From educating the public about ways to prevent injuries, to monitoring outbreaks of illness and implementing programs to limit their spread, public health policies and programs make our lives safer and healthier. While we may not think of it often, public health is an ever-present part of our daily lives. As described by former Surgeon General C. Everett Koop “health care is vital to all of us some of the time, but public health is vital to all of us all of the time.”

The mission of the public health system is to promote the physical and mental health of communities and populations, and to prevent disease, injury, and disability. These populations may consist of a small number of people, or in the case of a pandemic, whole continents. This issue brief describes the structure and functions of the public health system in the United States, how public health services are paid for and organized, and some key accomplishments to date and challenges ahead. While the definition of what exactly constitutes the U.S. public health system varies, this brief identifies many participants in the public health system but focuses on the government’s role in ensuring public health.

Components of the U.S. Public Health System

The public health system in the U.S. is complex and multi-faceted, and its role in protecting the health of society tremendously important. The Institute of Medicine (IOM) defines public health as “the efforts, science, art, and approaches used by all sectors of society to assure, maintain, protect, promote, and improve the health of the people.” However, as the IOM suggests, the public health system is not solely responsible for assuring the conditions of population health. The community, health care delivery system, employers and business, the media, academia, and governmental public health infrastructure all play an important role.

Several other factors beyond the control of these entities also affect population health. These include:

1. Broad social, economic, cultural, health and environmental policies and conditions at the global, national, state, and local levels;
2. Characteristics and conditions of life and work, including education, socioeconomic status, psychosocial factors, public health services, and health care services;
3. Social, family and community networks;
4. Behavioral factors; and
5. Innate individual traits such as age, sex, and race.

In research regarding the actual causes of death in the U.S. in 1990 and 2000, behavior and social factors such as tobacco use, poor diet/physical inactivity, and alcohol consumption were among the leading causes of death.

The Public Health Infrastructure

The public health infrastructure in the U.S., which allows the core public health functions to be carried out, is comprised of many different types of organizations, as shown in Figure 1. Within the Federal Department of Health and Human Services (HHS), the primary agencies responsible for public health are the Centers for Disease Control and Prevention (CDC), the Health Resources and Services Administration (HRSA), the National Institutes of Health (NIH), the Food and Drug Administration (FDA), and the Agency for Healthcare Research and Quality (AHRQ). Primary leadership for public health policy within HHS rests with the U.S. Surgeon General (the head of the U.S. Public Health Service) and the CDC.
While most federal public health activity is housed in the Department of Health and Human Services, other agencies involved in public health include the U.S. Department of Agriculture (USDA), Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Department of Defense, Department of Veterans Affairs, and the Department of Homeland Security.

Like the national governmental public health infrastructure, the California governmental public health infrastructure is complex and includes representation from several state agencies, as well as local health departments (58 counties and 3 cities). The California system is described in detail in a companion issue brief: Understanding California’s Public Health System.

Functions of Public Health

The IOM in 1988 defined three core functions of public health (see Figure 2). There is some responsibility for public health functions at all levels of government (federal, state, and local):

1. Assessment—collecting and analyzing information about health problems (e.g., identifying needs, collecting and interpreting data)
2. Policy development—both science-based and political, often involving broad-based consultations with stakeholders to weigh available information and decide which interventions are most appropriate and ensure that the public interest is served by measures that are adopted (e.g., planning and priority setting; policy leadership and advocacy; encouraging private and public sector action through incentives and persuasion)
3. Assurance – promoting and protecting public interests through programs, events, campaigns, regulations and other strategies, and making sure that necessary services are provided to reach agreed upon goals (e.g., regulating services and products; maintaining accountability by setting objectives and reporting on progress)


Figure 2: Core Functions of Public Health

1. Assessment—collecting and analyzing information about health problems (e.g., identifying needs, collecting and interpreting data)
2. Policy development—both science-based and political, often involving broad-based consultations with stakeholders to weigh available information and decide which interventions are most appropriate and ensure that the public interest is served by measures that are adopted (e.g., planning and priority setting; policy leadership and advocacy; encouraging private and public sector action through incentives and persuasion)
3. Assurance – promoting and protecting public interests through programs, events, campaigns, regulations and other strategies, and making sure that necessary services are provided to reach agreed upon goals (e.g., regulating services and products; maintaining accountability by setting objectives and reporting on progress)


Figure 1: Entities Comprising the Public Health Infrastructure

- About 3,000 county and city health departments and local boards of health
- 59 state, territorial, and island nation health departments
- Various U.S. Public Health Service agencies in the Department of Health and Human Services (HHS)
- Tribal health agencies, coordinated at HHS by the Indian Health Service
- More than 160,000 public and private laboratories
- Hospitals and other private-sector healthcare providers
- Volunteer organizations, such as the American Red Cross, American Diabetes Association, American Cancer Society, and others.


Endnotes

1 A companion issue brief is also available: Understanding California’s Public Health System.
3 The Future of the Public’s Health in the 21st Century, Institute of Medicine, 2002.
4 Ibid.
6 Information on county and city health departments in California is available at: http://www.dhs.ca.gov/hsp/chs/OVR/LocalRegistrar/default.htm
its prominence within the overall California Health and Human Services Agency. At the local level, jurisdiction is mostly at the county level (59%), but also occurs at the city/county level (14%) and the multi-county/district level (10%).

**Financing Public Health**

Despite the relatively small role that medical care plays in population health (about 10%), societal health resources are disproportionately allocated to medical care. Nationally, only 3% of the $1.9 trillion spent on health in 2004 was allocated to public health. California is similar to the nation in this regard, with 2.4% of state health expenditures in 2004 going to public health programs.

Funding for public health comes from a variety of sources. These include federal, state, and local governments, foundations, insurance payments, and patient and regulatory fees. The total amount spent on public health was about $54 billion in 2005. Federal spending accounted for 29% of these dollars with state and local dollars making up the rest. However, gathering comparable information on public health expenditures across states has proven to be a challenge because of multiple funding sources and differences in accounting practices and definitions of public health activities. In 2005, the average per capita public health funding across the U.S. was estimated to be $162, with California spending $132 per capita for public health programs.

**Key Accomplishments and Future Challenges for Public Health**

Building on public health initiatives pursued over the past two decades, a panel of scientists has developed a comprehensive set of disease prevention and health promotion objectives for the United States to pursue, known as Healthy People 2010. The overall goals of Healthy People 2010 are to increase quality and years of healthy life, and to eliminate health disparities. To achieve these goals, there are a total of 467 objectives in 28 focus areas, ranging from access to quality health services to diabetes, heart disease and stroke, immunization and infectious diseases, injury and violence prevention, occupational safety and health, physical activity and fitness, and tobacco use. This list of health objectives is being used by states, communities, professional organizations, and others to help them develop specific programs to improve health.

With this large number of objectives and desired improvements in the various focus areas, it is easy to forget the tremendous accomplishments of public health to date (see Figure 3).

Despite the successes of public health, many challenges lie ahead. In 2000, leaders at the CDC identified ten public health challenges for the nation. These are:

1. **Institute a rational health care system** by improving equity, cost, and quality, as well as emphasizing prevention.
2. **Eliminate health disparities among racial and ethnic groups** through improved access to health care and innovative community-based strategies tailored to various racial and ethnic groups.
3. **Focus on children’s emotional and intellectual development** by continuing vaccinations and other health efforts, as well as community involvement in encouraging each child to achieve his or her full potential.

---

**Figure 3: Top 10 Public Health Achievements**

<table>
<thead>
<tr>
<th>Number</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vaccination</td>
</tr>
<tr>
<td>2</td>
<td>Motor-vehicle safety</td>
</tr>
<tr>
<td>3</td>
<td>Safer workplaces</td>
</tr>
<tr>
<td>4</td>
<td>Control of infectious diseases</td>
</tr>
<tr>
<td>5</td>
<td>Decline in deaths from coronary heart disease and stroke</td>
</tr>
<tr>
<td>6</td>
<td>Safer and healthier foods</td>
</tr>
<tr>
<td>7</td>
<td>Healthier mothers and babies</td>
</tr>
<tr>
<td>8</td>
<td>Family planning</td>
</tr>
<tr>
<td>9</td>
<td>Fluoridation of drinking water</td>
</tr>
<tr>
<td>10</td>
<td>Recognition of tobacco use as a health hazard</td>
</tr>
</tbody>
</table>

**Source:** Centers for Disease Control and Prevention, 1999. Morbidity and Mortality Weekly Report [http://www.cdc.gov/MMWR/preview/mmwrhtml/00056796.htm](http://www.cdc.gov/MMWR/preview/mmwrhtml/00056796.htm)
4. **Achieve a longer “healthspan”** by providing information on healthy aging to increase the likelihood that people can be healthy, active, and independent throughout their life.

5. **Integrate physical activity and healthy eating into daily lives** through broad societal changes with regard to food, eating habits, and physical activity.

6. **Clean up and protect the environment** by addressing toxic exposures, population growth, urbanization, and urban design that hinders healthy behaviors.

7. **Prepare to respond to emerging infectious diseases** as well as threats from bioterrorism.

8. **Recognize and address the contributions of mental health to overall health and well-being** by identifying risk factors, increasing access to treatment, and promoting good mental health in communities.

9. **Reduce the toll of violence in society** by changing societal norms about the acceptability of violence through effective interventions and community support.

10. **Use new scientific knowledge and technological advancements** equitably, ethically, and responsibly.

Each of these challenges is enormous in its own right, but given the complexity and fragmentation of the public health system, the limited resources allocated to public health, political polarization, and the need for cultural change, making progress in these areas will require dramatic changes in public health systems, health care providers, and individuals.

---

**Response of Public Health System to E.coli Outbreak**

The CDC estimates that 76 million cases of foodborne illness and 5,000 associated deaths occur in the U.S. each year. Multiple federal, state, and local government agencies are involved in identifying the source of foodborne illnesses such as E.coli, one of the main species of bacteria that live in the lower intestines of warm-blooded animals, and which has been implicated in numerous foodborne illnesses. Figure 4 shows a sample timeline for reporting of E.coli cases.

---

**Figure 4: Sample timeline for reporting of E. coli cases**

![Timeline of E. coli cases](http://www.cdc.gov/ecoli/reportingtimeline.htm)

Source: Centers for Disease Control and Prevention, http://www.cdc.gov/ecoli/reportingtimeline.htm