

## U.S. Health Care Crisis – Part 1: The Myth of the Medical Model

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Recent political rhetoric insists that the best public policy and solution to the “health care crisis” is to make health care affordable and accessible to all. This basic idea that each person should have responsibility for and be empowered by her or his own health care is a very good one. However, there is a hidden issue that is not addressed: What is the best medical model of creating health care?

What if the understanding of what fixes health problems is essentially wrong?

Look at the leading causes of death that create the spiraling costs for Americans: Heart Disease, Stroke, and Cancer. These diseases, although associated with age, in fact affect almost all age groups and are on the increase at rates that are faster than the growth of the aging population. The cost to society is escalating with no end in sight. According to a recent study by Cathy J. Bradley, PhD<sup>1</sup>, the cost of cancer in the year 2000 of \$115.8 billion is expected to jump to \$147.6 billion by the year 2020, a leap of almost 30%. In 2008, alone, the American Heart Association estimated the cost of cardiovascular disease to be \$448.5 billion<sup>2</sup>. It is no wonder we feel we are in the midst of a health care crisis.

However, our medical model for dealing with these killers is based on the science of treating infectious diseases. The basic mythology built into this model is that there is a drug to cure every disease (which is why pharmaceutical companies are so feverishly involved in medical legislation and advertising).

This model is simply wrong, and it needs to be replaced by new practices that enable us to detoxify ourselves and our environment. Call the old model “the magic pill cure”; call the new model Environmental Medicine.

To understand the current health care problems we can look back in history and trace the development of American medical care. Prior to the 1950’s, the major cause of illness and death was infectious diseases. Tuberculosis, pneumonia, epidemics of influenza, diphtheria, whooping cough, typhoid fever were the major diseases of the early 20<sup>th</sup> century. Our trust in pharmaceutical cures comes from the belief that we mitigated infectious diseases through vaccinations and antibiotics. However, there is an alternate explanation that looks more closely at the factors that cause disease on a population basis.

The industrialization of the United States occurred at the same time as the suppression of infectious diseases. In the first 40 years of the 20<sup>th</sup> Century, our nation radically improved

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<sup>1</sup> Bradley CJ, et al. Productivity Costs of Cancer Mortality in the United States: 2000 – 2020. J Natl Cancer Inst 2008; 100: 1763 - 1770.

<sup>2</sup> <http://www.americanheart.org>

standards of living: we created purer water supply, modern plumbing, and improved sanitation; we began using refrigeration and developed laws for food safety. These factors also developed at the same time the old epidemics were eliminated, and the changing environment acted as effective deterrent to infectious disease rates of death.

This claim is supported by hard evidence. According to a February 2000 report by the U.S. EPA, “water treatment was named as one of the most significant public health advancements of the 20<sup>th</sup> Century.” Why? Because water treatment plants delivered potable water to large cities and communities that were free of bacteria, viruses, and parasites. As early as 1914 the U.S. Public Health Service began setting standards for the quality of drinking water and in 1974 Congress passed the *Safe Drinking Water Act*, the standard for today.

As America became a fully industrialized society, the technological means were created for safe food transport, storage, and preparation, and laws were passed to ensure the public health. In addition, new capabilities removed waste and created standards of cleanliness for cities. The net effect of these industrial advances was to reduce human exposure to contaminants and disease vectors.

The improved environment---potable water, improved sanitation, and fresh foods---meant less stress on the human immune system; opportunistic infections were shut out. In comparison, we can look at countries with poorer environmental conditions. A recent article in *Environmental Health Perspectives* reports that “Scientists are presenting convincing evidence that environmental factors are linked to incidence of tuberculosis.” These environmental factors---such as indoor air pollution, tobacco smoke, malnutrition, over-crowded living conditions, and excessive alcohol use---are some of the conditions no longer seen in wealthier, industrialized nations. Such risk factors explain the high incidence of tuberculosis in less developed countries.<sup>3</sup>

However, as we eradicated tuberculosis, pneumonia, influenza, diphtheria, whooping cough, and typhoid fever by cleaning up the environment necessary for their propagation, in the second half of the 20<sup>th</sup> century, death rates from cancer, heart disease, and stroke caught up and then surpassed their death rates. Why did this shift occur?

The answer is in the environment.

Here are some facts:

- More than **85,000 synthetic chemicals have been introduced in the past 50 years** for industrial, farming, and other uses, yet more than 90 percent of them have not been tested for their effects on human health [individually or collectively].
- Studies have linked **46 different chemicals to mammary tumors in animals**, according to the National Toxicology Program.

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<sup>3</sup> Schmidt CW., Linking TB and the Environment: An Overlooked Mitigation Strategy. *Environ Health Perspect.* November 2008: 116(11): A478 – A485.

- Studies suggest that *fewer than half of breast-cancer cases can be explained by known risk factors*. American women have a one in eight chance of developing the disease, up from one in 22 in the 1940's.
- A 2007 research paper by the Ohio State University College of Medicine demonstrated that *all forms of mercury damaged and elicited inflammatory responses of cardiovascular tissue leading to cardiovascular disease*.

To select only one example: what are the real, full effects of mercury in the air and ground of our environment? Mercury has been implicated as a cause of heart and cardiovascular disease. This means that symptoms like high blood pressure and elevated cholesterol may have roots in chronic mercury inhalation. In the *Third National Report on Human Exposure to Environmental Chemicals* the CDC has stated, "Inhalation of mercury volatilized from dental amalgam is another major source of mercury exposure in the general population and is estimated to result in a daily intake of 1 – 5 micrograms per day." The same report stated further that "at levels below those that cause acute lung injury, overt signs and symptoms of chronic inhalation may include tremor, gingivitis, and neuro-cognitive and behavioral disturbances, particularly irritability, depression, short-term memory loss, fatigue, anorexia, and sleep disturbance."

And this is *just one element* in our post-industrial, pollutant-rich environment. We are exposed to many more wastes, by-products and misunderstood chemicals, and no toxicology studies consider the combination of multiple heavy metals such as aluminum, cadmium, lead, and arsenic.

As the realities of the "health care crisis" are considered, there is a need to understand that the age of "the magic pill" is over. Contemporary health problems and costs are not going to be solved by the pharmaceutical industry, but by addressing the debilitating environment. While industrialization helped eliminate infectious diseases, the limited understandings of the effects of industrialization have led to the proliferation of other chronic inflammatory diseases.

The solution to the health care crisis lies in a new model of medical care that will eliminate the new killers and will empower longer, healthier lives.

*Next: in part II, the concept of Toxic Load will be presented as the major health concern for the 21st Century.*

*We live in a toxic soup which has been cooked up by industrialization, ignorance, and short-sighted development of both where we live and how we live. Unfortunately, we won't control the release and absorption of this deadly soup until we understand and take responsibility for our environment. This understanding and responsibility are the goals of environmental medicine.*

***Environmental medicine empowers the patient to become the cure for the healthcare crisis.***