SHEA
The Society for Healthcare Epidemiology of America

Infection Control & Hospital Epidemiology

Volume 39, No 8

ICHE

JOHN SNOW & THE BROAD STREET PUMP

AUGUST 2018

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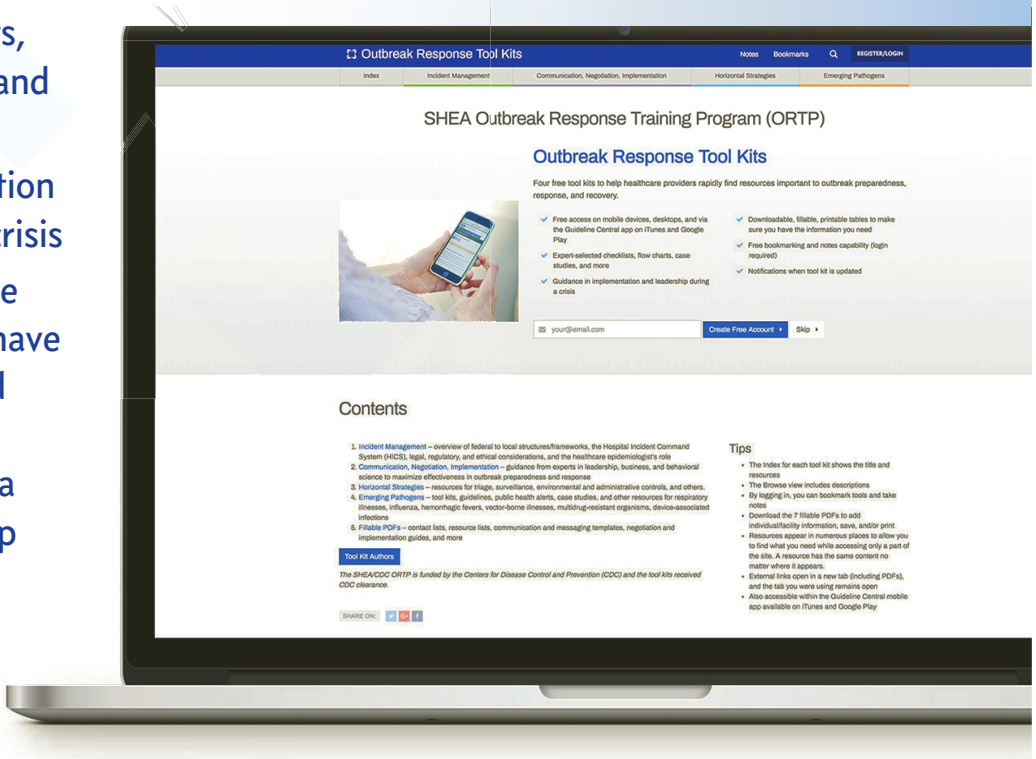

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Cover image: A replica of the original 1854 Broad Street Pump has stood at the corner of Broadwick and Lexington Streets in Soho, London since 1992. The John Snow Pub can be seen in the background. Image "John Snow memorial and pub," copyright Justinc - made available under a Creative Commons Attribution-Share Alike 2.0 Generic license.

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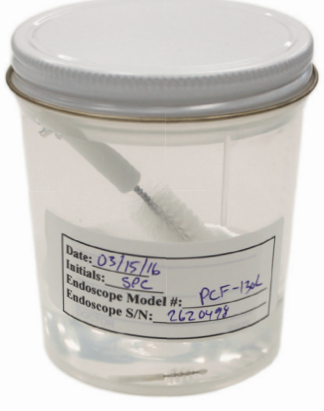

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About the cover:

Since 2015, the cover format of each volume of *Infection Control & Hospital Epidemiology* has been designed to honor one of the many professionals throughout history who not only recognized how disease might be spread but also how to apply those principles to reduce healthcare-associated infections.

John Snow (1813–1858) was 1 of 9 children born to a working-class family in York, England. At the age of 14, he was apprenticed as a surgeon-apothecary with a family friend in Newcastle. He was sent to tend the afflicted in a nearby mining town during a cholera outbreak in 1832. He pursued his medical degree at the University of London, with the sponsorship of a wealthy uncle, and he initially set up a general practice in Soho. He gained fame as a practitioner of the new discipline of anesthesia and tended to Queen Victoria during the births of her children.

On August 24, 1854, a baby died of cholera on Broad Street near Soho. Shortly thereafter, 700 deaths from cholera occurred within a radius of 250 yards, and Snow happened to live nearby. As an anesthetist, he recognized how gases dissipated, and he rejected the prevailing dogma that cholera was spread through the inhalation of atmospheric vapors from decaying material because it would not explain how patients were affected miles away from the source. Snow hypothesized that water, contaminated with some cholera agent in feces, was the more likely explanation.

Using epidemiological principles, he identified who was affected using death certificates and where the illness was acquired (e.g., where case patients lived), then he determined what water supply they had used. He discovered that most households with a cholera case obtained water from the Broad Street pump. Snow ordered that the pump handle be removed. A local curate, Henry Whitehead, initially sought to disprove Snow's suspicions through further surveillance. Instead, Whitehead found that 8-fold more case patients had drunk from the pump than had not. Furthermore, he revealed that deaths occurred more often among residents who resided closest to the pump than in houses located farther away or that used a different water source. Ultimately, a leak between the Broad Street pump and a neighboring cesspool was discovered.

John Snow continued to carefully study the relationship between water contamination and cholera. Unfortunately, his work in epidemiology was ignored or pilloried in editorials in major journals. Snow would not live long enough to be recognized as a founder of modern epidemiology; he died of "apoplexy" or stroke at the age of 45 years. The John Snow Inn and a replica of the Broad Street pump can still be found in what is now called Broadwick Street in Soho, central London.

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Infectious Disease Physician
Hospital Epidemiologist

The Division of Infectious Diseases at Mayo Clinic, Jacksonville, Florida invites applications for a position in clinical infectious disease and hospital epidemiology.

Mayo Clinic is seeking a board certified academic infectious disease physician who is trained in hospital epidemiology and infection prevention and control. Qualified candidates are required to have Infectious Diseases fellowship training and be Board Certified/ Board Eligible in Infectious Diseases.

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