

Study questions success of health intervention currently used in developing countries

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In the early 20th century, researchers in Massachusetts studied the first community-based health intervention in the world, the Framingham Health and Tuberculosis Demonstration, deeming it highly successful in controlling tuberculosis (TB) and reducing mortality. Now a new study, which used recently digitized data on causes of death during that period, has concluded that the effort was not as successful as initially thought, and suggests that the intervention cannot be cited as evidence for the success of health policies in the era before antibiotics became available. Because the intervention inspired a number of contemporary health demonstrations and projects used in developing countries today, the new study raises serious questions.

The new study, by researchers at Carnegie Mellon University, the University of Southern Denmark, the University of Copenhagen, and the University of Michigan, appears in a working paper of the *National Bureau of Economic Research*.

"Our findings imply that the original intervention was unsuccessful," says Karen Clay, professor of economics and [public policy](#) at Carnegie Mellon University's Heinz College, who led the study. "Our results also contribute to the ongoing debate over whether public-[health](#) interventions mattered for the decline in [mortality](#) from TB prior to modern medicine. And they raise questions about this particular type of intervention—a community-based program that didn't assign people

randomly to treatment options—as a method for evaluating policy interventions."

In the new study, researchers rigorously analyzed the effects of the first public health demonstration on mortality from TB, total mortality, and infant mortality. In that demonstration, begun in 1917, the National Association for the Study and Prevention of Tuberculosis, funded by Metropolitan Life Insurance Company, chose Framingham, Massachusetts, as a typical American community. Located 32 miles west of Boston, Framingham had an immigrant population of 27% that mirrored the [immigrant population](#) of the United States as a whole.

The six-year intervention featured a number of efforts to control TB in the town. A survey of sickness was done, as were studies of sanitary conditions in schools and factories; there was also a tuberculin survey of area cattle. The demonstration also initiated a consultation service; led by a doctor, it helped local physicians diagnose TB and connected patients with doctors and [treatment options](#). In addition, infant welfare clinics helped mothers and babies receive adequate care, informational campaigns provided tips on how to prevent TB, and increased funding boosted health efforts in schools.

In 1923, at the end of the intervention, the association announced that TB and infant mortality had decreased 69% in Framingham; in seven similar communities that did not receive the intervention, TB and infant mortality decreased just 32%, the association said.

In the current study, researchers used newly digitized vital statistics for towns and cities in Massachusetts from 1901 to 1934 to gauge mortality associated with TB and in infants. To evaluate the effect of the original intervention, the researchers constructed a counterfactual city using data from other cities and different statistical methods to determine what would have happened in a city like Framingham if the demonstration

had not been carried out there.

In contrast to the positive conclusions of the original study and the subsequent historical narrative, the current study found that the Framingham intervention did not reduce mortality from TB, total mortality, or [infant mortality](#). The [intervention](#) did increase the number of TB cases that were discovered.

"The implication of our findings is that the Framingham Demonstration was not as successful as believed and that public health policy was not a decisive factor in the reduction of TB mortality," Clay says.

Provided by Carnegie Mellon University

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