The power of prevention

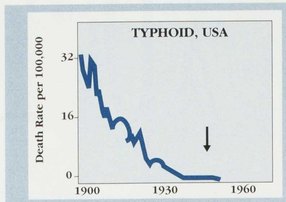
Animal researchers would like us to believe that without vivisection we would still be living in the dark ages. It is certainly true that life-expectancy has increased dramatically over the past hundred years, but is this really due to animal experiments?

During the 19th century, infectious epidemics of typhoid, TB, whooping cough, measles, scarlet fever, diphtheria and many others were still a feared and common occurence with infant mortality appallingly high. It was the virtual eradication of these infections that proved almost exclusively responsible for the decline in deaths and resulting increase in life-expectancy. And it is thanks to social reformers such as Lemuel Shattuck in the United States and Edwin Chadwick in Britain that we owe the impetus to better health.

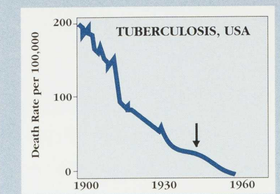
By careful observation of different communities, they discovered that people who lived in dirty, overcrowded and unsanitary conditions with little food or clean water, were most likely to die of infectious disease. They called for sanitary reforms, arguing that preventive measures would achieve infinitely more than remedies for the cure of disease. The resulting improvements in food supplies, hygiene and sanitation, and living and working conditions led to a rapid fall in deaths with mortality from nearly all the infectious diseases declining before, and in most cases long before, specific drugs or vaccines became available.[1] So vital were the reforms that in 1971, Edward Kass, President of the Infectious Disease Society of America, described the decline of infectious disorders and their correlation with improving socioeconomic conditions[2], as "the most important happening in the history of the health of man."

"The chief credit for the conquest of the destructive epidemics … ought to have been given to the social reformers who had campaigned for purer water, better sewage disposal and improved living standards. It had been their efforts, rather than the achievement of the medical scientists, which had been chiefly responsible for the reduction in mortality from infectious diseases."

Brian Inglis, *Diseases of Civilization*, 1983



The arrow marks the introduction of specific drug treatment



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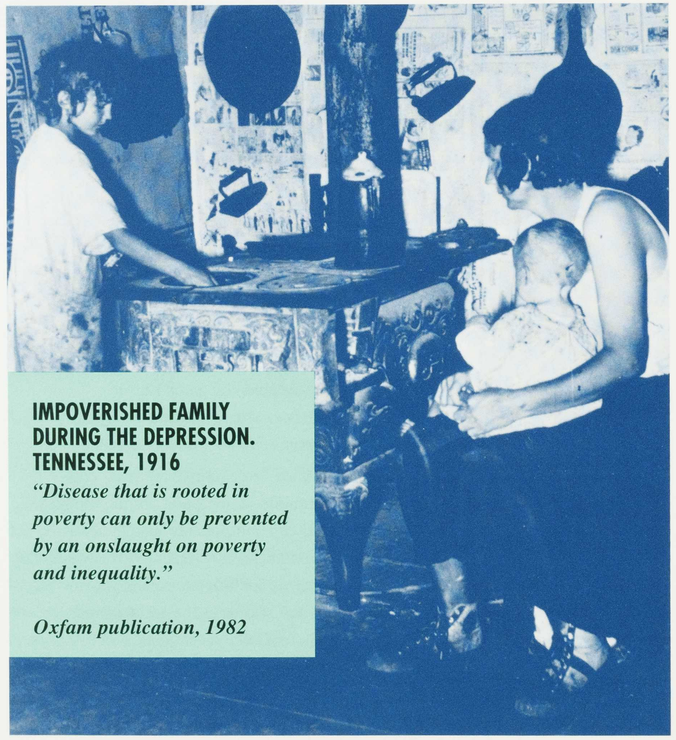
The influence of socioeconomic factors on our health is most vividly illustrated by infant mortality rates. During the 19th century these stood at several hundred per 1,000 births except among royal families where the rate was only 12 per 1,000 births,[2] much the same as the current US figure of about 10 per 1,000 births.



IMPOVERISHED FAMILY DURING THE DEPRESSION. TENNESSEE, 1916

"Disease that is rooted in poverty can only be prevented by an onslaught on poverty and inequality."

Oxfam publication, 1982

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Despite the improvements, poverty, malnutrition and bad housing are still major causes of ill health, not only in Third World countries, but in poorer sections of affluent nations where the death rate for TB is ten times higher among the poor. Indeed, studies in the Scottish city of Glasgow have shown that a child's social class is three times more important than vaccination in influencing whooping cough outbreaks.

As living standards improved, the old infectious epidemics were replaced by new killer diseases such as cancer, heart disease and stroke. These conditions are usually very difficult and often impossible to cure but once again they are amenable to preventive action. For instance, human population studies have shown that heart disease could be virtually eliminated by controlling three main factors – cholesterol, smoking and blood pressure. Even with existing heart disease, dietary and lifestyle measures can prove beneficial. Dr Dean Ornish of the University of California at San Francisco has shown that if people who have advanced heart disease adopt a low-fat vegetarian diet and stop smoking, the plaques in their arteries actually start to disappear.[3]

Since the mid-1960s, when the US had one of the highest death rates from coronary disease in the world, mortality has started to decline. Nevertheless heart disease still kills over half a million people in the United States every year with a further 20 million at risk. Furthermore, American men still have a much higher death rate from coronary disease than their Japanese counterparts, who owe their exceptionally low rates not to their genes but to their way of life: when they move to the US they quickly acquire America's higher mortality.

But the substantial fall in coronary deaths over the past 20 years does at least point the way ahead. For it has been achieved mainly through prevention, with specific medical measures such as bypass operations and coronary care units making only a small contribution, at best.[4] As Dr. David Nash, Clinical Professor of Medicine at the State University of New York Health Service Center in Syracuse, explains[5], "while it may be dramatic to demonstrate our technical skill in replacing blocked arteries, or even replacing the human heart with a mechanical device, risk factor reduction is a far more realistic, cost-effective and humane approach to resolving this serious health problem."

"In general, medical measures (both chemotherapeutic and prophylactic) appear to have contributed little to the overall decline in mortality in the US since about 1900 – having in many instances been introduced several decades after a marked decline had already set in and having no detectable influence in most instances."

John & Sonja McKinlay, *Health & Society*, 1977

Pollution: an important cause of sickness and death in industrial nations.

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