to these essential service categories and interviewed representatives of 5 local health departments. The questions were e-mailed in advance of scheduled telephone interviews. The participating counties were chosen to reflect a reasonable cross section of New York State: 2 urban counties, 2 rural counties and 1 suburban county. Only the suburban county was a less than full service county, that is, they do not directly deliver environmental health services. The other 4 counties are full health departments. Three counties participated in the call as teams of two or three professionals. Two interviews were conducted with only one respondent. One county submitted written answers to the questions and then participated in a follow up telephone interview to expand or clarify the answers. A listing of the questions is presented as an Attachment to this report.

Major Findings

In many circumstances, the size and character of a county (rural versus urban, full versus partial service) may impact how effectively a local health department carries out its responsibilities. Certain organizational needs appeared in varying degrees across all county responses however, striking themes that were common to all. Among the determinants of a successful public health system was strong leadership, good communication skills that can build and sustain partnerships and evidence based decisions on policy development and resource allocation. To consider needs, however, there were concerns/ gaps noted in the following areas:

1. Leadership and Communication

- Leadership is key for public health effectiveness, particularly in settings where the knowledge and understanding of public health may not be current or where other concerns distract. So too is persuasive communication. Not all participants felt they possessed the requisite skill set to successfully meet opposing viewpoints or overcome competing agendas in their local communities;
- Success in building and sustaining coalitions was cited by all interviewees as critical to effective public health system performance no matter the county size, character or funding. Crisis events were mobilizing and demonstrated the benefits of synergy and effective action when concerns were commonly held. Keeping a community coalition committed for the longer term was still a challenge however. Regional networks were emerging as hopeful organizational structures for collective action;
- County governments, legislatures and boards of health can facilitate or impede LHD efforts with support for or resistance to new policy and program initiatives. Plans to respond to bioterrorism were embraced uniformly, for example, and met with no resistance. On the other hand, efforts to restrict or proscribe the sale or use of tobacco can often meet with opposition.

2. Regional Networks and Partnerships

- All responders acknowledged that emerging regional networks (rural or otherwise), partnerships with local academic institutions or other collaborations were critical to amassing the necessary resources to meet new challenges. Moreover, all counties commented positively on their BT grant experience. They believe this inclusive approach to plan and execute public health initiatives is an emerging process model to be used more broadly by public health to secure community wide commitment;
- All responders acknowledged that regional networks (rural or otherwise), partnerships with local academic institutions or other collaborations were critical to amassing the necessary resources to meet new challenges; moreover, all counties commented positively on their BT grant experience. They believe this process is an emerging model to be used more broadly by public health to secure community wide commitment;

3. Evaluation and Outcome Analysis

In spite of an acknowledged absence of expertise in evaluation methods to provide evidence-based outcome analysis, many counties interviewed recognize how central data interpretation is to effective system management. Counties understand that policies are informed by data analysis. They appreciate the degree to which priorities could be better set if data validated management choices. Importantly they know the advantages good information can bring to coalition building. While all counties want to demonstrate service efficacy, it can be a challenge to communicate objective benefits. Specifically they cited the need for:

- The development of policies and priorities that flow from objective analyses of program performance; this is particularly necessary in the face of competing needs and finite

resources. All too often, they are instead shaped or informed by anecdotal information rather than careful data interpretation;

- Expertise in epidemiological analysis, surveillance monitoring, data analysis and evaluation methods for public health professionals and counties. Specific data related gaps include:
 - a. An absence of standardized outcome indicators uniformly set for all federal, state and local programs;
 - b. No sub-county, geo-coded (zip code level) data with which to track progress in areas where interventions were applied;
 - c. Too few standardized conventions and definitions that would facilitate linkage across multiple databases;
 - d. A perceived low value ascribed to data analysis on the part of some public health professionals in the field.
- The larger, better funded counties are making progress in quantifying the benefit of public health services through outcome measurements and evidence based assessments; they are doing this with local partners better equipped to undertake such assessments such as universities, medical schools and schools of public health. Some enjoy a county level leadership that recognizes the importance of good data analysis to support decisions and compel appropriate action.

Recommendations

In consideration of these findings, the *Organizational Systems and Relationship Subcommittee* makes the following recommendations:

Essential Public Health Service # 1 and 2.2, 2.3

- Innovative means must be sought to motivate different organizations in a community to work together to achieve their common public health goals. Incentives should be considered which promote partnerships, inspire leadership, build a common purpose and create synergistic organizations.
- The New York State Department of Health (NYSDOH) and its academic partners should creatively use and make available to counties expert resources organized by and available in the disciplines of disease surveillance, epidemiological analysis, behavioral science, environmental health, social marketing, community organizing and public health administration. This need is particularly acute for counties that lack the resources to purchase or leverage such services independently.
- NYSDOH should continue its commitment to improve and provide continuous technical assistance and training on specific Information Technology (IT) networks. These would include such systems as the Health Provider Network (HPN), the Health Information Network (HIN) and the Health Alert Network (HAN) for local health department (LHD) personnel and their community partners (local hospitals) for whom the HPN delivers particular benefit.

Essential Public Health Service # 4 and # 5

- To the degree possible, the pooling of government and other community assets must be effected, whether through regional collaborations, academic partnerships or through addressing governance and statutory issues which may present barriers to optimizing organizational capacity. Successful initiatives cited by all county interviewees came as a result of strong collaborative efforts that transcended traditional silo organizational approaches.
- Training should be developed to teach State and LHD professionals how to develop and sustain community partnerships. Based on these strategies and best practices, local health leaders must increasingly use coalitions and partnerships to execute their programs. Getting things done through regional, cooperative approaches such as those used to undertake bioterrorism planning is key. This model (BT Grant) serves as a useful process for other community partnerships in the future.
- Training needs to expand to include targeted skills building for public health directors on leadership, coalition building, and notably on the art of effective communication, particularly to an increasingly culturally diverse community.

Essential Public Health Service # 9

Allocating resources to the populations of highest need with interventions that demonstrate the greatest benefit will increase as a strategy as the population becomes more diverse and presents with additional needs. Evaluation and outcome analysis must be a key determinant in public health policy and program development.

- There must be greater commitment to the ongoing evaluation of programs and services throughout the public health system (local and state level) to provide (1.) for accountability and (2.) the basis for continuing improvement in system effectiveness and/or efficiency;
- There must be training on the new science of informatics and on data analysis techniques in order to support smart use of resources, set policy and determine priorities; alternatively, to properly document and communicate the consequences when resources are reduced or eliminated;
- There must be a more effective outreach to LHD professionals to support their use of self appraisal and other evaluation applications and to strengthen the capacity at the LHD to undertake such disciplines with consistency;
- There must be standardization of public health program outcome indicators (federal, state and local) so that effectiveness can be measured and benefits communicated when useful and appropriate; conversely so that shifts in policy direction or service delivery can be made.

Attachment I: Telephone Interview Questions

Essential Public Health Service # 1: *Monitor Health Status to Identify Community Health Problems*

1. *How would you describe the strengths of your department that allowed you to achieve this level of success?*
2. *If you had a wish list for training, related to ES#1, what would that include?*
3. *How frequently is the community health assessment conducted?*
4. *How does the county generate a community health assessment?*
5. *Were past community health assessments or current ones done by the department or did you engage community partners?*
6. *Do you have an existing community partnership/coalition?*
7. *How does the county disseminate the information in the community health profile to the community?*
8. *How does the county use the community health profile in planning for public health and other services?*
9. *Can you point to an outcome you are especially pleased with that illustrates your proficiency in ES#1?*

Essential Public Health Service # 4: *Mobilize Community Partnerships to Identify and Solve Health Problems*

1. *How would you describe the strengths of your department that allowed you to achieve this level of success?*
2. *What are the barriers facing staff when carrying out ES#4?*
3. *If you had a wish list for training, related to ES#4, what would that include?*
4. *How did you mobilize partners to solve health problems?*
5. *Can you point to an outcome that illustrates your proficiency in ES#4?*

Essential Public Health Service # 5: *Develop Policies and Plans that Support Individual and Community Health Efforts*

1. *How do policies and plans that support individual and community health efforts come to exist?*
2. *What is the local governing structure?*
3. *What barriers might you have encountered that you feel hindered your progress?*
4. *Can you point to an outcome you are especially pleased with that illustrates your proficiency in ES#5?*

Essential Public Health Service # 9: – Evaluate Effectiveness, Accessibility, and Quality of Personal and Population- Based Health Services

1. *Describe the barriers facing staff when carrying out ES#9?*
2. *If you had a wish list for training, related to ES#9, what would that include?*
3. *How does the country establish criteria for evaluation of personal and population-based health services?*
4. *Can you point to an outcome you are especially pleased with that illustrates your proficiency in ES#9?*

Essential Public Health Services # 2.2, 2.3: Plan For, Investigate and Respond to Public Health Emergencies: Investigate Emergencies and Laboratory Support

1. *What enhanced or prevented your ability to monitor for rapid detection and do a hazard assessment?*
2. *How would you describe the strengths of your department that allowed you to achieve this level of success at the time of the CDC National Performance Standards survey?*
3. *Describe barriers facing staff when carrying out ES # 2.2, 2.3?*
4. *If you had a wish list for training, related to ES # 2.2, 2.3, what would that include?*
5. *What has changed?*

APPENDIX C

DATA AND INFORMATION SUBCOMMITTEE REPORT

Background

Data and information are essential aspects of the public health infrastructure. The *Data and Information Subcommittee* defined data and information as “...knowledge about health status, health resources and threats to health, specific to the jurisdiction or community of interest, e.g. health statistics and reportable diseases, environmental monitoring, health services statistics, community resources inventories.”⁵² They also agreed on the following *Healthy People 2010* principles:

*“Public health data must be accessible, accurate, timely and clearly stated; information systems must be linked with other data systems, and must be linked with and integrated at the Federal, State and Local levels.”*⁵³

Membership

- Andrew Doniger, M.D., Chair, Commissioner of Health, Monroe County Department of Health
- Steven Jennings, Health Planner, Jefferson County Department of Health, and member of the New York State Public Health Council
- Edward Reinfurt, Vice President, New York State Business Council
- Michael Medvesky, MPH, Director Public Health Information Group, NYSDOH

Objective

The goal of the subcommittee was to assess the capability of data and information systems utilized to meet the public health core functions of assurance, assessment and policy development. Further, the committee sought to identify gaps and to recommend opportunities to strengthen the system. They were guided by a primary vision: *Each state and local health department and partner organization will be able to electronically access, analyze and distribute up-to-date public health information and emergency health alerts, monitor the health of communities, and assist in the detection of public health problems.*

Methodology

The *Data and Information Subcommittee* reviewed existing materials relevant to data availability, access, and the information system infrastructure. They also convened a Focus Group of local health department leaders to learn their views first hand on how to improve the data and information infrastructure. Certain published reports were reviewed including:

⁵² Adapted from “Concepts and Definitions” developed by the Work Group by Kristine Gebbie, Dr.PH, RN and Healthy People 2010

⁵³ Healthy People 2010

1. *The CDC National Public Health System Performance Standards Program/New York, Versions 5b and 5c* referencing data submitted May-November 2001;
2. *The Department of Justice/CDC Public Health Performance Assessment of Emergency Preparedness State-wide Preliminary Results* from December 14, 2001;
3. *The New York State Department of Health (NYSDOH) and New York State Association of County Health Officers (NYSACHO) Spring 2002 County Connectivity Survey; and*
4. *Results from a local health department Focus Group session* held in February 2003.

Findings

Three recent assessments conducted to evaluate performance and conformance with essential public health services, emergency preparedness, access to IT hardware and software as well as overall IT capability had been carried out over the past two years. The *Subcommittee* was informed by the results of each assessment as presented on the following pages.

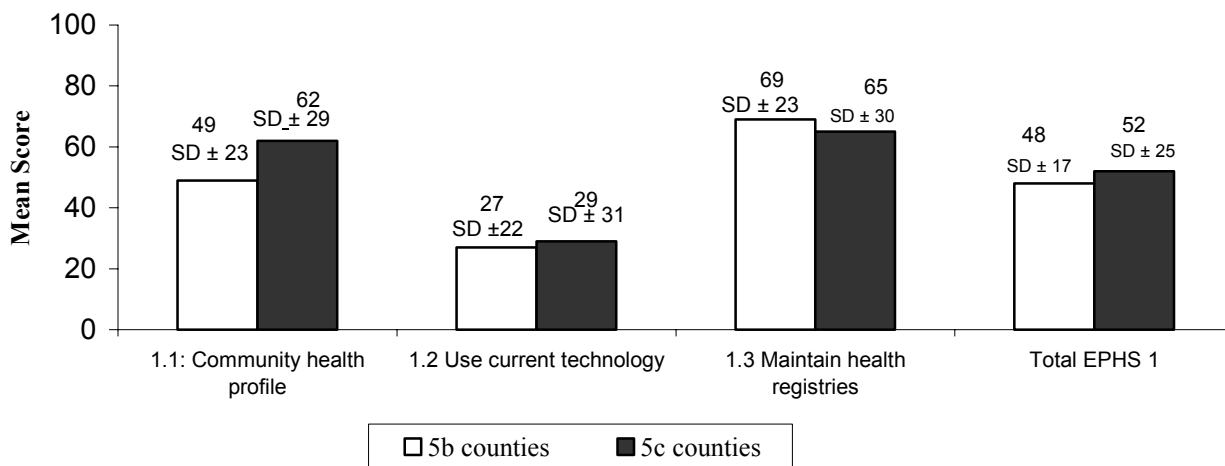
1. The CDC National Public Health Performance Standards Program (NPHPSP) Versions 5b and 5c, May -November 2001.

The NPHPSP was established in 1998 to improve the practice of public health, the performance of public health systems, and the infrastructure supporting public health activities. The NPHPSP developed a series of performance standards based on the ten essential public health services as delineated in *Public Health in America*, 1994. New York State local health departments participated and utilized Local Public Health System Performance Instruments Version 5b (county answers alone; N=49) and 5c (county answers with community partners; N=8). The *Data and Information Subcommittee* reviewed county responses for Essential Services #1 and #2 reviewed below.

- **Essential Public Health Service #1: Monitor Health Statistics to Identify Community Health Problems**

- 1.1 Population-based community health profile;
- 1.2 Access to and utilization of current technology;
- 1.3 Maintenance of population health registries.

**Figure 1
EPHS 1: Monitor Health Status**

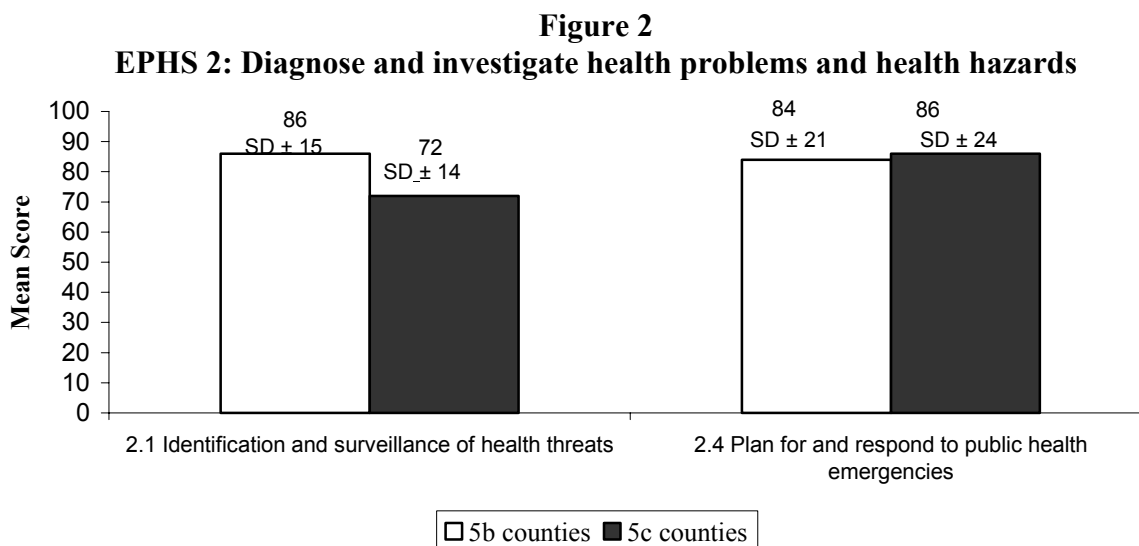


Source: CDC

As seen in **Figure 1** above, counties have generally low scores for EPHS#1, Monitor Health Status, as compared to the overall state average for all ten essential services of 64. The overall mean score for 5b counties was 48 with a standard deviation (SD) of ± 17 . For the 5c counties, their mean score was 52 with a SD of ± 25 . The range of scores for all counties was 0 to 93. Counties scored higher on developing community health profiles (Version 5b: 49 ± 23 ; Version 5c: 62 ± 29) and maintaining health registries (Version 5b: 69 ± 23 ; Version 5c: 65 ± 30), but lower on using current technology (Version 5b: 27 ± 22 ; Version 5c: 29 ± 31).

- **Essential Public Health Service # 2 – Diagnose and Investigate Health Problems and Health Hazards**

- 2.1. Identification and surveillance of health threats; and
- 2.2. Plan for and respond to public health emergencies.



Source: CDC

County responses for Essential Public Health Service #2: *Diagnose and Investigate Health Problems and Health Hazards* are presented above in **Figure 2**.

The mean scores for identification and surveillance of health threats was 86 ± 15 for Version 5b counties and 72 ± 14 for Version 5c counties. The range of scores for all counties was 34 to 100. Regarding planning for and responding to public health emergencies, Version 5b counties had a mean score of 84 with a SD of ± 21 , and Version 5c counties with a score of 86 and a SD of ± 24 . The range was 0 (one county) to 100 (21 counties).

Results from this study present generally lower scores for local health departments for Essential Public Health Service #1: *Monitor Health Statistics to Identify Community Health Problems* compared to the State average for all essential services. On the other hand, counties felt more confident in meeting Essential Public Health Service #2: *Diagnose and Investigate Health Problems and Health Hazards*. Compared to EPHS #1, the mean scores were higher for both the identification and surveillance of health threats and the planning for, and responding to, public health emergencies.

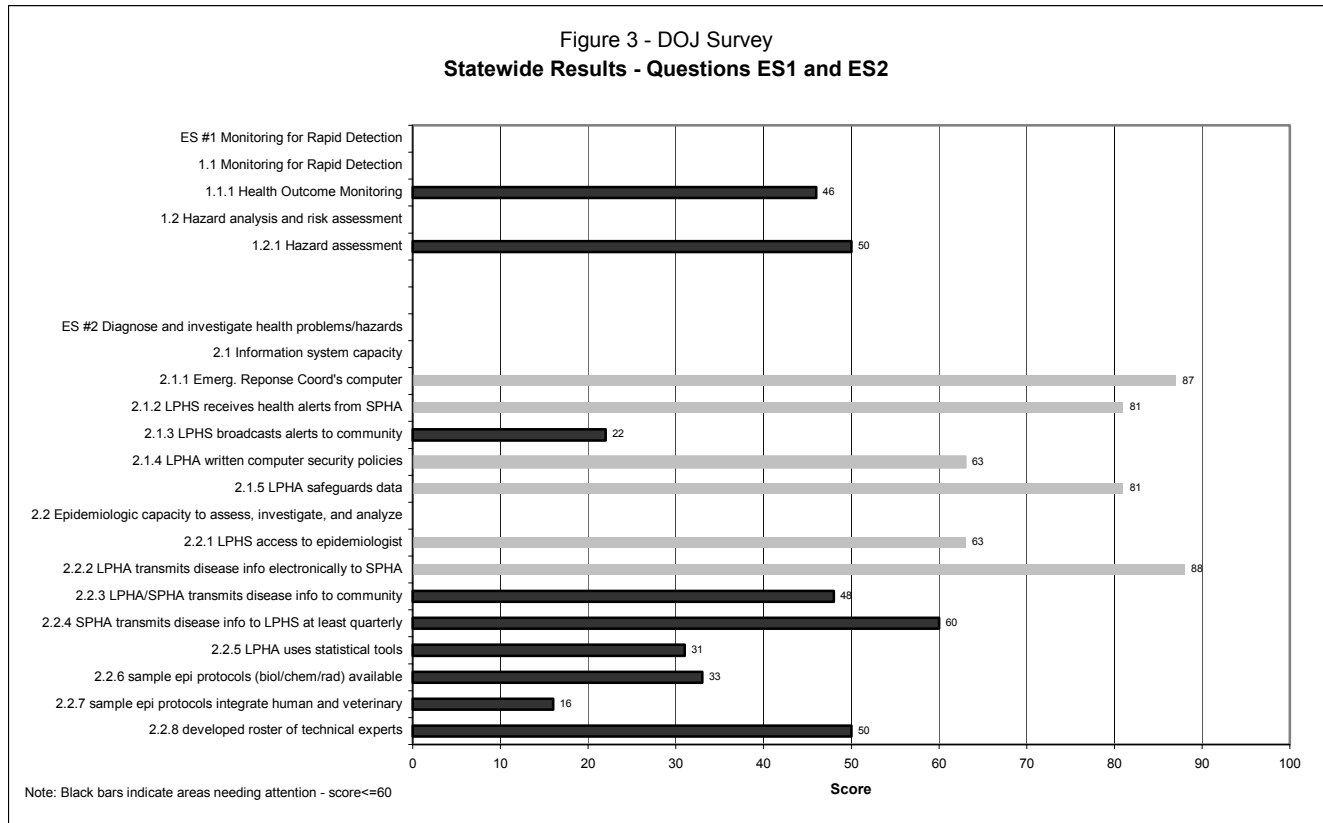
The *Subcommittee* discussed survey limitations with the *CDC National Public Health Performance Standards Program*. The Version 5b counties “self assessed” their public health performance, and some engaged community members in completing the surveys, i.e. some Version 5b counties followed Version 5c process. Therefore it is difficult to make cross-county comparisons. Some Version 5c counties stated that the survey scores might have changed had different community members been able to participate. This would affect the comparability of the scores among counties.

2. The Department of Justice/CDC Public Health System Performance Assessment of Emergency Preparedness, New York State, December 2001.

A summary report from DOJ/CDC assessing the emergency preparedness of New York State counties as of December 2001 was shared with the Subcommittee. The information collected was modified from the ten essential public health services. The Subcommittee had access only to summary data; neither the actual data collection methodology nor a copy of the survey instrument was available.

Results from the *DOJ Survey on Emergency Preparedness* regarding questions on the modified Essential Public Health Services # 1 and Essential Public Health Services # 2 are presented in **Figure 3** below.

Figure 3
DOJ Survey on Emergency Preparedness
Statewide Results – Questions EPHS#1 and EPHS#2



Source: DOJ Survey

In summary, local health departments (LHDs) responded favorably to the following questions:

- Emergency coordinators access to computers (mean=87)
- LHDs receiving health alerts from the State Department of Health (DOH) (mean=81)
- LHDs having written computer security policies (mean=63)

- LHDs safeguarding data (mean=81)
- LHDs having access to epidemiologist (mean=63)

Conversely, the report identified areas needing immediate attention, as defined by the authors as having scores presenting a mean of <60. These included the following essential service deficits:

- Health outcome monitoring (mean=46)
- Hazard assessment (mean=50)
- LHD broadcast alerts to community (mean=22)
- LHD or school health departments (SHD) transmit disease info to community (mean=48)
- LHD uses statistical tools (mean=31)
- Sample epidemiology protocols (biological/chemical/radiological) available (mean=33)
- Sample epidemiology protocols integrating human and veterinary (mean=16)
- Develop roster of technical experts (mean=50)

Rural counties were more limited in their ability to use statistical tools, epidemiology protocols or to access technical expertise although these services are often provided to rural counties by the New York State Department of Health. Interpretation of the data from this study was influenced by the realization that substantial progress had been made in emergency preparedness in the intervening months since December 2001. The February 2003 Focus Group validated this progress with their own experiences and commentary.

3. NYSDOH/New York State Association of County Health Officials Spring 2002 “County Connectivity” Survey.

The Survey revealed that for the reporting LHDs (43 of 57 surveyed) all had e-mail access and all but one had Internet access. However only 18.6% of the reporting counties indicated that they had backup or redundant Internet access, and a small percentage (12%) indicated that they did not have a firewall protecting their local area computer network (LAN) from the Internet. Twenty two percent of the counties commented that their Internet access was either sluggish or unreliable. The vast majority (92%) of counties had no problem with access to the HIN/HAN. This survey was conducted prior to the distribution of resources from the CDC Bioterrorism Grant, and many counties have improved their connectivity using these funds. Recent follow-up information collected by DOH during early 2003 indicates improvement in county connectivity. Backup on redundant Internet access improved from 18.6% to 60% and all but 3 counties now have “dedicated” Internet access. In addition, the follow-up survey indicated 77% (44 of 57) of the counties have cellular devices capable of receiving text alerts and 58% (33 of 57) now have video conferencing capability. The DOH/local health department goal is that by August 31, 2003 all counties will have:

- a) “dedicated” Internet access;
- b) backup or redundant Internet access;
- c) a non-Internet method of connectivity to the HIN/HPN;
- d) cellular devices that can receive text alerts; and
- e) video conferencing units.

4. Local Health Department Focus Group

The *Data and Information System Subcommittee* convened a Focus Group on February 5, 2003. Its purpose was to solicit views on the strengths and weaknesses of the data and information infrastructure in use to support local public health service delivery. Representatives from 5 counties and one member of the *Subcommittee* participated in the four hour-long session (2 rural, 1 suburban, 1 urban county); two New York State DOH representatives were present as observers. The Focus Group was facilitator led. One county was unable to attend and provided subsequent, written responses to the questions. The local health department representatives provided qualitative feedback and offered specific examples of gaps in the data and information infrastructure. Each participant made recommendations for system improvement. Their observations were similar to the findings published in the surveys and assessments conducted earlier.

Six questions drove the discussion.

1. How do you rate the integrity of your data (accuracy, timeliness, completeness, utility and importance)?
2. How would you characterize the quality of information obtained from your systems (speak to access, interpretation and analysis of data)?
3. Are your data and information systems fully robust (i.e. firewalls, security protocols, redundancy, user expertise)?
4. How do you engage your community health partners in sharing/using data and information systems? Cite examples of success/failure where data/information systems were central to decision/action (e.g. disease outbreaks, emergency health alerts, system networking, etc).
5. Is there resource balance with your systems between manpower and machine power such as personnel, training, hardware, software, and linkages?
6. Name three initiatives or recommendations to improve data and information system infrastructure at the county and/or state level.

The Focus Group findings underscore some of the same issues that the *Subcommittee* identified earlier through their review of other published assessments. For example:

- Present networks such as the *Health Information Network* (HIN), *Health Provider Network* (HPN), and the *Health Alert Network* (HAN) are excellent sources of information but are not utilized to their fullest potential. More training on these systems, particularly on the HPN for local hospitals and other medical providers, is needed;
- Bioterrorism (BT) related activities have strengthened the local IT infrastructure. They have also raised the visibility of public health and provided opportunities to improve community partner linkage. The emerging BT process requiring a coordinated approach to data and information activities can serve as a model for system wide improvements;

- Competing priorities for analytic staff remain a constant problem. Most counties “make do” with existing staff. Key expertise is acknowledged to be lacking; suggestions for making expertise available through regional multi-county alliances, such as those alliances currently pilot testing the sharing of epidemiology resources across counties, was suggested. In addition, personnel competency with computer technology can be improved through more training.
- Guidance from State DOH should be made available to define a set of core or common public health program/service indicators for use with local assessment activities;
- Data are often not timely and key information is not always available at the sub-county level;
- Information technology (IT) and Local Public Health (LHD) relationships vary across the counties. Some LHDs have integrated information technology staff. Others have to rely on a separate county IT department. The degree of support provided by IT varies. When the county has IT strength, the LHD benefits; when the county does not have IT strength, the LHD may suffer;
- There are too many data systems and/or data collection points. There needs to be a standard set of definitions and entry points developed with federal, state and local input. Information system linkages among public health programs as well as between community health partners at the county and state level are not integrated.

Based on county responses to the CDC *National Public Health Performance Standards Program* survey (e.g. below average scores for the ability to develop community health profiles, the use of current information technology and using information obtained from the local health department), the Focus Group cited the need for technical and epidemiological assistance. They also requested a consolidation of information systems wherever possible. As a result of this feedback and other reviews, the *Data and Information Subcommittee* developed a set of priority and long-term recommendations.

Priority Recommendations

Comprehensive Data and Information System Plan

1. The NYS DOH and local health departments should develop a Comprehensive New York State Data and Information System Plan. Such a plan would inventory and identify the various systems currently in place, describe their functions, quantify the resulting data and information gaps, and identify a set of system and user needs in order of priority. The objective of this assessment and plan would be to present a comprehensive design and execution strategy for a system architecture capable of meeting today’s public health infrastructure requirements for the State of New York. This plan, replete with specifications and standards for performance, would be developed in consultation with federal and local agencies.

Performance Accountability

2. The federal, state and local governments should standardize public health program indicators so that effectiveness can be measured, benefits communicated, and shifts in policy direction or service delivery appropriately made.
3. The NYS DOH and its academic partners should collaborate to develop methods to teach public health evaluation methodologies and to strengthen the capacity at the State and LHD to undertake such evaluations with consistency.

Long Term Recommendations

1. The NYS DOH should fund a “best practices” pilot in one county to demonstrate an ideal data and information operation. It should specify and demonstrate integrated data collection using common intake, common database, common definitions, common data fields and standardized outcome indicators. Key health partners should have authorized access to the system through a secured user password network. This Pilot should be undertaken in concert with a comprehensive strategic plan referenced above.
2. The NYS DOH should institute periodic and ongoing review of existing data systems and information technology resources (platforms, software, databases, networks and users) at the state and local level to determine gaps and redundancies.
3. The NYS DOH and the federal government, in cooperation with local health departments, should establish standardized public health program outcome indicators.
4. An alliance should be formalized at the state level between organizations such as the NY State Office for Technology, the New York State Association of County Health Officials (NYSACHO) and the State Association of Information Technology Directors.
5. The NYS DOH, in collaboration with appropriate provider organizations, should work towards the integration and linkage of public health information systems across all appropriate public and private partner networks, where appropriate and feasible.
6. The NYS DOH should develop information technology “best practice” standards for individuals and contractors working with new or existing public health information systems.
7. NYS DOH should continue its commitment to improve and provide continuous technical assistance and training on specific Information Technology (IT) networks such as the *Health Provider Network* (HPN), the *Health Information Network* (HIN) and the *Health Alert Network* (HAN). This applies to local health department personnel and their community partners (hospitals) for whom the HPN would deliver particular benefit.
8. Effective and efficient training and technical assistance must be scheduled and carried out periodically to assure that state and LHD staff is competent in the use of current technology, and in data analysis.

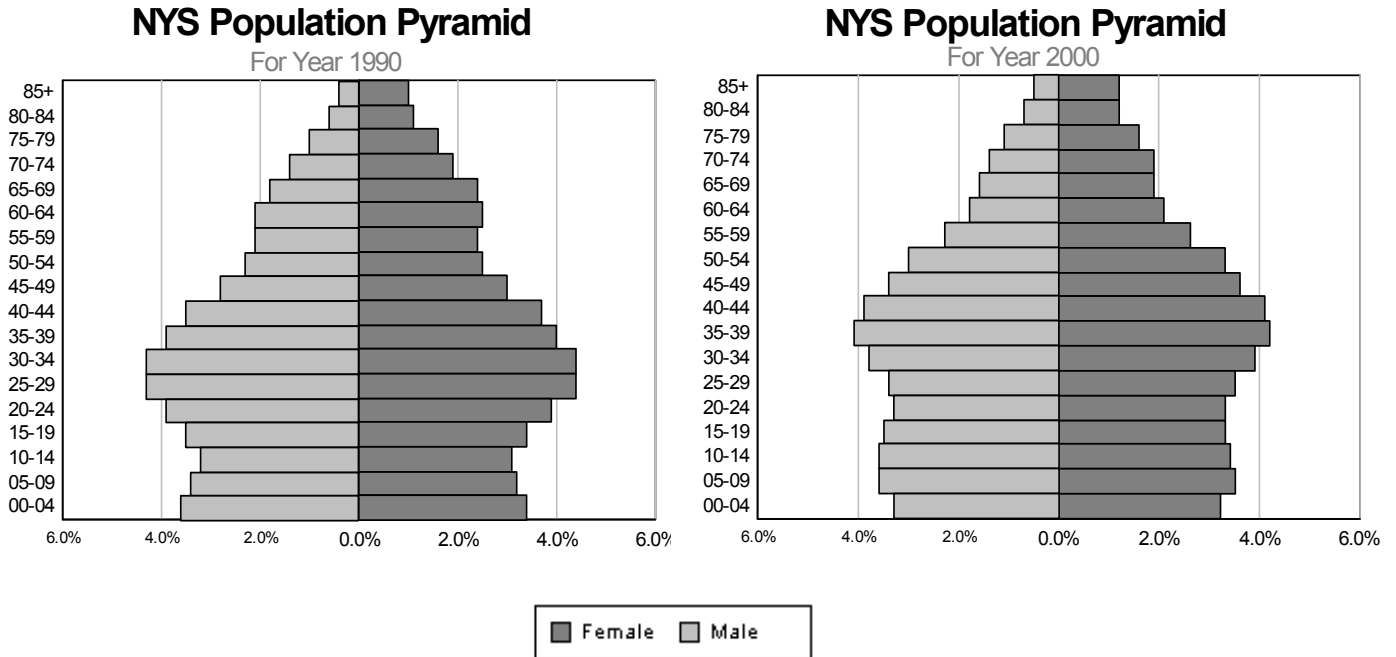
APPENDIX D

NEW YORK STATE DEMOGRAPHIC PROFILE

According to the 2000 Census, New York State was home to almost 19 million (18,976,457) people. This was an increase of 5.5% over the 1990 population. New York City contained more than 42% of the State’s population with over 8 million (8,008,276) residents. This was a 9.4% increase from 1990. An additional 23% of the State’s population resided in the six counties closest to New York City, all of which experienced at least moderate growth since 1990.

There is a wide variation in population density across New York State. New York County (Manhattan) has the highest population density of 54,900 people per square mile, while Hamilton County (Adirondack Region) has the lowest density of only 3 people per square mile. About 26% of New Yorkers live in rural areas, compared to 36% nationwide.

Of New York’s 2000 population, 4.7 million (24.7%) were under 18 years of age; 11.9 million (62.4%) were 18 to 64 years of age, and 2.4 million (12.9%) were 65 years of age or older. The median age has increased from 30.3 years in 1970, to 32.0 years in 1980, to 33.8 years in 1990 to 35.9 years in 2000. This increase reflects the aging of the “Baby Boomers” born between 1946 and 1964, as well as the longer survival rates of the elderly. The increase in the median age also reflects a change in age distribution towards the older ages, as seen in the 1990 and 2000 population pyramids in **Figure 1** presented below.



Source: U.S. Bureau of the Census

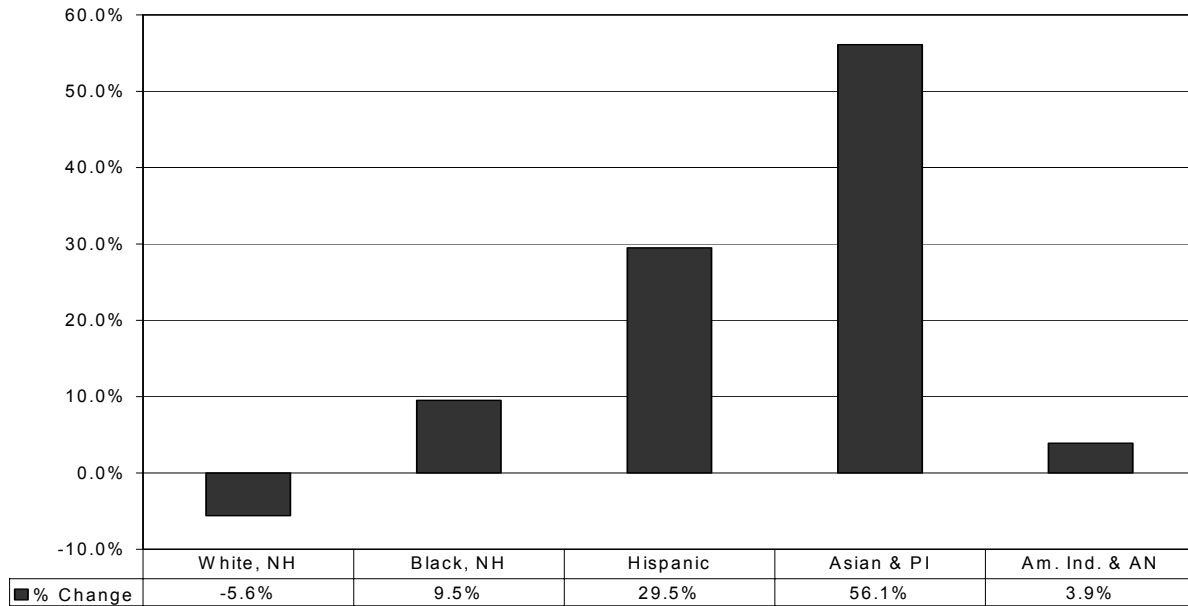
The life expectancy at birth for New York State residents has increased from 75.2 years in 1991 to 78.1 years in 2000.

New York State’s population reflects diverse race and ethnicity. New York has higher percentages of non-Hispanic Black residents, Hispanic residents, and non-citizen immigrant residents than the US average. According to the 2000 Census, 15.9% of New York State’s population identify themselves as Black or African American alone, 67.9% reported they were Caucasian only, 5.5% stated they were Asian alone, 0.4% reported they were American Indian and 0.05% reported that they were Native Hawaiian or Pacific Islander. Statewide, 2,867,583 individuals reported that they were of Hispanic origin; 15.1% of the total population. This population grew by 29.5% between 1990 and 2000. As seen below in **Figure 2**, the number of non-Hispanic Blacks also grew during the same time period, albeit at a lower rate of 9.5%. The Asian population surged by 56.1% to over one million (1,035,926). The diversity of New York’s population is also underscored by the 3.1% of the total population who identified themselves as being of more than one race in 2000.

New York State’s cultural diversity has also led to language diversity. Of the 17,749,110 New Yorkers over 5 years of age, an estimated 28.0% speak a language other than English and 13.0% speak English less than “very well”; about 13.6% of New Yorkers speak Spanish at home. According to the NY State Education Department, of its 3.34 million students who attended public school in 1999, 7.6% were identified as limited English proficient.

Figure 2

**Percent Change in Population by Race/Ethnicity,
New York State, 1990 to 2000**



Source: U.S. Bureau of the Census

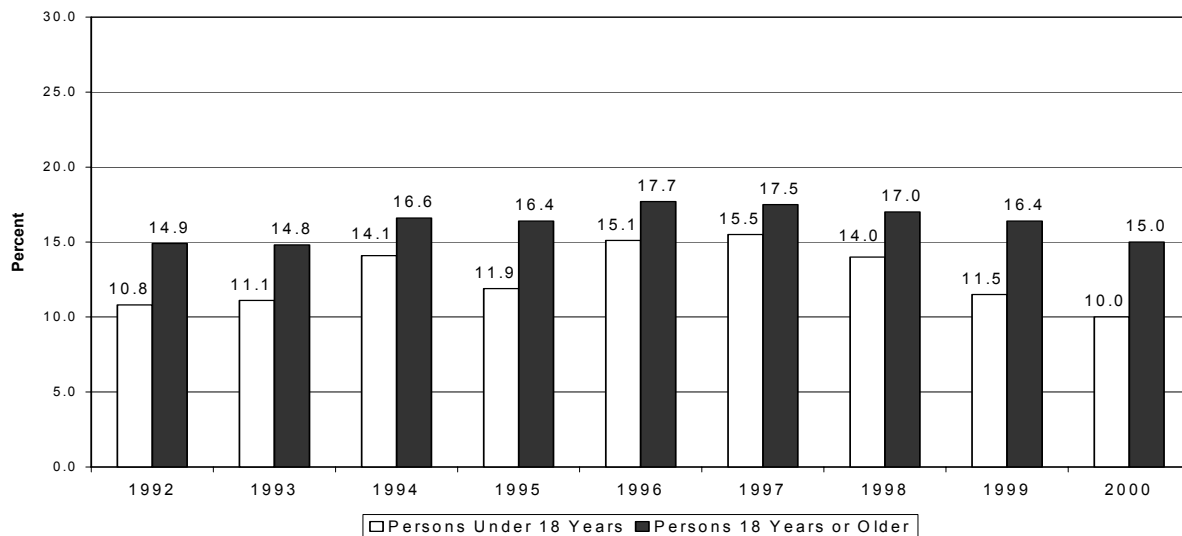
Trends, based on the Bureau of Census’s Current Population Survey, have shown a reduction in New York’s population below Federal poverty levels from 18.4% in 1993 to 14.1% in 1999. The 2000 Census figure of 14.6% for New York is higher than the National average of 12.4%. These data also show New York as having higher poverty rates compared to the nation for families (11.5% vs. 9.2%), children less than 18 years of age (19.6% vs. 16.1%) and adults 65 years of age and older (11.5% vs. 9.2%). New York also shows a greater range in the percent of

population below poverty across its counties, from highs of 30.7% in Bronx and 25.1% in Kings counties to lows of 4.4% in Putnam and 5.2% in New York counties.

Poverty is often associated with access to medical care. Information from the Current Population Survey shows that while the percent of New Yorkers uninsured for medical care rose in the mid-90s, the availability of Child Health Plus (New York’s low cost health insurance program for the uninsured and underinsured children) and an expansion of Medicaid have changed this trend. For children less than 18 years of age the proportion of uninsured dropped from 15.5% in 1997 to 14.0% in 1998 to 11.5% in 1999 to 10% in 2000. Similar proportions are seen for New Yorker’s 19 years of age and older (17.5% in 1997, 17.0% in 1998, 16.4% in 1999 and 15.0% in 2000). See **Figure 3** below.

Figure 3

**Percent of Population Uninsured
For Medical Care by Age
New York State, 1992 - 2000**



Source: Current Population Survey

APPENDIX E

COMMUNITIES WORKING TOGETHER FOR A HEALTHIER NEW YORK UPDATE 2001

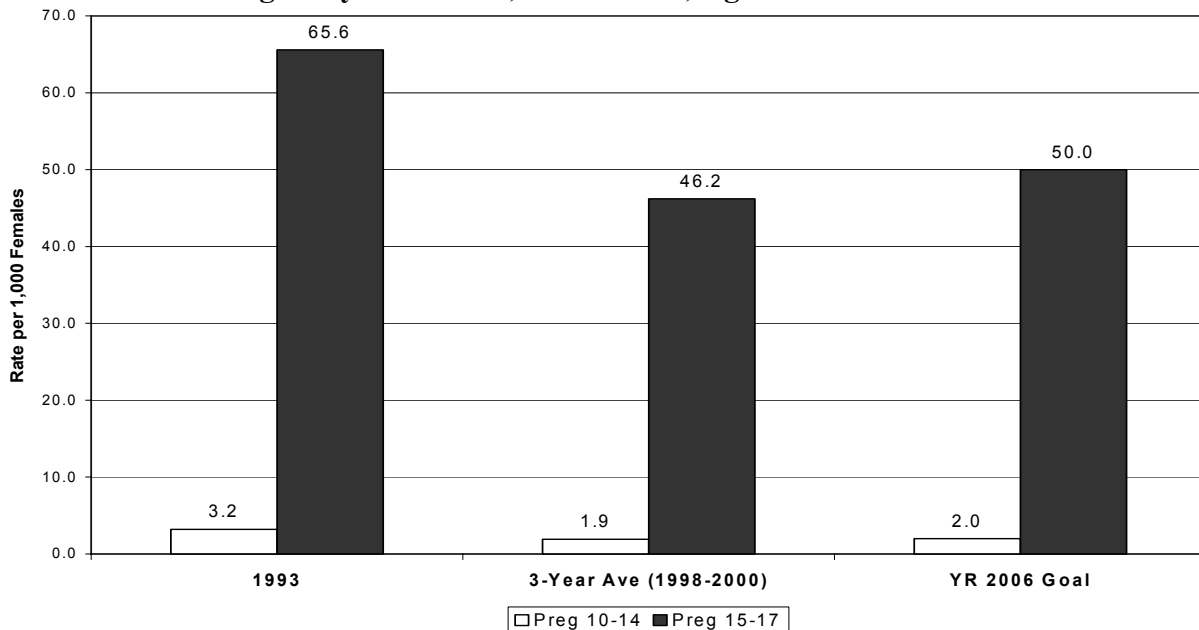
In the summer of 1996, the New York State Public Health Council undertook a process to recommend priority areas for public health action for the next ten years. The Council formed a Public Health Priorities Committee to seek statewide input and to recommend health objectives for the State. The Committee, in their final report entitled *Communities Working Together for a Healthier New York* (CWT), identified 12 priority areas of opportunity for improving a community's health. These areas were selected because they addressed the conditions resulting in the greatest morbidity, mortality, disability and productive years of life lost. They included:

- *Access to and Delivery of Health Care*
- *Education*
- *Healthy Births*
- *Mental Health*
- *Nutrition*
- *Physical Activity*
- *Responsible Sexual Activity*
- *Safe and Healthy Work Environment*
- *Substance Abuse: Alcohol and other drugs*
- *Tobacco Use*
- *Violence and Abusive Behaviors*
- *Unintentional Injury*

New York has either met or is likely to meet many of the Year 2006 CWT goals related to *access to care, pregnancy rates, unintentional and intentional injury* including:

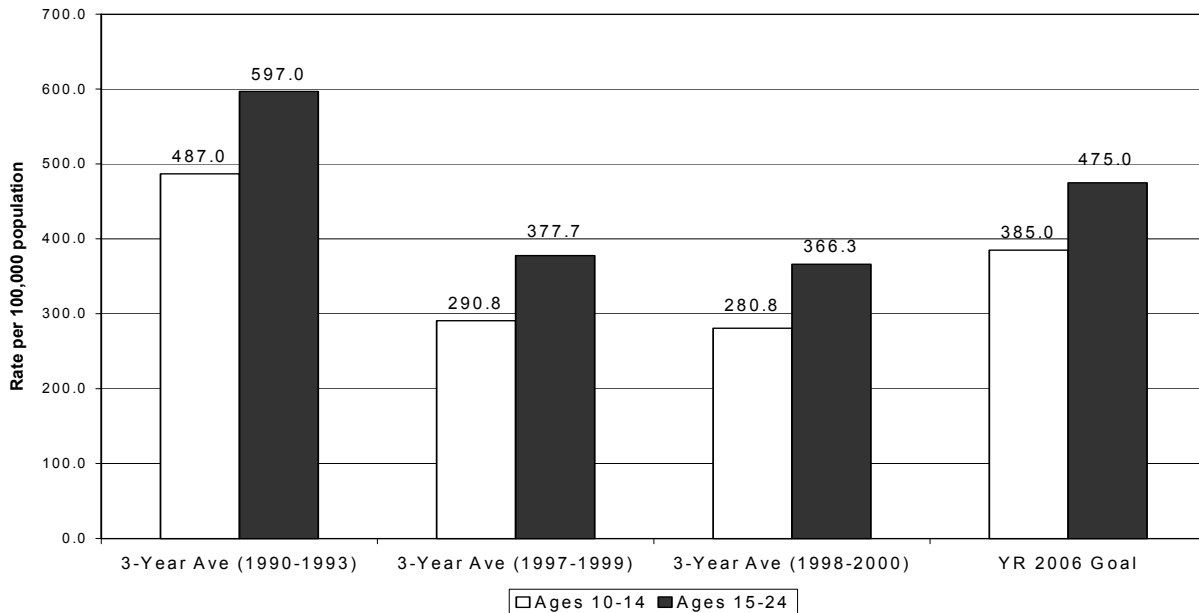
- adolescent pregnancy rates (10-14 yrs, 15-17 yrs);
- unintentional injury hospitalization rates (10-14 yrs, 15-24 yrs);

Figure 1
Pregnancy Rate Per 1,000 Females, Aged 10-14 and 15-17



Source: NYSDOH Bureau of Biometrics

Figure 2
Unintentional Injury Objective/Unintentional Injury Hospitalization



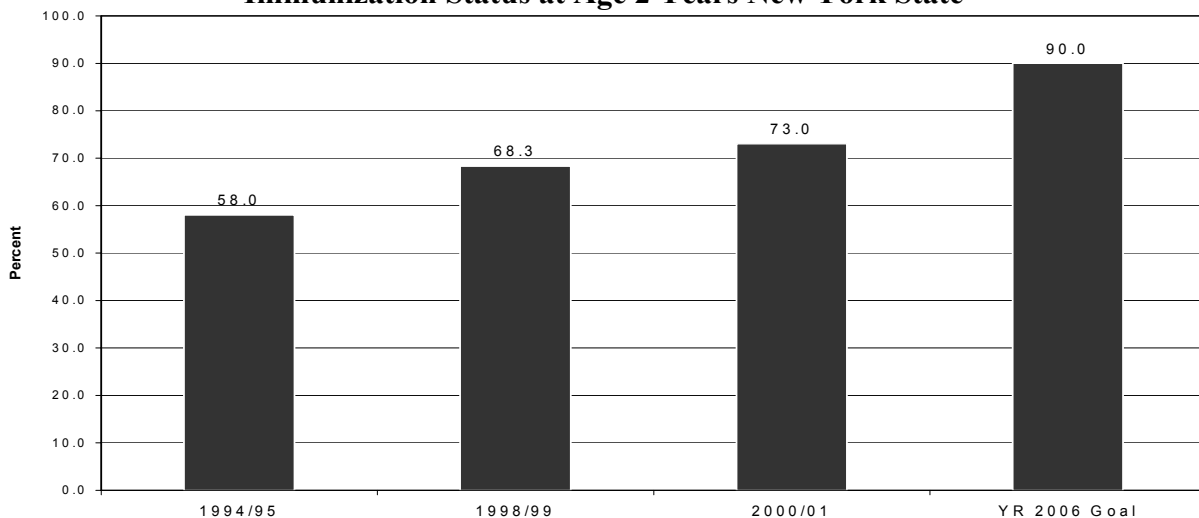
Source: SPARCS

At the same time however, other Year 2006 Goals have seen little or no improvement. These indicators tend to be related to individual risk behaviors, but include a few that relate to maternal and child health:

- % of children 2 years of age with appropriate immunizations;
- adolescent and adult smoking; and
- % of adults who are overweight

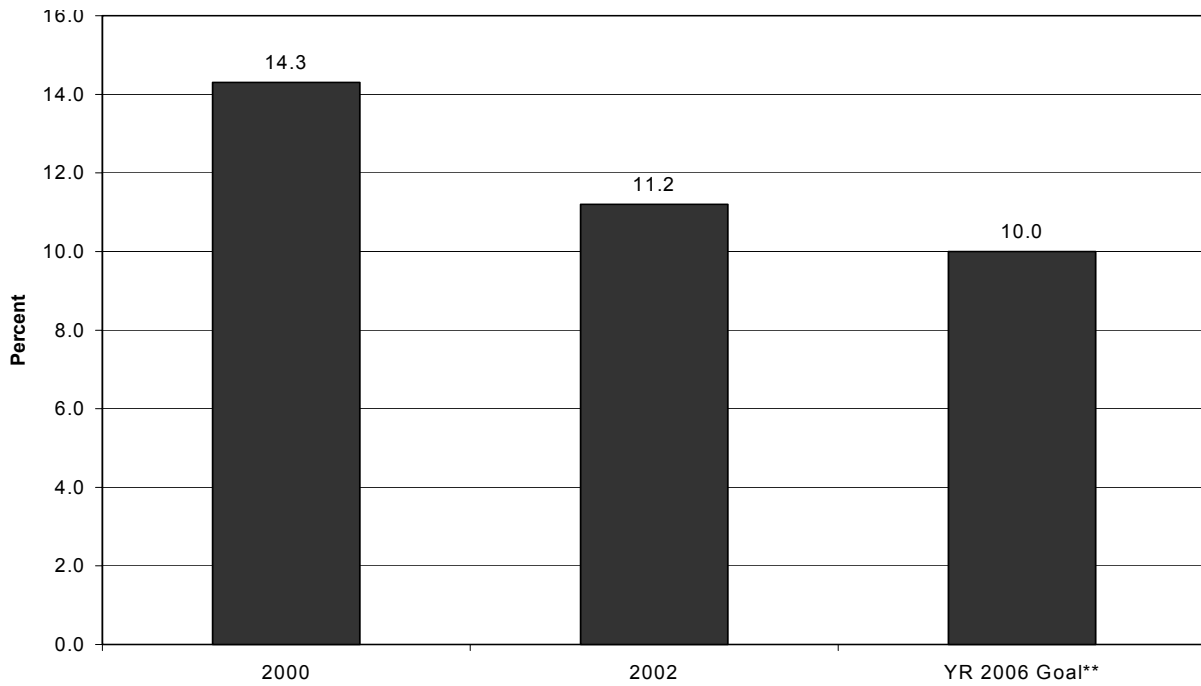
Graphs highlighting those indicators identified as still needing improvement are presented below.

Figure 3
Immunization Status at Age 2 Years New York State



Source: CDC

Figure 4
Frequent Smoking Among High School Students: New York State

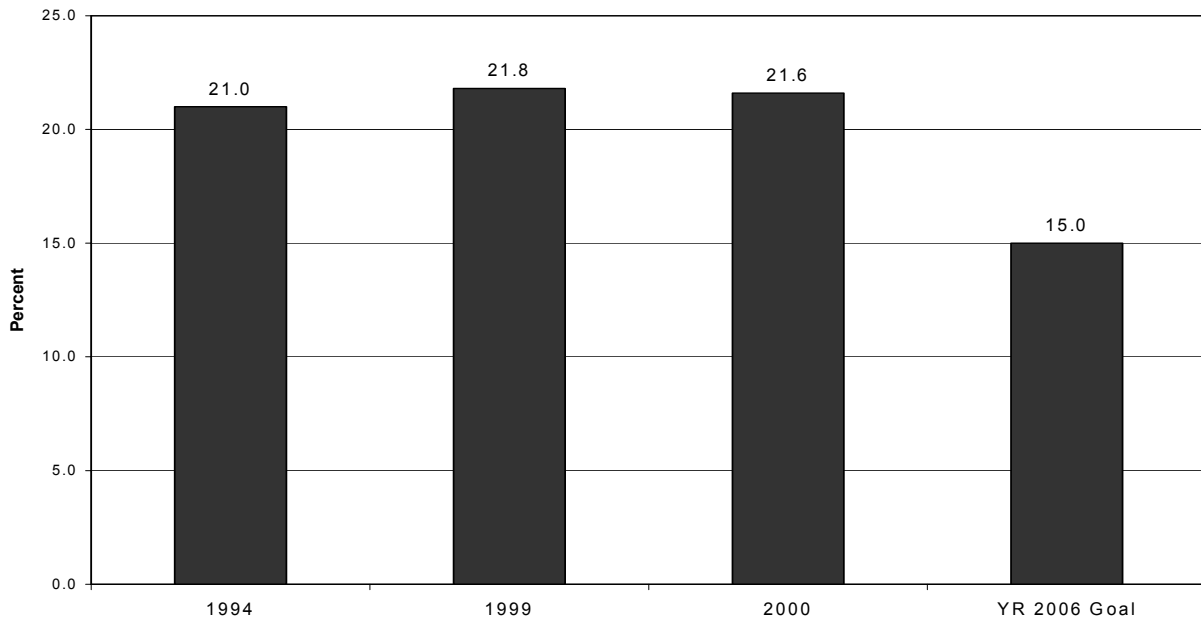


*The New York State Youth Tobacco Survey defines frequent use as smoking 20 or more cigarettes in the past 30 days.

**The Year 2006 goal defined frequent use as smoking daily. (OASIS – 17% in 1994)

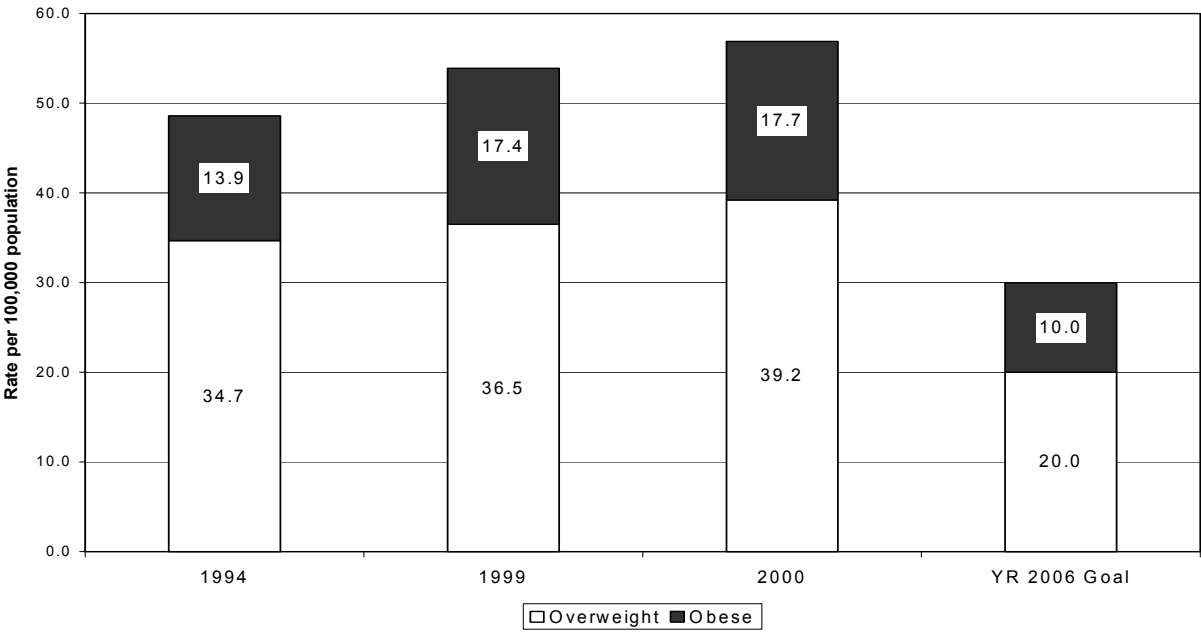
Source: YRBS

Figure 5
Prevalence of Smoking in Adults Aged 18+ New York State



Source: BRFSS

Figure 6
Prevalence of Overweight/Obesity Among 18+ Population New York State



Source: BRFSS

APPENDIX F

STAFF TO PUBLIC HEALTH INFRASTRUCTURE WORK GROUP

Guthrie Birkhead, MD, MPH
Director
Center for Community Health
AIDS Institute

Jean Moore
Deputy Director
Center for Health Workforce Studies

Robert Burhans
Director
Office of Public Health
Preparedness and Response to Bioterrorism

Barbara Morse
Consultant/Writer

Michael Medvesky, MPH
Director
Public Health Information Group

Sylvia Pirani, MS, MPH
Director
Office of Local Health Services

Marie Miller, MS
Deputy Director
Office of Local Health Services

Claudine Jones-Rafferty
Public Health Specialist
Center for Environmental Health

The NYS Department of Health would like to acknowledge the assistance of the *Turning Point Initiative*, funded by the Robert Wood Johnson Foundation, for support for conducting this assessment and writing the report. Staff would like to acknowledge the assistance of Larry Schoen, Public Health Information Group, and Robert Martiniano, Center for Health Workforce Studies, for assistance in preparation of graphs and to Tom Reizes and Kim Felano, Office of Local Health Services for assistance in preparation of the final report.

