

Extract from Henig, Robin Marantz. *The People's Health. A Memoir of Public Health and its Evolution at Harvard*. Washington, D.C.: Joseph Henry, 1997.

Public health experts love to tell the story of John Snow and the Broad Street pump. At the midway point of the nineteenth century, cholera was one of the deadliest diseases in Europe. It wiped out whole communities in a matter of weeks, and no one could determine how it was spread—or how it could be stopped.

John Snow applied logic to a problem that had previously caused panic and paralyzed health workers. Snow was a British physician of such renown that he had been called in as an anesthetist when Queen Victoria delivered her first child in 1853. Approaching the cholera question, he sat down one afternoon in 1854 with a map of London, where a recent outbreak had killed more than 500 people in one dreadful 10-day period.

He marked the locations of the homes of those who had died. From the marks on his map, Snow could see that the deaths had all occurred in the so-called Golden Square area. The most striking difference between this district and the rest of London was the source of its drinking water. The private water company supplying the Golden Square neighborhood—which, according to the tradition of the day, was different from the private water companies supplying other neighborhoods—was getting its water from a section of the Thames River that was known to be especially polluted.

So Snow went down to Broad Street, where he suspected that one particular pump was the source of the contaminated water. And, in a gesture that still reverberates among public health scholars today, he removed the handle of the Broad Street pump.

Once the pump was out of commission, the epidemic abated. Snow did not know—nor did anyone else in that era—exactly how cholera [1/2] had been passed from one person to another. Indeed, no one was even to conceptualize the notion of germs as a cause of disease for nearly 30 years. But Snow had shown that the cholera poison, whatever it was, could be found in contaminated water and taken in by mouth. The precise nature of the poison, and its exact route of transmission, did not really matter to him. All he wanted to do was keep it from being ingested and passed on.

John Snow is a hero to public health experts because he was the first to conduct a careful epidemiological investigation and the first to take definitive action and get dramatic, clear-cut results. The basics of Snow's work are still required reading for many students of epidemiology today. His work was based on elements of scientific investigation that are central to public health today: measure the distribution of disease events in a population; define the problem, at the same time bringing together all the necessary experts; and design and implement an intervention. Snow's contributions go beyond the removal of the Broad Street pump; he devised the first large epidemiological study for understanding a disease problem in a population. This approach has led to some of the most dramatic public health "detective work" in the past half century—the conquest of smallpox, the treatment of river blindness, and growing understanding of AIDS.