

Developments in Public Health

Overview

Public health became an important issue in the eighteenth century for two reasons. First, the Industrial Revolution was exerting a profound influence on the environment and the health of workers, and urbanization meant that more people were crowding into cities. With this growing population came increased incidences of disease. While reforms for industry and new sanitation practices became the focus of the public health movement early in the 1700s, the European and British public health movement did not gather its full strength until after 1750. In the U.S., serious efforts at improving the public's health did not get underway until the 1780s.

Background

The years 1700 to 1799 are also known as the period of the Enlightenment, an international intellectual movement that revolutionized political, philosophical, social, and scientific thinking. The great figures during the Enlightenment strove to improve the world and the circumstances of humankind. Betterment of the public health was among the goals of many Enlightenment thinkers.

Both in Europe and the New World, science was increasingly employed to better human lives and the conditions under which people lived. The idea that unsanitary conditions could spawn and spread diseases, that germs were the cause of many illness, and that many illnesses were caused by contact with sick people—a concept called "contagion"—began to dominate medical thinking and change health practices.

This was also a period when hospital and prison conditions improved and when the combination of strong central yet democratic government—and an aroused public opinion—exerted their influence. Public health efforts in the New World were aimed at keeping diseases such as smallpox and yellow fever away from American shores while in Europe governments both local and national passed laws and acts aimed at sanitizing public water supplies, public streets, and public buildings.

Europe was the focus of the most rigorous advancements in public health. During the eighteenth century, the population of Prussia (as Germany was then called) increased dramatically. Berlin's population swelled five-fold during the years 1700 to 1797. Paris's population increased as well, but was a city with a reputation for unsanitary hospitals. People were concerned about the diseases of soldiers as well as the unhealthy conditions in institutions that housed the insane and criminals.

Impact

Germany

The most important European figure in the German public health movement was Johann Peter Frank (1745-1821), who established the concept of "medical police" with his publication of *The System of Medical Police* in 1779. The first known use of the term "medical police" was by German Wolfgang Thomas Rau (1668-1719) a few decades earlier, but Frank more clearly defined the concept in several volumes, outlining their responsibilities and making strong, enforceable recommendations for public health action.

Frank's idea of "medical police" meant that government medical policy should be implemented through enforced regulations. He presented medical policing as a responsibility of the state through a formal system of public and private hygiene laws with great reliance on control, regulation, and police enforcement. Many of his recommendations are out of place in a democracy, but fit the concept of "enlightened despotism," a concept alive and well at his time.

Population policy was a hallmark of Frank's medical policing recommendations. Marriage was promoted, "bachelor taxes" were levied, midwifery supported, and freedom from work and responsibility for new mothers was established. Frank thought that the state should support new mothers for the first six weeks after delivery. Frank was also concerned with the welfare of school children, from accident prevention to promoting cleanliness. Medical police were to monitor school buildings and the environment in school facilities, such as light, ventilation, and heat.

Frank's medical police dealt with problems of sanitation, such as sewage, garbage disposal, and maintaining clean water supplies. There was no more important task than keeping cities and towns clean, said Frank, who arranged for public restrooms in cities and public dumping grounds far outside of cities and towns. Frank published six volumes of his *System of Medical Police* in the 1700s. Three more volumes appeared early the next century.

France

In 1790, French physician Joseph Ignace Guillotine (1738-1814), for whom the guillotine was named, insisted that medical practice, medical education, "health police," sanitary services, and the control of diseases be controlled by a "health committee." The French Health Committee, led by Jean Gabriel Gallot, had jurisdiction over diseases and inoculation against diseases such as smallpox. He and others began planning a convention at which broader health issues would be addressed and the committee formalized.

Convention participants in 1793 passed a law that provided for the welfare and health of children and expectant mothers. The same convention decreed that every hospital patient should have his own bed and that the beds should be separated by 3 feet (7.6 cm). In the same year, French physician Philippe Pinel (1745-1826) similarly improved the treatment of the incarcerated insane, removing their chains and demonstrating that more humane treatment of the mentally ill had social value.

England

Like the population of Berlin, the population of London swelled quickly in the eighteenth century. Scottish philosopher and essayist Jonathan Swift was so concerned about the effect of population growth on the food supply that in 1789 he wrote *A Modest Proposal*, an essay satirically proposing that the answer to the increasing population was to eat babies.

Along with rising populations, treating disease was a primary concern in England during the 1700s. New hospitals and medical "dispensaries" opened in many parts of England, including York, Bristol, and Westminster; previously, most had been only in London. By the 1750s, preventing disease in the English populace was drawing the attention of Parliament. An early public health campaign waged by reformers was against the consumption of the alcoholic beverage gin, thought to be undermining the public's health. In turn, Parliament passed a series of acts which gave control of gin to magistrates while seeking to control its consumption. This control was associated with a decline in consumption and a concomitant fall in the death rates, especially for infants since alcohol has an effect on the developing fetus.

The British also attacked the problem of child mortality—as high as 80% in children younger than one year—through better care. In 1741, the Foundling Hospital of London was established to provide nursing and other care for children. In 1769, an Act of Parliament required sick children to be sent to the country for care.

Notable in the cause of British public health was James Lind (1716-1794), who helped reduce scurvy among British seamen by encouraging them to use lime juice (scurvy is a disease caused by a deficiency in vitamin C). Robert Willan described the various skin ailments of workers and connected them to work-related health risks.

Most notable among the British reformers was John Howard (1726-1790), who publicized and ultimately reformed the appallingly unsanitary conditions he found in prisons in England and Europe. In 1777, Howard published the *State of the Prisons*, which outlined his investigations of unsanitary British jails. Likewise, William Tuke, a tea and coffee merchant, reformed the British asylums by creating a "retreat" in York, England, that housed 30 mental patients and treated them more humanely than they were treated in the asylums, and with good results. His work paralleled that of French "lunacy" reformer Pinel.

Efforts in combating disease took a great leap in the 1790s when English country doctor Edward Jenner (1749-1823) noticed that milkmaids did not get smallpox, a disease ravaging the world. They did, however, get cowpox from the cows they milked, leading Jenner to think their exposure to cowpox protected them from smallpox. He began inoculating people with cowpox in attempt to save them from smallpox. His efforts lead to "vaccinations" which eventually eliminated many diseases, including smallpox.

United States of America

In the American colonies and later in the newly established United States of America, public health movements focused on preventing dreaded diseases, such as smallpox and yellow fever, from being brought ashore by visitors from the West Indies or Europe. Early public officials sought control by policing arriving ships and quarantining passengers. In Boston, concerns about imported disease led to the establishment of a group of physicians called "The Selectmen," who inspected ships and crews for smallpox and other diseases. The Selectmen also were responsible for setting guards at houses of quarantine. The Selectmen also spearheaded efforts to drain stagnant water in streets and oversee street paving and provide cleaner water wells.

In New York, with population near 10,000 in the 1730s, the connection between dirt and disease occupied many educated and well-meaning citizens. Street cleaning laws were passed in 1731 and, in 1744, a formal Sanitation Act moved animal trades and slaughtering outside the city limits. Through the century, in New York, as in the other American colonies, smallpox and yellow fever were constant threats. In the middle decades, New Yorkers quarantined smallpox sufferers and refused docking to ships carrying smallpox. In the 1740s and 1790s, yellow fever visited New York, as it had Philadelphia and Baltimore. New Yorker Cadwallader Colden recognized that yellow fever outbreaks were in proximity to swampy areas and made recommendations on draining these areas. It was not yet clear, however, that yellow fever was carried by mosquitoes that bred in swamps.

In the U.S., great public health projects came decades later than in Europe, but Philadelphia established a hospital in 1751, and New York in 1791. The U.S. Public Health Service and the office of the U.S. Surgeon General were established in 1798.

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Further Reading

Books

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