

# PUBLIC HEALTH IN APPALACHIA: *The Perspective of One Hundred Years*

## How High is the Wall in Your Town?

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Figure 1

Sometimes, if we look back into history carefully enough, we can see the future. Such is the case with a remarkable little book called *Popular Talks on Preventable Diseases*.

On July 1, 1908, the State of Virginia transitioned its pre-existing State Board of Health to become a new State Department of Health. Over the course of its first year, the department issued a regular "Virginia Health Bulletin" (Figure 1). Early in the twentieth century, ten of these reports were bound into a small, green-covered book known as *Popular Talks on Preventable Diseases*.

While some of the topics such as typhoid, scarlet fever, diphtheria, hookworm, and smallpox seem distant from, and less relevant to, our world today, there is a remarkable amount of material in these 147 pages that is significant a century later.

This may seem surprising when we consider how much has changed since 1908. During the last century, the entire practice of medicine has evolved so much that what physicians do today bears virtually no resemblance to what my great-grandfather Reuben Lindsay Robertson did as City Health Officer in

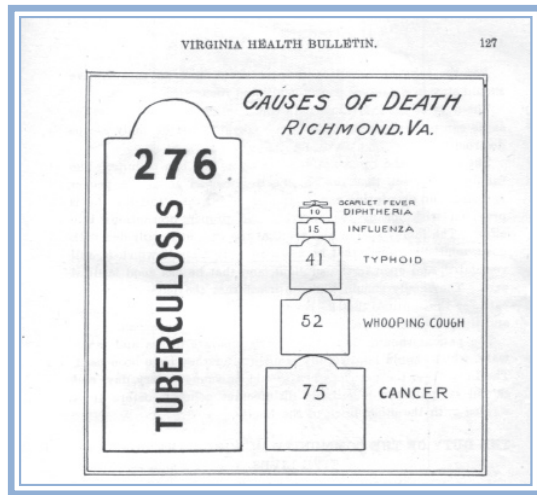
Charlottesville, Virginia, at the time this book was published. In 1908, the population of Virginia was just over 2 million. Today, it is over 7.5 million. Life expectancy was about forty-seven years compared to seventy-nine today. Then, "one infant out of every five born in the United States dies before its first birthday," while today it is one out of every 159. According to the book itself, the leading causes of death in Richmond, Virginia, in 1908 were tuberculosis, cancer, whooping cough, typhoid, influenza, diphtheria, and scarlet fever, in that order, with tuberculosis accounting for over half the deaths (Figure 2, page 10). Only two, cancer and influenza, even make the top ten today.

Despite all of the differences, however, there is much to learn from this simple book.

### **Lesson 1: The main mission is educating the public**

The leaders of the Virginia Department of Health in 1908 and 1909 clearly realized that their most important task was public education. Not only did they have articles designed for a non-professional

Figure 2



audience, but they also employed cartoons and diagrams that graphically and entertainingly expressed the most important messages from the book.

The authors understood the importance of having the public understand not only the existence of disease but the relative impact of it. For example, in writing about tuberculosis, the authors describe the disease both in human and economic terms:

In the State of Virginia, it is estimated that nearly 5,000 people die of tuberculosis each year and that at least 20,000 people are suffering from it. To realize what this means, let one think of one relative or friend who has fallen a victim of this disease and the sorrow, suffering and misery attending it, then multiply this by 5,000 and the sum of human wretchedness wrought by this single disease in one year in our State will be realized.

Lest readers be too discouraged, the authors went on to say:

Tuberculosis is preventable and can be made to disappear from the face of the earth. Tuberculosis is spread almost exclusively by those germs which are in the sputum of persons suffering from consumption, or tuberculosis of the lungs. If all the sputum from such cases were promptly and properly burned or disinfected practically no new cases would develop and the disease would gradually disappear.

## Lesson 2: Our “modern” perspectives are not always new

The authors clearly saw their public health challenges in a way we would describe as “modern.”

These challenges included racial (Figure 3) and socioeconomic disparities in health. According to the authors, “. . . among some classes one out of every three children dies before its first birthday.”

The authors understood the importance of being able to quantify health challenges in terms familiar to their audience, comparing, for example, the relative impact of the Civil War to the death toll from tuberculosis (Figure 4, page 11).

They devoted an entire chapter to “School Hygiene,” claiming “every teacher and every member of a school board should have this Bulletin.” They assert that “the school is a defense against ignorance and crime. It should be made equally a defense against disease.”

The similarity to Tennessee’s current Coordinated School Health System is remarkable. The system “encourages healthy lifestyles, provides needed supports to at-risk students, and helps to reduce the prevalence of health problems that impair academic success.”

## Lesson 3: Public health and prevention are essential for improving health

Perhaps the most startling message from the book is the fact that the authors understood how they could battle the most significant health conditions of their day—diphtheria, whooping cough, measles, and scarlet fever—without a single cure or preventative for these conditions.

This amazing book was published two decades before Alexander Fleming’s discovery of penicillin, at a time when the only vaccines available were for smallpox and rabies. Despite all of the limitations of the day, the authors understood that they could protect, promote, and improve health.

Through a combination of “Popular Education about Disease,” “Careful Physicians,” “Efficient Health Officers,” “Isolation and Quarantine of the Sick,” “Antitoxin,” and “Fumigation and Disinfection,” the

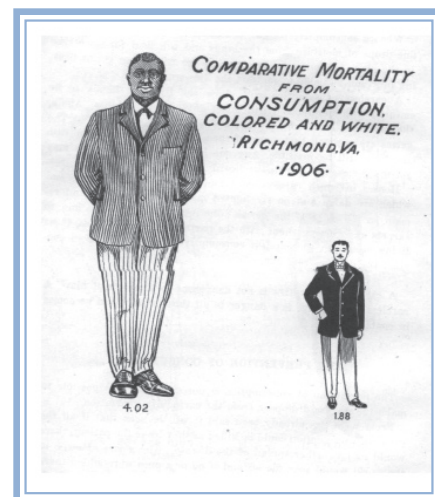


Figure 3

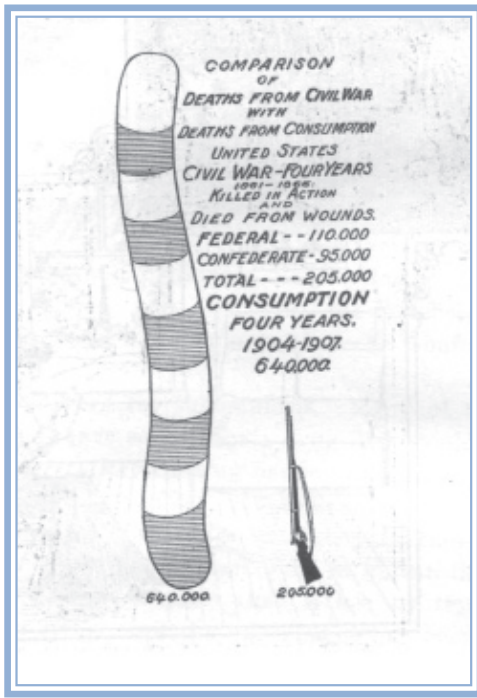


Figure 4

authors knew they could protect their children from the health scourges of their time (Figure 5). They didn't despair; rather, they asked, "How High is the Wall in Your Town?"

In the book, Dr. Charles O'Donovan, president of the Medical and Chirurgical Faculty of Maryland, is quoted as saying, "At least a third of those who died annually in the United States die of diseases that need not occur; diseases that are almost crimes upon the city or State in which they exist."

A 2007 report in the *New England Journal of Medicine* supports this contention by suggesting that 40 percent of premature death in the United States is a result of unhealthy behaviors and thus completely preventable.

The deep and abiding faith of this simple book reminds us that we can apply what we know now—the basic principles of public health, expressed with a deep compassion for each other and more than a dollop of common sense—to make a difference in the lives of all people. In the very first chapter, the authors write, "Public Health is the foundation on which reposes the happiness of the people and the prosperity and power of the country."

The authors viewed the twentieth century, then in its infancy, as an age of unequalled promise:

All thinking men know that in medical science as in all other departments of life we are at the beginning of a new era. We must be convinced of this when we consider the contrast between the industrial, social and commercial conditions

and environments of our generation and of the generations preceding us . . . . The explorers of the mysteries of the human body and of the conditions and forces affecting its welfare, have their dividends and rewards in the steady increase in the average length of life and the addition of countless days of efficiency and freedom from pain and sorrow.

This optimistic view of the impact science was going to have on human health is an early recognition of the importance of both quality and quantity of life—concepts we think of in wholly modern terms today.

The authors understood then, as we understand now, that the real value of these advances should be in the prevention and not just the curing of disease. "The Department of Health," they wrote in 1908, "will devote its energies to the use and application of these discoveries to the promotion of knowledge of how to avert and prevent disease and its disastrous consequences."

They knew that there didn't need to be a technological solution. They didn't need to have a

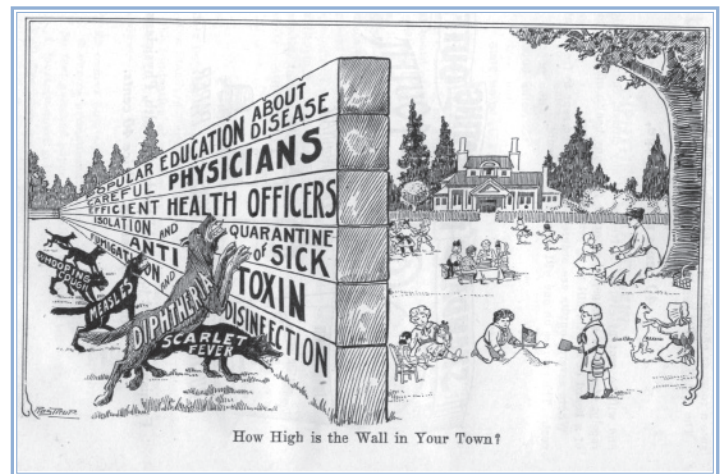


Figure 5

single, overarching intervention. They didn't feel a need to rely on a "magic bullet."

They just needed a wall—a comprehensive and systematic approach to apply what they *did* know to protect and promote the health of their citizens.

With all that we learned in the last century, and with all the medicines and vaccines we now possess that were unknown in 1908, we must adopt our forefathers' remarkable sense of optimism and commit ourselves to building a wall high enough to protect all the children of our town. ❖