U.S. Health Care System: Righting An Inversion

by Jim Toole

Remember those office toys filled with colored sands, the ones that formed intriguing patterns when you turned them over? In nature, the process of reaching equilibrium is seldom so controlled. Tornados, avalanches and epidemics are all examples of the rapid and violent equilibration of inversions and criticalities.

Not all inversions are destructive; the unique characteristics of water preserve life from year to year. As water cools, it becomes denser and drops to the bottom of a lake, pushing warmer water to the surface. But at 4 degrees Celsius, something special occurs. Water begins to expand, floating back to the surface to form ice, leaving space hospitable for marine life. Such a small thing, such a big effect. Intriguingly, the theories that explain inversions and their return to stasis can also help with understanding the behavior of markets and social networks.

Man As Market Maker

Like humans and the social networks they serve, markets are creative, hungry and constantly evolving. Markets respond to their environment and the incentives in them, explicit and implicit. Many noneconomists think that there are only two kinds of markets: the "free" one ordained by god (or, as the case may be, Adam Smith), and the wreckage of all other civilizations throughout history that failed to follow free market principles (usually pursuing some "ism", led by some "ist"). The "free" market is a mathematically convenient way of arriving at prices between willing buyers and sellers when goods are reasonably homogenous, information asymmetry is minimal, and the cost of externalities (environmental degradation, social injustice) can be comfortably ignored. As we all know, theory is different than reality.

Modern markets do not spontaneously generate, nor are they formed by some invisible hand. While early markets formed organically—as capital became more concentrated—owners demanded more structure and transparency. Most, if not all, 20th century capital markets were conceived, designed and created with great intentionality and continue to evolve. The Chicago Mercantile Exchange, NASDAQ, Treasury markets, emissions trading and spectrum auctions, were all created by businesses, investors and quasi-governmental authorities for the express purpose of serving as crucibles for equalizing supply and demand.

One of the confounding characteristics of markets is that they behave irrationally: they have booms and busts. Speculation creates imbalances of economic pressure, similar to inversions and criticalities. Commodities, real estate, financial instruments—even tulip bulbs—all experience cycles and bubbles dating back to, well, the invention of markets. Tended skillfully, pressure can be released with a minimum of pain and dislocation. Left to fester, a bubble may burst with catastrophic effect, engulfing not only local markets but collateral markets with contagion-like effects.

Modern markets are structured, rule-based and withstand the pressure of capitalism best when framed by explicit policy, reinforced by responsive governance structures and protected by effective oversight mechanisms.

Perverse Incentives, Predictable Outcomes

Our nation's health policy has been to have no policy. The employer-based health care system is an accident, and not a happy one. Far from intentional, it is the result of WWII era tax policy allowing businesses to deduct health insurance premiums to attract talent and circumvent wartime wage/price controls. One-sixth of the output of the entire U.S economy—an unimaginable 2.2 trillion dollars—is funneled into health care with only the slightest regard for outcomes. When production is not constrained by quality or efficiency, outcomes suffer; we have only to look at the auto industry to see the result of focusing on lobbying rather than product.

The incentives for health care delivery in the United States are inverted: we reward intervention and skimp on maintenance; reimburse service volume while ignor-

ing outcomes; and penalize efficient providers even as we reward the profligate. As a result, the system costs twice as much as it should, underperforms in terms of outcomes, yet still leaves over 45 million people—17 percent of the non-Medicare population—uninsured. Our health system is ranked 37th in the world by the World Health Organization (WHO). We are afflicted with an infant mortality rate more than twice that of Japan and Sweden, yet despite numerous studies showing high returns in terms of avoided health care costs, we invest merest pennies from the health care dollar in public health.[1]

Medical errors have become institutionalized. Studies estimate 3 percent of all hospital visits result in medical errors, the same rate as in 1984. The Institute of Medicine reported as many as 98,000 people die each year as a result of preventable medical errors, more than auto accidents, guns and AIDS combined, even more than the entire Vietnam War. Excess mortality amenable to healthcare is 44 percent higher than Canada, contributing to an additional 100,000 deaths per year.[2] Discretionary deaths which would be viewed as shocking in any other industry—imagine two fiery plane crashes every day of the year—are accepted as a normal business cost.

Our system suffers from a legacy of oppression, segregation and racial injustice. The United States is the only industrialized nation with an employer-based health care system other than South Africa. Far from incidental, at the time the enabling tax legislation was passed, segregation was the law of the land and brutally enforced. Today, workers without health benefits are still disproportionately persons of color. The infant mortality rate for blacks is a shocking 240 percent of the rate for whites. While blacks represent 12.3 percent of the population, just 2.2 percent of physicians and medical students are black. *This is less than the proportion in 1910.*[3]

By not agreeing to intentional health policies we receive the worst of all possible worlds, a perfect storm of high costs, poor access and shameful outcomes which disproportionately impact the poor and people of color.

What Is To Be Done?

While the U.S. health care system is dangerous to our physical health, the market is broken and hurtling towards a fiscal crisis of unimaginable consequence. Michael Levitt, then secretary for health and human services for George W. Bush, said health care spending "could potentially drag our nation into a financial crisis that makes our subprime mortgage crisis look like a warm summer rain."[4] Part of the problem is, short of an overhaul of the system, the tools available to policymakers are relatively blunt. There is no health care federal reserve that can bend health care trends like the Fed manipulates money supply and interest rates to influence financial markets.

Actually, there is. Special interests have just refused to permit it to operate as anything more than a sightless payer. Medicare, along with Medicaid and other state and local health programs, account for over 45 percent of the spending in the United States. That's right. The U.S. "private" health care system is funded almost half by tax dollars. When these programs were initially established—as a compromise to powerful health lobbies—sustainable policies guided by actuarial principles were excluded. Thus, what was a golden opportunity to incorporate information other than price into the system became instead the start of the mad gold rush that is the U.S. health care system.

Medicare can and must serve this role.[5] Where Medicare leads, the industry will, in most cases, gladly follow. Medicare studies show widespread regional variation in spending, with no statistical difference in outcomes. Because there is no mechanism to examine and communicate the benefits, risks and costs of new treatments—a critical component of any market—researchers estimate 30 percent of care in the United States does nothing to improve health outcomes. Based on experi-

ence with similar institutions in Britain and Germany, the Commonwealth Fund estimates direct savings of $368 billion would be achieved over 10 years by establishing a Center for Medical Effectiveness, using Medicare to accelerate the diffusion of best practices. [6]

Change is coming, and this time actuaries can't afford not to be involved. Will the transition be intentional and managed, or chaotic, like a bubble bursting? Can we bend the trend through sheer force of will, or will we stand by and watch as the train hurtles the track? While the cost of action is great, surely, the cost of inaction is greater. Americans need to invent, implement and evaluate sustainable health care policies, divert cash-flow streams away from projects which feed the beast, and focus on projects and policies which enhance value:

- Reward outcomes, not services.
- Incentivize the practice of evidence-based medicine.
- Do the comparative effectiveness research (substitute facts for impressions).
- Develop electronic medical records.
- Establish regional systems of medical homes and off-hours care facilities.
- Invest in the nation's public health infrastructure.

There is no single "magic bullet." It will require a combination of thoughtful, coordinated policies and a change in our cultural expectations of infinite resources and unlimited choice. Who better than actuaries, experts in the analysis of socioeconomic consequences of risk, to help design a robust framework for a sustainable health care market, balancing risks and incentives and bringing back into the equation externalities of quality, access and efficiency? In taking this leadership role, actuaries will earn the right to participate as opportunities arise in these new institutions, and play a continuing role going forward, applying the actuarial control cycle to inform evidence-based policymaking.

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[1] *Public health focuses on the health of populations through education, prevention and monitoring; healthcare delivers services to individuals when they become sick.*

[2] *Schoenbaum, S. "Reducing Preventable Deaths through Improved Health System Performance." The Commonwealth Fund. October 9, 2008.*

[3] *Baker, R. et al. "African American Physicians and Organized Medicine, 1846 – 1968: Origins or a Racial Divide."* JAMA. *2008;300(3):303-313.*

[4] *Levitt, M. "A World Without Innovation." Speech given on September 10, 2008 in Paris, France.*

[5] *For those who perish the thought of government involvement in "bending the healthcare trend," I would point out that the Federal Reserve Board was established in 1913 to fulfill this very role: encourage financial stability and put the government, not Wall Street, in charge of the country's money supply. While this was quite controversial at the time, few today envision a financial system without a strong role for the Federal Reserve.*

[6] *Davis, K. "Slowing the Growth of Health Care Costs: Learning from International Experience,"* NEJM, *359;17, October 23, 2008.*