

26. *Public Health Infrastructure*

26

Goal:

Ensure that state, local, and tribal health agencies have the infrastructure to provide essential public health services effectively.

Health Goal for the Year 2010: Ensure that state, local, and tribal health agencies have the infrastructure to provide essential public health services effectively.

	Indicator	Alaska Data Source	U.S. Baseline	Alaska Baseline	Alaska Target Year 2010
	Data and Information Systems				
1	Increase the proportion of public health staff who have direct access to public health information via the Internet.	DHSS/DPH, Health Alert Network, ANHB, ANTHC, NSB, MOA	Developmental	Developmental	100 percent
2	Alaska-specific information on the Leading Health Indicators, Health Status Indicators, and Priority Data Needs will be made available to the public and updated on an annual basis. Health status and health system information will be provided at the smallest geographic and socioeconomic unit possible, while maintaining confidentiality and the scientific integrity of the data.	DHSS/DPH, ANHB, ASHNHA	Developmental	Developmental	100 percent
3	Increase the proportion of Healthy Alaskans 2010 objectives for which data are available.	DHSS/DPH, ANHB, ASHNHA	82 percent (2000)	Developmental	90 percent
4	Increase the proportion of Healthy Alaskans 2010 objectives for which data are released within one year of the end of data collection.	DPH, ANHB, ASHNHA	36 percent (2000)	Developmental	50 percent
	Workforce				
5	Increase the proportion of public health agencies that support continuing education and training for staff to further the development of public health professional skills and abilities.	DHSS/DPH, ANHB, ANTHC, MOA, NSB	Developmental	Developmental	100 percent
6	Increase the proportion of public health agencies and educational institutions that develop, advocate, and invest in public health workforce development activities.	DHSS/DPH, ANHB, ANTHC, MOA, NSB	N/A	Developmental	100 percent
7	Increase the proportion of public health agencies that have explicit standards, policies, and procedures that contribute to the maintenance of a culturally competent workforce.	DHSS/DPH, ANHB, ANTHC, MOA, NSB, UAA	N/A	Developmental	100 percent
8	Ensure that a process to assess and monitor the public health workforce in Alaska and to develop plans for meeting statewide workforce needs is implemented and maintained.	DHSS/DPH, ANHB, ANTHC, MOA, NSB, UAA	N/A	Developmental	100 percent
	Public Health Organizations				
9	Increase the proportion of public health agencies that assess the capacity of their organization to perform essential public health services.	DHSS/DPH, ANHB, ANTHC, NSB, MOA	Developmental	Developmental	100 percent

Health Goal for the Year 2010: Ensure that state, local, and tribal health agencies have the infrastructure to provide essential public health services effectively.					
	Indicator	Alaska Data Source	U.S. Baseline	Alaska Baseline	Alaska Target Year 2010
10	Ensure that a statewide process to assess the health of Alaskans, identify priorities, and develop plans for addressing priority health problems is implemented and maintained.	DHSS/DPH	79 percent of States have a Health Improvement Plan (1997)	Developmental	100 percent
11	Increase the proportion of communities that have an established health assessment and priority setting process.	DHSS/DPH, ANHB, ANTHC, NSB, MOA	Tribes: Developmental Local Juris: 32 percent (1997)	Developmental	Developmental
12	Ensure that governmental public health agencies have appropriate legal authority to assure the delivery of essential public health services.	DHSS/DPH, ANHB, ANTHC, NSB, MOA	Developmental	Developmental	100 percent
13	Ensure that a statewide partnership for public health is maintained and that all partners understand their responsibilities and hold each other accountable for their respective responsibilities to promote and protect the public's health.	DHSS/DPH, ANHB, ANTHC, NSB, MOA	N/A	Developmental	100 percent

DHSS/DPH -Alaska Department of Health and Social Services/Alaska Division of Public Health

ANHB - Alaska Native Health Board

ANTHC - Alaska Native Tribal Health Consortium

NSB - North Slope Borough

MOA - Municipality of Anchorage

ASHNHA - Alaska State Hospital and Nursing Home Association

UAA - University of Alaska, Anchorage

Overview

Public health is defined as the fulfillment of society's interest in assuring the conditions in which people can be healthy through organized, scientifically based, community efforts aimed at the prevention of disease and promotion of health.^{1,2} To keep communities healthy, the public health system works to prevent epidemics and the spread of disease, protect against environmental hazards, prevent injuries, promote and encourage healthy behaviors and mental health, respond to disasters and assist communities in recovery, and assure the quality and accessibility of health services.³ The work of public health involves measuring the health of the citizens of the state, developing programs and policies to protect and improve health, and assuring that essential public health and health care services are provided. These functions are accomplished through performance of an integrated set of activities described as the 10 Essential Public Health Services (Table 26-1).

Table 26-1

Public Health in America

***Vision:** Healthy People in Healthy Communities*

***Mission:** Promote Physical and Mental Health and Prevent Disease, Injury, and Disability*

Public Health

- Prevents epidemics and the spread of disease
- Protects against environmental hazards
- Prevents injuries
- Promotes and encourages healthy behaviors
- Responds to disasters and assists communities in recovery
- Assures the quality and accessibility of health services

Essential Public Health Services

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

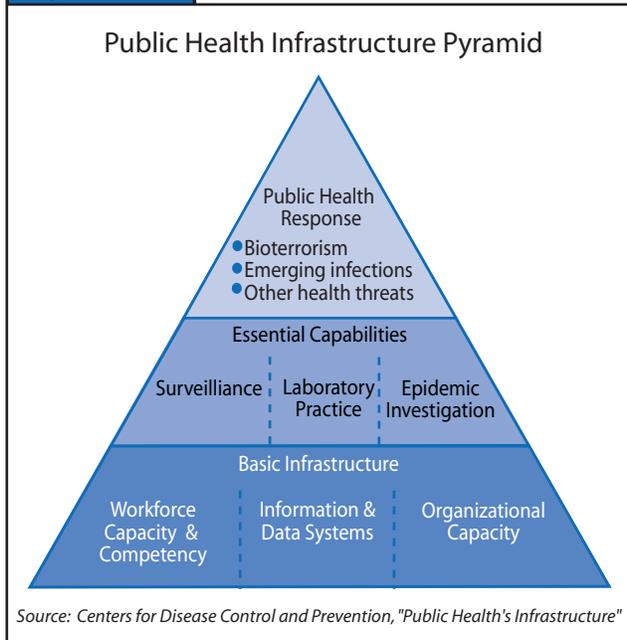
Adopted: Fall 1994, Source: Public Health Functions Steering Committee, Members (July 1995): American Public Health Association·Association of Schools of Public Health·Association of State and Territorial Health Officials·Environmental Council of the States·National Association of County and City Health Officials·National Association of State Alcohol and Drug Abuse Directors·National Association of State Mental Health Program Directors·Public Health Foundation·U.S. Public Health Service—Agency for Health Care Policy and Research·Centers for Disease Control and Prevention·Food and Drug Administration·Health Resources and Services Administration·Indian Health Service·National Institutes of Health·Office of the Assistant Secretary for Health·Substance Abuse and Mental Health Services Administration

Public health is a fundamental responsibility of government, but government agencies must work in partnership with a network of public and private organizations in order to effectively address the health of Alaska's communities. That network, the **public health system**, must have a strong public health infrastructure supporting it.

The **public health infrastructure** is the underlying foundation that supports the planning, delivery, and evaluation of public health activities and practices. This infrastructure makes it possible to respond to public health emergencies as well as to perform essential on-going public health services. The basic components of the public

health infrastructure are the **public health workforce**, **information and data systems**, and **organizational capacities**. These components are the building blocks that support the work of the public health system (Figure 26-1).^{4,5}

Figure 26-1



Issues and Trends in Alaska

A number of factors are straining the public health system and necessitating now, as never before, a strong public health infrastructure. These factors include new public health threats; a growing and changing population; and rapidly developing medical, information, and communication technologies.

New Public Health Threats: As we enter this millennium we face threats to the public's health not imagined a century ago. The use of microbial agents as weapons against our citizens has elevated the visibility of the role the public health system plays in detection and control of communicable diseases, and is spreading the surveillance, laboratory, epidemiological investigation, and emergency response capacities dangerously thin. This is occurring at a time when other natural and man-made threats, such as a recent resurgence of TB in Alaska, increasing diagnoses of hepatitis C, groundwater pollution and hazardous waste management are competing for limited public resources.

Changing Demographics: Births in Alaska continue to outnumber deaths each year, sustaining the upward trend in Alaska's population size. At the same time there is an upward trend in the proportion of elderly Alaskans and in the proportion of some minorities. Increased total numbers of people coupled with even greater increases in vulnerable populations puts pressure on the public health system as it struggles to keep up with the growing demand for services with limited resources.

New Technologies: New medical technologies, such as vaccines developed in recent years to fight varicella and hepatitis A, are valuable weapons for continuing the battle against communicable diseases. As these new tools become available however, they require increased resources for purchase and administration. New data and communication technologies provide opportunities for strengthening information-based decision making and public health surveillance, but also require additional or redirected resources and the development and implementation of new strategies.

Data and Information Systems

Timely access to accurate data and information are essential to the planning, development, implementation, and evaluation of public health programs and services. Public health workers must have electronic access to up-to-date public health information and emergency health alerts in order to act in an appropriate and timely manner. While data is not readily available on the numbers of public health workers who have electronic access to this information, efforts were implemented during the past decade to provide multimedia telehealth capability to health care and public health workers across the state, to develop and connect all public health workers to a Health Alert Network, and to deliver current public health information to these workers through the new Alaska Public Health Training Network.

Public health workers, policy makers and the general public must be provided with data on the health of Alaskans as well as with timely and accurate health information in order to make sound decisions. Efforts to compile and present data on *Healthy Alaskans 2000*⁶ health indicators resulted in the publication of three reports by the Division of Public Health during the last half of this past decade: *Alaska's Healthy People 2000 Health Status Indicators by Region* (March 1997), *Health Status in Alaska: A Data Report for the Alaska Public Health Improvement Process* (Decem-

ber 1998), and *Health Status in Alaska: 2000 Edition* (January 2001). Efforts are underway to develop permanent capacity for publishing annual health status reports and for making health status information more easily accessible via the Internet (see *Current Strategies and Resources*).

Data gaps identified throughout the other chapters of *Healthy Alaskans 2010* must be addressed to provide a complete picture of the health of Alaskans and to understand health trends in our communities. Some progress has been made in addressing Data gaps identified eight years ago in *Healthy Alaskans 2000*. For example, while a mandatory state hospital discharge data system has not been implemented, the Alaska State Hospital and Nursing Home Association is in the process of developing a voluntary system. Alternate survey question modules, such as injury prevention, have been used in the Behavioral Risk Factor Surveillance System. The PRAMS Survey Program continues to provide valuable information regarding health risks experienced by Alaskan women during pregnancy. While these steps forward are positive, work must continue to fill identified data gaps.

A final but important issue to address in the area of public health data and information systems is confidentiality and privacy protection standards, such as those required under the 1996 Health Insurance Portability and Accountability Act. The full impact of these requirements is not yet fully known, but will certainly affect the handling of public health data sets and systems in the coming decade.

Workforce

A qualified, competent public health workforce is essential to the effective delivery of public health programs and services.

Issues facing the maintenance of skilled employees and adequate staffing levels include: 1) an aging workforce (just as an example, 32% of health professionals in the Alaska Department of Health and Social Services will be eligible for retirement during the first half of this decade); 2) increased competition for a decreasing supply of public health workers nationwide (compensation must be high enough to recruit and retain qualified staff); and 3) a need for increased access to public health training and continuing education opportunities.

The Alaska Department of Health & Social Services is currently in the process of studying departmental positions and staff and crafting a workforce development plan for the agency. In order to have a complete picture of the size, composition, and needs of Alaska's public health workforce, additional assessment is required to gather information from public health partner organizations, such as the two local health departments and Native health organizations.

Organizational Capacities

Elements of an effective public health organization include: 1) an ability to meet basic performance and accountability standards (for example, standards for laboratory testing capacity, disease surveillance, and emergency response), 2) maintenance of sufficient legal authorities for governmental public health agencies; 3) capacity for planning and policy development at the state and local levels; and 4) the capability to provide leadership and to collaborate with public health system partners.

Current Strategies and Resources

Numerous initiatives related to public health infrastructure have been implemented at the national level in recent years. Many of these have or are in the process of bringing attention and resources to strengthening the public health infrastructure at all levels. In addition, valuable tools are being developed to assist states and localities with the work of assuring an effective public health system. Alaska has and will continue to take advantage of the assistance offered by these programs, which include:

U.S. DHHS/Centers for Disease Control and Prevention

- Bioterrorism/Public Health Emergency Preparedness and Response Initiative
- Health Alert Network
- Public Health Training Network
- Public Health Law Program
- National Electronic Disease Surveillance System
- National Public Health Leadership Programs
- National Public Health Performance Standards Program (with the Association of State & Territorial Health Officials and the National Association of County and City Health Officials)
- *Healthy People 2010: Public Health Infrastructure Chapter*

U.S. DHHS/Health Resources and Services Administration

- Public Health Training Centers
- Centers for Health Workforce Distribution
- Bioterrorism Hospital Preparedness Program

Other National Organizations and Centers

- Robert Wood Johnson Foundation and W.K. Kellogg Foundation: Turning Point Initiative
- American Public Health Association: The Public Health Innovations Project
- Association of State & Territorial Health Officials: Public Health Information and Infrastructure Committee
- National Association of County and City Health Officials (numerous public health infrastructure initiatives)
- Public Health Foundation
- Center for Law and the Public’s Health at Johns Hopkins and Georgetown Universities (supported by CDC)
- Institute of Medicine, Board on Health Promotion and Disease Prevention: Assuring the Health of the Public in the 21st Century

Current opportunities, recent efforts and new resources aimed at strengthening Alaska’s public health system (Table 26-2) include:

- **Increased awareness of and support for the state’s public health infrastructure by the executive and legislative branches of Alaska’s state government.** Specific examples include: 1) funding for a new state-of-the-art public health laboratory in Anchorage with Biosafety Level III capacity (opened January 2001);

2) development by Governor Knowles and partial funding by the legislature in 2001 of the Back-to-Basics Initiative, which provides new state resources for fundamental disease surveillance and control efforts in Alaska; and 3) dedication by the state legislature of 20 percent of the tobacco settlement revenue for public health tobacco use prevention and cessation efforts.

- **Efforts to participate in federal government initiatives aimed at providing support for state and local public health infrastructure,** including: 1) the Public Health Preparedness and Response for Bioterrorism program (initial award to Alaska in 1999, supplemental funding in 2002), to build capacity for disease surveillance and laboratory testing, public information and risk communication, workforce training, emergency alert communication, and disaster planning and response; and 2) following the lead of *Healthy People 2010* by including this new chapter on *Public Health Infrastructure* in *Healthy Alaskans 2010*.
- **Continuing attention to the importance of public health by Alaska’s Native health system.** As one example, the Alaska Native Tribal Health Consortium (ANTHC) included as the first goal in their 2000-2005 Strategic Plan to “increase emphasis on health promotion and disease prevention.” The Alaska Native Health Board is currently collaborating with ANTHC on the Alaska Native Health Plan: 2002-2010. The first goal in the draft plan is to improve Alaska Native health status, with an emphasis on health promotion, disease prevention and community wellness.

Table 26-2

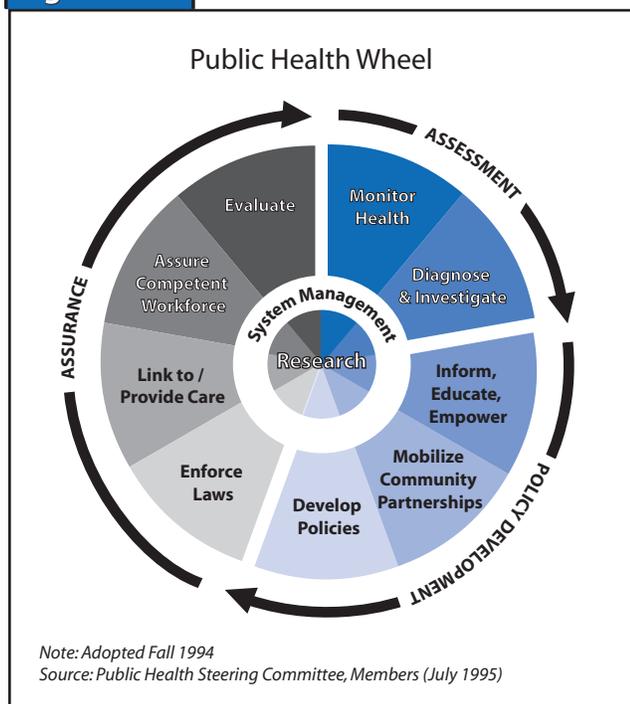
Alaska Public Health Improvement Plan Goals Goals Adopted by the Alaska Public Health Improvement Process Steering Committee	
1	Assure access to public health information for communities, policy makers, and the general public.
2	Assure a well-trained, competent public health workforce.
3	Develop a strong legal framework for Alaska’s public health system.
4	Assure accountability for the public’s health.
5	Assure sufficient, stable funding for public health action.
6	Assure effective communication capabilities in the public health system.
7	Increase public input in statewide policy decisions.
8	Engage communities to solve local health problems.
9	Increase personal responsibility for individual health.
10	Improve interagency communication, coordination, and collaboration among state public health, mental health, substance abuse and environmental health agencies.

- **Participation in initiatives of other national organizations committed to strengthening the nation's public health system**, such as the Robert Wood Johnson and W.K. Kellogg Foundations. These two foundations partnered on the Turning Point initiative, which began in 1996 and is continuing through the first half of the new decade. Alaska and three of our communities, Fairbanks, Sitka, and Central Kenai Peninsula, received grants under this program. Goals identified by Alaska's Turning Point project, the Alaska Public Health Improvement Process, are listed in Table 26-2. Current activities to address these goals include public health information system development, leadership of a national effort to create a model state public health law, and participation in a collaborative project on public health performance management (Figure 26-2).

objectives, will be the responsibility of the Division of Public Health's Data and Evaluation Unit. These efforts will provide the data needed for measuring and tracking the majority of the Data and Information Systems indicators.

A survey of public health agencies regarding workforce status, communication and training needs, and cultural competency would provide data required for measuring the first indicator in the Data and Information Systems category and all of the indicators in the Workforce category. Assessment efforts that are currently under development in the Division of Public Health and supported by CDC through the Public Health Preparedness initiative and by the Northwest Center for Public Health Practice through the Regional Public Health Training Center, will be coordinated and crafted so that data required to measure the indicators in this chapter of Healthy Alaskans 2010 is provided.

Figure 26-2



Inventory and survey tools for assessing the capacities and performance of state and local public health systems and agencies have recently become available through a number of different national initiatives, including the National Public Health Performance Standards Program and the Public Health Emergency Preparedness and Response Program. The Division of Public Health plans to provide the leadership and the capacity to work with partner organizations at the state and community level to conduct these critical assessments and provide the data necessary for measuring the Public Health Organizations indicators.

Related Focus Areas

The Public Health Infrastructure chapter is interconnected to all the other chapters of Healthy Alaskans 2010.

The public health infrastructure is crucial to achieving every objective in Healthy Alaskans 2010. Health Promotion, Protection and Prevention activities cannot happen without a workforce properly trained to provide the range of tasks required to improve our performance in all the health promotion, protection and prevention activities. Improvements to public health will also require the data and information systems which will tell us changes that occur in health status, alert us to newly emerging problems, and provide us with needed information. And improvements in health status can only happen when we work collaboratively with all agencies that share a concern

Data Issues and Needs

None of the Public Health Infrastructure indicators are currently measured. Capacity for measuring and tracking many of these indicators is currently under development however.

Compiling information from various data sources on the Leading Health Indicators, and determining availability of data on the Healthy Alaskans 2010

and responsibility for the health of Alaskans. Similarly, if we are to improve access to care and equalize health disparities among Alaskans, we can only do so if our public health infrastructure is capable of undertaking and sustaining this task.

Endnotes

- ¹ Institute of Medicine. *The Future of Public Health*. Washington, DC: National Academy Press, 1988.
- ² B.J. Turnock. *Public Health: What It Is and How It Works*. Gaithersburg, MD: Aspen Publishers, Inc., 1997.
- ³ Public Health Functions Steering Committee. *Public Health in America*. Washington, DC: USPHS Office of Disease Prevention and Health Promotion, 1994.
- ⁴ U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000.
- ⁵ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. *Public Health's Infrastructure: A Status Report*. Prepared for the Appropriations Committee of the United States Senate. March 2001.
- ⁶ Alaska Department of Health & Social Services. *Healthy Alaskans 2000: Charting the Course of Public Health for the Decade*. Juneau, AK. February 1994.

Reference and Sources

State

Alaska Division of Public Health Department of Health & Social Services	www.hss.state.ak.us/dph/
Alaska Public Health Improvement Process	www.hss.state.ak.us/dph/deu/aphip/default.htm
Alaska Division of Environmental Health Department of Environmental Conservation	www.state.ak.us/dec/deh/
Alaska Division of Emergency Services Department of Military and Veterans' Affairs	www.ak-prepared.com/
Alaska Native Health Board	www.anhb.org/index.html
Alaska Native Tribal Health Consortium	www.anthc.org/
Municipality of Anchorage Department of Health & Human Services	www.ci.anchorage.ak.us/Health1/index.cfm
North Slope Borough Department of Health & Social Services	www.co.north-slope.ak.us/nsb/default.htm
University of Alaska	http://info.alaska.edu/
Alaska Public Health Association	www.alaskapublichealth.org/
Alaska State Hospital and Nursing Home Association	www.ashnha.com/

Regional

Northwest Center for Public Health Practice	http://healthlinks.washington.edu/nwcphp/
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National

Centers for Disease Control & Prevention (CDC)	www.cdc.gov/
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National *(continued)*

Health Resources and Services Administration	www.hrsa.gov/
Association of State & Territorial Health Officials	www.astho.org/
National Association of County and City Health Officials	www.naccho.org/
American Public Health Association	www.apha.org/
Public Health Foundation	www.phf.org/index.htm
National Association for Public Health Statistics and Information Systems	www.naphsis.org/
National PH Leadership Development Network	www.slu.edu/organizations/nln/
Institute of Medicine	www4.nationalacademies.org/iom/iomhome.nsf
Association of Schools of Public Health	www.asph.org/
Healthy People 2010	http://web.health.gov/healthypeople/
Public Health Functions Project	http://web.health.gov/phfunctions/
Partnership for Prevention	www.prevent.org/
Coalition for Healthier Cities and Communities	www.healthycommunities.org/
Community Tool Box	http://ctb.lsi.ukans.edu/
Mobilizing for Action through Planning and Partnerships	http://nacchoweb.naccho.org/mapp_introduction.asp
Turning Point: Collaborating for a New Century in Public Health	http://turningpointprogram.org/
Center for Law and the Public's Health	www.publichealthlaw.net/
Turning Point Public Health Statute Modernization National Collaborative	www.hss.state.ak.us/dph/deu/turningpoint/nav.htm