

The Public Health Approach: Population Thinking From the Black Death to COVID-19

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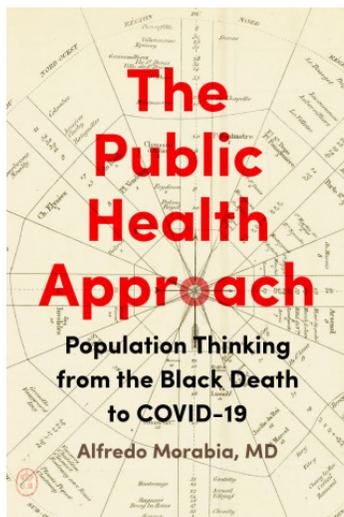
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Book Title: The Public Health Approach: Population Thinking From the Black Death to COVID-19

Author: Alfredo Morabia

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If you're a history buff and a physician, you likely are aware of the work of Robert Koch, Ignaz Semmelweis, John Snow, Louis Pasteur, and William Osler. But few may be familiar with Benjamin Franklin's contributions to the popularizing of inoculation, and I would guess that most know even less of John Graunt's pioneering work.

Dr Alfredo Morabia's book takes us through many fascinating chapters in the history of public health. Morabia teaches in the School of Public Health at Columbia University. His background includes undergraduate studies in Latin and Greek, medical studies in Switzerland, and additional training in Italy, Scotland, and at Johns Hopkins University; his primary areas of research center on urban health history.¹

After a somewhat slow-going introduction to using population thinking to detect patterns not apparent at the individual level, Morabia proceeds to examine the bubonic plague, smallpox, cholera, and tuberculosis through a public health perspective. He then ventures into more recent health challenges, including the 1918 pandemic, which he contrasts with the COVID-19 pandemic.

The author's storytelling in the early chapters is compelling. He introduces the reader to Graunt's 1662 *Natural and Political Observations Mentioned in a Following Index, and Made Upon the Bills of Mortality*.² Graunt tallied up causes of death in London from 1647 to 1659, with categories ranging from Wolf, (8 deaths in 1650) to Purples and Spotted Fever (368 deaths in 1659). Graunt used these data to spot trends that would otherwise go unnoticed, and his work transformed how we think about diseases. Morabia reports, "There is a consensus that the Observations are the common ancestor of all population-based sciences such as statistics, epidemiology, sociology, and demography" (p. 36).

There's an interesting section describing the discovery and uptake of vaccines in Europe and North America, in which Benjamin Franklin and Cotton Mather played a part. Originally Franklin was skeptical of the practice, but

in 1730, after an epidemic of smallpox struck New England, Franklin published an article in his own journal, the *Pennsylvania Gazette*, that reported that 4% died among those who were inoculated compared to 25% of those who were not inoculated. Inoculation, wrote Benjamin Franklin, was a "safe and beneficial" practice

(p. 47).

The second half of the book addresses cancer, cardiovascular disease, HIV/AIDS, social determinants of health, and the 1918 and SARS/COVID-19 epidemics. Morabia lists numerous challenges we must face if we are serious about improving the health of our populations.

One illustration can be found in Morabia's discussion of cardiovascular risk. He explains how individual risk markers are often not helpful. For example, patients with serum cholesterol at or above 310 mg/100 ml are at risk of cardiac events. But only 10% of cases occur in this category, which means that 90% of people with cardiac events had lower cholesterol levels. Therefore, physicians treating high-risk individuals will not be as successful as when we target entire populations. Morabia reports that population strategies for cardiovascular risk reduction have been successful at reducing risk. The author misses an opportunity here to tell another compelling story—that of the North Karelia Project, a truly population-based study with extraordinarily positive outcomes.³ Perhaps ironically, when the focus of the book is on population thinking, the stories of individuals and dramatic research findings communicate most compellingly. Unfortunately, once the book begins addressing recent medical challenges, the pace falters a bit. Morabia's encyclopedic knowledge of public health research may be an obstacle in this section, which loses the lovely narrative thread of the early chapters. For example, Morabia recounts how the early days of HIV/AIDs introduced both clinical and statistical challenges; analyzing data was difficult because of treatment being preferentially given to those most at risk, biasing the results.

The Appendix examines historical precursors of population-based thinking. Morabia examines the elements necessary to demonstrate public health thinking, and he finds traces of those elements in nine historical texts (p. 153), ranging from the Old Testament to Hippocrates's notes to Petrarch. He demonstrates exceptional erudition as he discusses the challenges of translating these texts from their original languages. This section likely would be of interest primarily to medical, epidemiological, or cultural historians.

Morabia's book would work well as a textbook for a survey course on the history of public health and current challenges facing epidemiologists. Physicians with a passion for history and public health would find it useful. Additionally, Morabia's thoughts on lessons gleaned from COVID-19, interpreted through a historical lens, would be of interest to public health officers around the globe.

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