3.9 Public health 1750–1900: government action

Learning outcomes
By the end of this topic you should be able to:
- outline the measures of the Public Health Acts of 1848 and 1875
- give reasons why local and national government finally took decisive action
- evaluate the significance of the work done by the authorities in improving public health.

The Public Health Act, 1848
In 1848, another serious outbreak of cholera finally prompted the government to take action on Chadwick’s ideas. The Public Health Act in 1848 set up a General Board of Health, with Chadwick as one of the three commissioners. It also allowed towns to:
- set up their own local Board of Health
- appoint a local medical officer
- organise the removal of rubbish
- build a sewer system.

But it did not force town councils to do this, unless the local death rate was over 23 per thousand living. Only one-third of towns set up a Board of Health and even fewer appointed a medical officer. Meanwhile, the terms of the Act were only temporary so that, in 1854, the three commissioners had to resign and the General Board of Health was abolished in 1858. Chadwick was not appointed to any other official position.

What prompted further action?
Parliament slowly became convinced during the 1850s and 1860s that it should take further action to improve public health and that these measures should be compulsory.
- Snow’s work (1854) seemed to prove there was a link between water and cholera.
- Pasteur’s germ theory showed how disease spread and why hygiene was important.
- Snow also showed that death rates varied according to the water sources used by different water companies.
- The government started collecting statistics on births, marriages and deaths; William Farr studied these and showed that the death rates were much higher in the towns and cities than in villages.

Local councils take action
Another outbreak of cholera in 1866 least affected those towns where there had already been some improvements in public health. This reinforced the link between hygiene and health. When working-class men living in towns got the vote in 1867, they used their voice to put even more pressure on the government and on local councils to take action. A good example of this is that, in the 1870s, Joseph Chamberlain, the mayor of Birmingham, carried out several reforms, including the demolition of 40 acres of slums.

Source A: A cartoon called ‘A Court for King Cholera’ published in 1852. It shows that people at the time understood that cholera was likely to spread in dirty and overcrowded conditions.
The Public Health Act, 1875
Parliament began passing more legislation on public health.
- The 1866 Sanitary Act forced all towns to appoint inspectors to check water supplies and drainage.
- The 1875 Artisans Dwelling Act gave local authorities the power to buy and demolish slum housing.
- These led to the 1875 Public Health Act - which made local councils responsible for ensuring that the following were provided:
  - Clean water
  - Public toilets
  - Rubbish removal
  - Sewers and drains

The Act also made towns appoint Health and Sanitary Inspectors and a Medical Officer of Health.

In the years after 1875, local councils also became responsible for:
- checking the quality of food in shops
- ensuring that the quality of new housing was improved
- enforcing a new law against polluting water supplies such as rivers and streams.

Despite this, in many towns, basic services such as water, lighting and paving were still in the hands of private companies and individuals.

Compulsory vaccinations
Another way in which the government became more involved in healthcare was through compulsory vaccinations. When Jenner discovered a way of preventing people catching smallpox, the role of the government was crucial (see pages 54–55). Although the Jennerian society was set up to offer free vaccinations, many people still distrusted the idea of using cowpox to vaccinate against smallpox. The government made vaccination compulsory in 1852, but it was not strictly enforced until 1871 when an Act of Parliament forced local authorities to register everyone who was vaccinated – only then did the number of deaths from smallpox drop dramatically.

As scientists developed other vaccines for killer diseases, the government campaigned for people to start vaccinating their children and then made some vaccines compulsory. This, arguably, was as important as developing the vaccines themselves in reducing deaths from these diseases.

Source B: Graph showing deaths from killer diseases, when microbes were identified, when vaccines were developed and when there was a government campaign for vaccination.

Activities
1 Chadwick did not properly understand the link between health and hygiene, and the reforms based on his ideas were all temporary. Does that mean Chadwick was a failure?
2 The reforms of 1875 went much further than the reforms of 1848. Why were they accepted when there had been so much opposition to the earlier ideas?
3 Study Source B. Explain how the graph shows the importance of the following factors in preventing disease at the end of the 19th century:
   a) improvements in scientific knowledge
   b) the role of the government.
4 Why do you think the death rate for TB (indicated by the blue line on the graph) was falling even before the vaccine was developed?

Summary
In the second half of the 19th century there was greater acceptance of the need for action by central government and local authorities to improve public health. Change was rapid and far-reaching.
3.10 Public health 1750–1900: the role of technology

Learning outcomes
By the end of this topic you should be able to:
• explain the importance of Bazalgette to improving public health in London
• evaluate the contribution of industry and technology to improving public health provision.

The ‘Great Stink’ 1858
Plans were already being made for a new sewer system in London in 1858. However, the extremely hot weather meant that the level of the River Thames was low and the smell of the exposed sewage along its banks was so great that parliament could not meet, even though sheets soaked in disinfectant were hung at the windows to cover up the smell. This ‘Great Stink’ combined with outbreaks of cholera and the work of people such as Chadwick and Snow to convince the authorities that more public health reform was needed.

Joseph Bazalgette
The Metropolitan Board of Works agreed to the expensive ideas being put forward by Joseph Bazalgette for a new sewer system in London. Bazalgette was an engineer who had worked in the railway industry before working on large-scale sewage and drainage projects. He designed a complex sewerage system for London that took into consideration future population growth as well as the needs of the time. It included 1,300 miles of sewers, plus pumping stations and embankments besides the River Thames to house the stations. It took Bazalgette and his huge team of engineers and construction workers over seven years to complete.

Fascinating fact
Queen Victoria was so excited about the new large sewer tunnels that she ordered a small railway line to be installed to transport people through the sewer. Gas lights and walkways were installed, with booths selling souvenirs.

Source A: A photograph of Bazalgette inspecting the construction of the London sewer system.

Source B: An illustration showing the planning and engineering work involved in the construction of London’s underground sewer system.
The role of industry and technology

Sources A and B show the size of the sewers created, the construction work they required and the complexity of planning and engineering that went into London’s new underground sewer system. This highlights another important factor in improving public health – technology and industry.

Although the industrial revolution led to many public health problems, it also provided some of the solutions. Through designing and building machinery for farms and factories, and the development of the railway and canal systems, people had learned the best ways of building pipelines, tunnels and embankments and how to harness the power of steam to run engines.

The pumping station shown in Source C was installed in 1865 in London. The engine shown was one of four engines used to pump water through London’s sewers. They worked tirelessly until they were replaced by a more modern system in the 1950s! Machines and systems such as this would have been impossible to achieve before the technological developments of the industrial revolution.

Activities

1 Research: find out more about the work of Joseph Bazalgette. Then write a newspaper article, set in 1866, arguing either that his work on London’s sewer system has been a great advance in public health or a huge waste of money.

2 List as many examples of 19th century technology as you can think of. Then think of ways in which this technology has been used for public health systems.

3 You have now looked at the role of science (e.g. Pasteur), the role of government action (e.g. the Public Health Act of 1875) and the role of industry and technology (e.g. the planning and construction of Bazalgette’s sewer system). Which of these do you think was the most important in improving public health provision?

4 Evaluate the impact of cholera on public health provision. Do you think any of the public health improvements would have been made without the continuing outbreaks of this disease? Explain your answer.

Source C: This pumping station was part of Bazalgette’s new sewer system.

Watch out!

Remember that no single factor was totally responsible for public health improvements. They all relied upon each other. For example, the government action in making proper sewers in towns compulsory would not have been so effective if the technology and knowledge of how to create these sewers didn’t exist!

Summary

Industry and technology played a role in improving public health systems in towns and cities. Key individuals, such as Joseph Bazalgette, were important in accelerating change or steering its direction.