



As Corporate Giants Transform U.S. Health Care, Well-Designed Public Regulation Is Indispensable

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Walmart, Apple, Amazon, Berkshire Hathaway and JP Morgan Chase have all announced plans to venture into one of America's most complex industries, health care, and others may follow. Why are so many of America's corporate giants suddenly drawn to health care like moths to a flame? They seem to think they can disrupt and restructure embedded bedrocks of the American economy. If they succeed, where will they take a business that affects people's lives, health, and a large portion of U.S. economic life?

Health care appeared on radar screens of the Fortune 500 because sweeping transformations are underway. After a slow and sometimes fitful gestation, health care technologies several decades in the making are turning every aspect of the industry on its head. Health care experiences perennial change and has faced one crisis or another for more than 50 years, but this transformation is more fundamental — altering the foundations of care and the roles of almost everyone involved in delivering and using health care.

Technology and the Shifting Health Care Landscape

Hospitals have been the center of care for more than a century, but for the past 30 years, technological advances have allowed a growing array of complex treatments to be rendered in outpatient clinics. And now data analytics techniques allow health management systems to target specific sets of patients for preventive interventions before they need any kind of complex care. Amid such trends, hospital utilization began to decline several years ago, with the number of inpatient days and hospital admissions both falling by nearly 10 percent between 2008 and 2012.

Hospitals are not the only ones facing change. As nurse practitioners and physician assistants assume greater responsibilities, physicians are also losing their traditional role as the principal point of patient contact. Before long, computer algorithms, robotic devices, and artificial intelligence will take over some of the complex procedures that physicians now perform. Apps will enable patients to diagnose and treat some conditions themselves, and the new job of "health care programmer analyst" recently generated more than 500 openings on one employment website.

Pharmaceuticals are no longer simply tools to mitigate diseases and worrisome health conditions after they appear. New products based on genomics tailor treatments to each patient. And gene therapies, the first of which recently reached the market, can actually change the structure of cells to eliminate individuals' susceptibility to inherited diseases. More than 300 clinical trials of new gene therapies are ongoing and another 800 are in the process of enrolling patients.

Regulations for Changing Health Care Businesses

In short, technology in various forms is replacing hospitals, physicians, and conventional drugs as the foundation of care. And just as the internet has done to almost every industry — from retail to banking to travel — technology will make existing health care business models obsolete.

This serves as bait for other industries. Amazon and Apple know a lot about industry disruption, and companies like Walmart are struggling to keep pace. Leaders of these corporate giants think that maybe the right combination of industrial expertise can tap the profit potential of a reconfigured health care landscape.

Yet before industrial titans can transform health care, a host of new challenges lie ahead. The current system of finance handsomely rewards high-end care but does little to encourage population health management.

The extraordinary cost of developing genomic therapies is already busting the budgets of some insurance plans. And perhaps most significantly, the grist for much of medicine's technological revolution is the analysis of sensitive patient information, whose security is frustratingly difficult to protect.

These and other challenges cry out for regulation. As was true in the past, private industry cannot carry health care to the next level singlehandedly. Government has a critical role in structuring business opportunities and shepherding private initiative into actual care. Consider two institutional pillars of the current system, academic medical centers and for profit hospital chains. They emerged in the late 1960s only after Medicare emerged as a reliable source of revenue. Medicare also provided financing that enabled specialist physicians to perform an ever-expanding array of complex procedures. Pediatric hospitals grew into major institutions based on Medicaid reimbursement for the cost of caring for poor children — about half of their patient population.

Similarly, the modern pharmaceutical industry emerged in the 1930s after the National Institutes of Health began to support basic biomedical research that private companies could not afford and regulation by the Food and Drug Administration offered public safety reassurances. And starting in the 1990s, genomic treatments relied on the findings of the Human Genome Project, a transformative government initiative. The field of population health management itself owes much of its growth to the emergence of accountable care organizations, coalitions of hospitals, and physicians incentivized by the Affordable Care Act to manage patient populations.

To meet the newest challenges, there needs to be the same level of regulatory intervention. Computer guided treatments, robotic devices, and health care apps require new forms of oversight of safety and quality. Standards are needed for the programmers who design them and for new forms of physicians training. Personal health information needs more robust protection than the Health Insurance Portability and Accountability Act and similar laws currently provide. And new forms of financing, both governmental and private, are needed to insure the flow of funds.

The key lesson is clear: government action through regulation, financial incentives and other means, is not a barrier to be worked around. It is essential in the evolution of an effective health care industry, as it has been for almost a century. Citizens, researchers, and policymakers alike should keep this truth in mind — adding wise public regulators to the list of innovators — inventors, clinicians, and farsighted businesspeople — who are poised to propel U.S. health care into the next brave new world.

Read more in Robert I. Field, *Mother of Invention: How the Government Created 'Free-Market' Health Care* (Oxford University Press, 2014).