
THOUGHT LEADERS

GEORGE GILDER — CAPITAL FLOWS

THE COSTS OF HEALTH CARE FAILURE

THE COSTS of institutional health care failure now gorge nearly 15% of GDP, on the way to 20%. Yet the costs of the forward-looking genetic information in biomedicine has dropped 50,000-fold in ten years.

What's wrong with this picture?

To paymaster politicians, health care is a huge cost center. Health care is not really a problem but a huge opportunity for new drugs, medical instruments and biomedical advances. No U.S. health care cost crisis looms, after all, in paying the bills for smallpox, polio, TB, cholera, typhoid or malaria.

Obscuring the huge opportunity of new knowledge in pharma, though, is the obsolete apparatus of government power. With 16,500 new IRS agents and no new doctors, ObamaCare pushes on with its bureaucratic grab-and-gouge.

Meanwhile, in the face of a flood of biotech innovations, the Food and Drug Administration inflicts an average \$2.3 billion toll on each new drug. Getting to market through the government gauntlet now takes three times longer and costs a hundred times more than in 1950.

For the last two decades world industry has been moving “up the stack” of computer technology, from the physical layer at the bottom to software “source code” at the top. Knowing the location of every molecule in a computer reveals little or nothing about the software controlling what a computer is doing.

Similarly, knowing the location of every molecule in a human body discloses little or nothing about its nature or about diseases without knowledge of DNA genetics and even epigenetics in the stack above.

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As in computers, the higher-layer codes are independent of the physical layer and control it. Yet pharma still seems to uphold a “flat universe theory,” reducing everything to physics and chemistry and fighting disease by injecting chemical compounds into the bloodstreams of sick people or feeding them these compounds as pills or capsules.

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Yet the human body contains trillions of ribosomes that can produce proteins to order at the time and location they are needed. The future of pharma is to learn to address the human body as an information platform. A company in Seattle named Immusoft, partly financed by venture investor Peter Thiel, has been successfully pursuing this strategy and proven its feasibility with mice, using viruses and other vectors to program immune cells to emit needed molecules.

However, Immusoft can pursue this approach chiefly for treatment of HIV-

AIDS, because for this disease almost alone the FDA suspends its regime of mass testing of single static “drugs.” Yet, as Peter Huber points out in his forthcoming blockbuster, *The Cure in the Code*, all sicknesses increasingly resemble HIV.

The message of genetic information theory is that every human is different and most diseases and cancers are constantly changing, like AIDS. The FDA's pursuit of level playing fields and average patients eliminates all the crucial knowledge that makes drugs work with a particular person. As Huber says, “For a drug to perform well, we need to select the patient to fit it.” Even thalidomide, the notorious cause of grisly birth defects, has become a lifesaving drug for victims of myeloma and leprosy.

In the absence of the crucial knowledge of the interactive molecular science of patients and drugs, no exercise

of bureaucratic government power can achieve any gains in health care.

Crippling both the vaccine and the antibiotic industries, with most large companies abandoning antibiotic research, the FDA is in the process of prostrating U.S. defenses before the threat of bioterrorism.

To break the failed health care paradigm, dispersed knowledge must be complemented by dispersed power of patients and their physicians. Knowledge must prevail over power in a new paradigm of information-age medicine. **F**