

In 1854, a cholera epidemic was rife in Soho, and the mortality rate was terrible. Physician John Snow, trying to determine the source of the epidemic, mapped the cases of the disease and used the map to identify possible sources. The major source identified was the Broad Street pump, where many of the district's people went to obtain water for cooking and washing. He persuaded the local council to remove the pump handle; the epidemic declined and ended. Thus was born the science of Public Health.

Prevention is one of the fundamental concepts that underlies the science of public health. It has been so successful in that context that the concept has been appropriated by a variety of other social, educational, and cultural disciplines, including behavioral health. We use the terminology borrowed from public health, but we do not always understand how those concepts have been adapted for these other disciplines. Here is a brief summary:

Primary Prevention

In public health, primary prevention is the *elimination of risk factors*. In the example of the Broad Street pump, it was the removal of the handle. Contaminated water was no longer readily available; cholera declined. Primary prevention is simple and beautiful when it works, but it is not always achievable. For example, public health advocates have been trying for more than half a century to eliminate access to the carcinogen-delivery mechanism of the cigarette, but it hasn't happened.

In behavioral health, the risk factors are ubiquitous and rarely controllable in real world conditions. We can, for example, make various addictive substances illicit—but that creates another whole constellation of damaging social problems.

Secondary Prevention

Suppose the Broad Street water source had been a large, freely-flowing river running through the center of the neighborhood? Dr. Snow might have tried to convince residents to walk half a mile to an uncontaminated spring to obtain the water they needed for cooking and washing. He might have gone door to door, explaining the problem, and trying to convince each household. He might have asked local ministers to inform people at Sunday services. He might have posted people at the river bank to warn people, and put up flyers around the neighborhood. He would have been trying to achieve *avoidance of risk*: Secondary prevention.

This is the type of prevention most frequently employed in behavioral health, particularly in dealing with specific, vulnerable populations such as youth, veterans, etc.

Tertiary Prevention

While Dr. Snow was trying to reduce cholera mortality using maps, other researchers were trying to identify ways to keep people already sick from dying: They succeeded, too. Most cholera deaths are related to dehydration: If you can keep a patient hydrated, the chance that they will die greatly decreases. *Managing pathology* is the basis of tertiary prevention.

The best known and arguably most successful tertiary prevention program in behavioral health is Alcoholics Anonymous and other 12-Step programs. For those who already suffer from addictive disease, the interventions of Twelve-Steppery can greatly reduce the risks of mortality from the disease.



Where it all began: The Broad Street Pump in Soho