

Health, Market Forces, and Debate in Medical Care

Room for Controversy

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In this issue of *Medical Care*, we present a bundle of 3 manuscripts organized as “Point,” “Counterpoint,” and “Reply.” We initially received the article, *Vulnerability of Health to Market Forces*, by Brezis and Wiist, as an unsolicited manuscript submitted for peer review; it did not clearly fit the mold of original data-driven research usually published in our journal. However, we believed the issue to be both so important and so controversial that it might justify starting a debate in the pages of *Medical Care*.

Thus, we invited a Counterpoint and gave the authors of the initiating manuscript an opportunity to respond to the Counterpoint. Indeed, the debate does not end with these 3 articles. To continue the discussion, we have initiated a blog monitored by the Editors of *Medical Care* (<http://journals.lww.com/lww-medicalcare/blog/PointCounterpoint/pages/default.aspx>). We hope to hear from our readers, and to continue the debate with a tone of scholarship and civility.

Compared with the traditional editorial process, the Point-Counterpoint approach conveys significant advantages for the presentation of controversial topics. For example, editorials typically place the original work in context, but may not present opposing viewpoints. Letters to the editor generally focus on specific, and often idiosyncratic, concerns of the author; and rely on the chances of having read the original article. The Point-Counterpoint approach ensures a more global examination of the controversy and more carefully defines the relevant questions. Also, it allows the selection of a respondent with appropriate expertise.

We are herewith soliciting future submissions on topics that are controversial, of interest to readers of *Medical Care*, and amenable to scholarly and civil discourse. After submission of the original opinion manuscript, the Point, the editors will make arrangements for the Counterpoint piece, to which the original author(s) may also respond. The complete set of manuscripts will be subject to peer review. The suggested format corresponds to that of full-length manuscripts for both the Point and the Counterpoint, with the final reply having the format of a brief report. We look forward to lively contributions to the national discourse on our changing healthcare environment.

Vulnerability of Health to Market Forces

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Objectives: This article reviews adverse influences of for-profit enterprises on health care and public health, and examines significance for public policy.

Research Design: Narrative review.

Results: For-profit health-care industries may increase costs and reduce quality, leading to market failure and contributing to the USA's unflattering position in international comparisons of health-care efficiency. Drug and device corporations use strategies such as making biased inferences, influencing scientists and physicians, marketing rather than informing the public, and lobbying to control their own industry regulations to create market advantage. Successful marketing leads to the increased use of costly profit-making drugs and procedures over cheaper, nonpatented therapies. Because resources are limited, the overuse of costly modalities contributes to expensive health care, which presents a challenge to universal coverage. The free market also fosters the proliferation of industries, such as tobacco, food, and chemicals, which externalize costs to maximize profits, seek to unduly influence research by paying experts and universities, and attempt to control the media and regulatory agencies. Most vulnerable to the cumulative harm of these tactics are children, the poor, the sick, and the least educated.

Conclusions: The free market can harm health and health care. The corporate obligation to increase profits and ensure a return to shareholders affects public health. Such excesses of capitalism pose formidable challenges to social justice and public health. The recognition of the health risks entailed by corporation-controlled markets has important implications for public policy. Reforms are required to limit the power of corporations.

Key Words: health care industry, free market, public health, pharmaceutical industry, corporations

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The free market is generally credited with remarkable technological innovations in modern global society. Industries have fostered infrastructures for improved sanitation, transportation, and communication, as well as medical inventions, with great benefits to public health. Less well known,

but increasingly studied in recent years, is the damage to health which is attributable to free market characteristics such as excessive corporate power that poses threats to democratic processes, a problem described as “supercapitalism.”¹ Consequences to public health occur at multiple and often inter-related levels, including inefficient health care, the marketing of unhealthy products, environmental pollution, and deepening socioeconomic inequities.

HEALTH CARE AS A BUSINESS

International surveys suggest that the United States of America (USA) spends more for health care but has lower quality of care compared with other countries.² Within the USA, higher spending has also been associated with lower quality of care.³ Therefore, contrary to expectation, greater investments in health care do not necessarily improve its quality. In fact, analyses such as those displayed in Figure 1 raise the possibility that higher expenditures, perhaps driven by higher profits for health-care industries, may actually translate into worse care.³

Studies focusing on for-profit versus not-for-profit health-care providers have also revealed associations between higher costs and worse outcomes.^{4–6} These include higher mortality in for-profit hospitals,⁷ less referral to kidney transplantation, and the overuse of expensive medications such as erythropoietin in private dialysis centers,^{8,9} as well as higher rates of deficiencies in the quality and staffing of for-profit nursing homes.¹⁰ These differences exist even though competition increasingly blurs this distinction in that not-for-profit institutions imitate for-profit industrial practices. By design, investor-owned health plans favor profits over “medical losses.”¹¹ Overall, and contrary to some economic theories, the free market in health care may increase choice but not efficiency,¹² as we discuss below.

Market failure in health care was predicted more than 40 years ago by Kenneth Arrow, a Nobel laureate in economics.¹³ The information gap between providers and customers, and the emotions, uncertainties, and complexities inherent to health care promote supply-induced demand, subsidized by insurance coverage (moral hazard). These attributes facilitate profit-driven health care over value-driven health care.^{3,14,15} Primary care, associated with better quality, lower costs, and greater equity,¹⁶ is in crisis in the USA, in part because family physicians earn less than medical specialists.¹⁷ About 30% of the increased health-care costs in the USA have been attributed to unnecessary care¹⁸ and nearly 30% more have been attributed to administrative costs.⁶ Health-care industries are powerful opponents of reforms that might deprive

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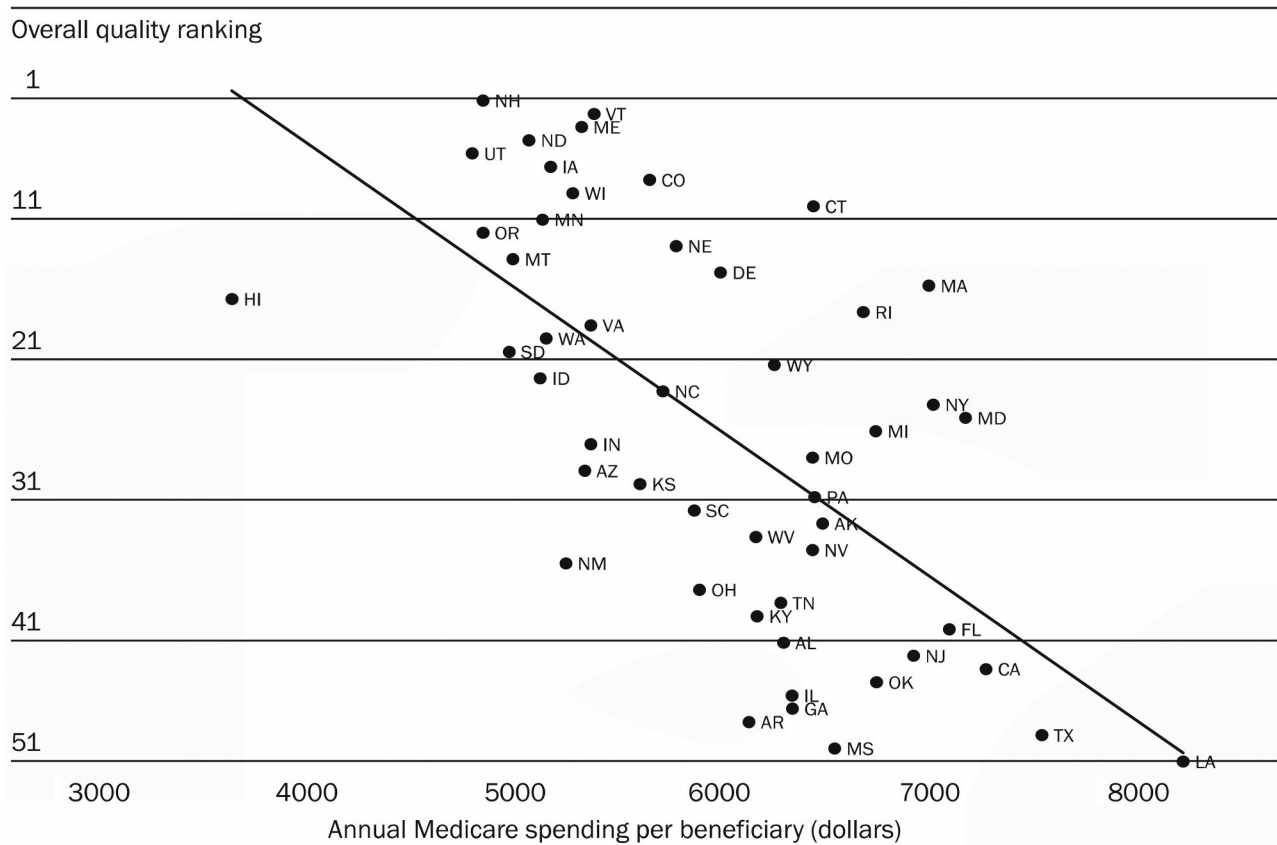


FIGURE 1. Relationship between quality and Medicare spending, 2000–2001: at the state level, a \$1000 increase in spending per beneficiary was associated with a decrease in overall quality rank of 10 ($P < 0.001$).³ Reproduced with permission from Professor Baicker and from the publisher (copyrighted and published by Project HOPE/Health Affairs,³ available online at www.healthaffairs.org).

them of profits.¹⁹ For instance, the Advanced Medical Technology Association, America’s Health Insurance Plans, the American Hospital Association, the American Medical Association, and the Pharmaceutical Research and Manufacturers of America have all opposed earlier health-care reform proposals.²⁰

PHARMACEUTICAL INDUSTRY MODELS MARKET ADVANTAGE STRATEGIES

The pharmaceutical industry provides a model for studying strategies that the corporations use to gain market advantage. Recognized tactics include the suppression and misinterpretation of scientific evidence,^{21–25} leading to the systematic overestimation of the efficacy and safety of new products; original studies,^{26,27} meta-analyses,²⁸ and cost-effectiveness analyses²⁹ are often biased when funded by industry. The hiding of adverse effects includes pressuring scientists^{30,31} and the US Food and Drug Administration to not disclose them and to maintain that such effects are “trade secrets.”^{32,33} Rofecoxib (Vioxx; Merck & Co, Whitehouse Station, NJ)³⁴ is one example in a growing list of newer^{30,35,36} and older drugs³¹ for which safety warnings—intended to protect public health—were delayed to boost the company’s revenues. For instance, as for rofecoxib (Vioxx; Merck & Co, Whitehouse Station, NJ),³⁷ the potential risks of

rosiglitazone (Avandia; GlaxoSmithKline, Middlesex, United Kingdom)³⁸ were downplayed by their manufacturers, despite evidence to the contrary.

As depicted in Figure 2, the strategies used by the pharmaceutical industry target professionals, the general public, and regulatory bodies, with sophisticated advertising, the control of continuing medical education, the refined skills of drug representatives,⁴⁵ powerful media techniques,⁴⁰ and massive lobbying.⁴⁴ These activities are often legal and efficacious. For instance, well-promoted and expensive brand-name medicines are used more often than older, cheaper, generic versions. Research is slanted toward marketable, often-used products and away from drugs needed for urgent but short-term medical needs (such as antibiotics for resistant bacteria or antimalarial drugs).⁴⁶ Pharmaceutical companies spend more on marketing than on research⁴⁶ and few of the new products developed each year by pharmaceutical companies are innovative.²²

The strategies described above are intended to generate large gains, a goal that might be justifiable in itself. High profits may well be appropriate when a company fills a real societal need with breakthrough discoveries leading to improved health. Still, such advances often derive from basic research funded by tax-payers, such as National Institutes of Health-supported studies. In fact, important innovations were made before and outside

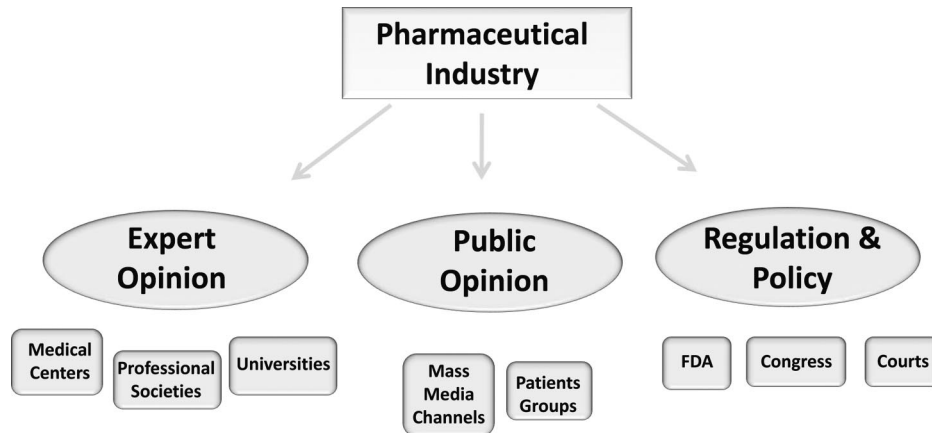


FIGURE 2. Pharmaceutical industry targets constituencies (squares) using diverse vehicles and funding strategies (ovals) to gain market advantage: Targeting professionals with biased evidence, ghost writing, research funding, and agenda setting, gifts and fees to physicians^{22,39}; mass advertising with sophisticated media techniques, leading to a conceptual framing of illness^{40–42}; influence on regulatory bodies, such as the Food and Drug Administration⁴³; financial leverage, used to hire the best lawyers in litigation; and the foremost lobbying power in Washington, spending over \$1.2 billion over the last decade.⁴⁴

the patent system that was designed to protect intellectual knowledge and foster scientific progress. Polio, smallpox, and rabies vaccines, as well as penicillin, were discovered before the current race for patent filings and for the stock market.⁴⁷ Salk is quoted to have said: “Who owns my polio vaccine? The people! Could you patent the sun?” Nobel Prize winners Fleming and Florey did not patent penicillin because they felt “it should belong to humanity.” Banting sold the patent for insulin for \$1 so that it could be affordable. Industry was useful for refining these discoveries, but human minds can and do innovate without financial incentives.⁴⁷

The pharmaceutical industry provides an example of the conflict that commonly arises when business goals diverge from the broader societal good. Drug therapies are favored over political responses to social challenges and maladjustment.⁴⁸ Social, economic, spiritual, psychologic, and educational problems are considered as diseases to be treated in the context of mental health with agents promoted by pharmaceutical industries.⁴⁹ To increase use of methylphenidate, pharmaceutical companies directly approach teachers to diagnose attention deficit hyperactivity disorder.⁵⁰ Mild depression, framed as a “biochemical imbalance,”⁴⁸ is often treated with antidepressant drugs, despite their unproven efficacy for this condition.⁵¹ Alternative solutions, such as community arrangements that reduce stress, loneliness, or suffering (and that are likely to benefit society at large), are much less commonly prescribed than the pharmaceuticals or medical procedures that are promoted by the health-care industry.⁴⁹

THE OVERUSE OF PROFITABLE MODALITIES IN HEALTH CARE

Successful marketing by technology-based industries of drugs, devices, or procedures leads to the increased use of expensive, more-profitable therapies over cheaper, nonpatented modalities, such as prevention, the promotion of quality, and palliative care. Proven therapies that are not protected by patents—and are therefore associated with a relatively

weak industry base, such as cardiac rehabilitation⁵² or folic acid in pregnancy⁵³—often reach less than a third of potentially eligible populations, in contrast to the rapid uptake of new patented drugs and costly procedures. Table 1 illustrates the differential implementation of knowledge in coronary care, where costlier procedures are favored over more cost-effective modalities. Lifestyle changes for diabetes or hypertension are prescribed far less often than medications.^{58,59} Nonpatented, cost-effective, and safe medications, such as thiazides, are underutilized.⁶⁰ Therefore, the overall costs of healthcare rise unnecessarily. Because resources are limited, universal healthcare coverage, an issue of social justice, becomes less attainable.⁶¹

Figure 3 proposes a conceptual model, generalizing observations such as those presented in Table 1, to be tested in future research, of the overuse of profitable modalities in health care.

HEALTH RISKS IMPOSED BY OTHER INDUSTRIES

Health-care expenses are only a fraction of the health-related toll that society incurs from a free market. To maxi-

TABLE 1. Cost Effectiveness and Implementation of Common Practices for Coronary Care

	Angioplasty to 1 or 2 Coronary Vessels	Physician’s Assistance to Quit Smoking	Cardiac Rehabilitation
Cost/QALY*	>\$80,000 ⁵⁴	Cost saving ⁵⁵	\$5000–\$9000 ⁵⁶
Rate of utilization in eligible patients [†]	70% [‡]	30% ⁵⁷	30% ⁵²

*QALY, Quality Adjusted Life-Year.
 †Percentage of eligible patients receiving the treatment, in large US population surveys.
 ‡Estimate based on US database (Courtesy of the National Cardiovascular Data Registry; John Spertus, personal communication).

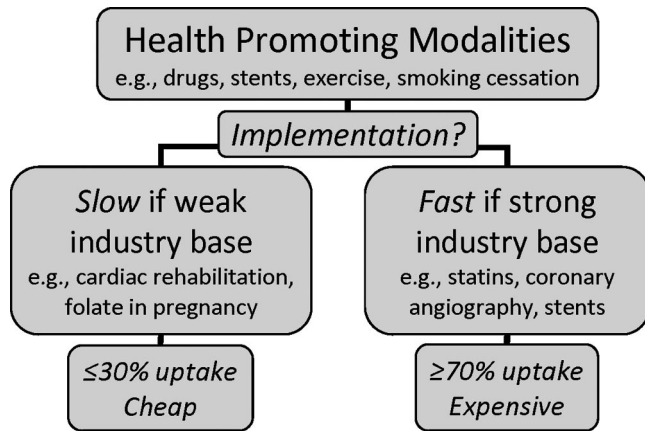


FIGURE 3. Proposed model for industry’s influence on implementation of health promoting modalities.

mize profits, many other industries generate products potentially harmful to health, with limited concern for safety issues and externalizing the costs of their activities to society.⁶² The tobacco, chemical, and food industries pose threats to public health and use strategies similar to those of the drug industry by hiring their own researchers, funding research at universities, sitting on corporate boards, applying sophisticated media tactics, and using lobbyists to influence legislative bodies and regulatory agencies.^{63–66}

Industries use a variety of tactics to maximize profits. As described for the pharmaceutical industry above, one tactic is to downplay a product’s risk, despite evidence to the contrary. “Doubt is our product,” a slogan found in internal tobacco company documents (promoting uncertainty about the damage caused by smoking)⁶⁴ describes a tactic shared by other industries; campaigns have questioned the adverse health effects of beryllium, lead, mercury, vinyl chloride, and other toxic chemicals.^{64,65}

For instance, the advertisement of lead-based paints continued, despite studies showing the risk of brain damage to children.⁶⁵ The control of leaded paints and gasoline may now be viewed as a public-health triumph, with a reduction in blood lead levels associated with a significant increase in the IQs of children; the increase in IQ, in turn, could generate an economic gain of \$100 to \$300 billion for each age cohort in the USA.⁶⁴ However, for decades, industry successfully delayed regulation for lead measures and, similarly, other manufacturers now oppose the imposition of safety measures for a variety of compounds, including mercury, also a neurotoxin in infants, which has now been labeled the “21st century’s lead.”⁶⁴

Food industries expand sales by marketing to vulnerable target groups, such as children and minority groups. In poor neighborhoods, junk food is often more readily available than fruits or vegetables.⁶⁷ The health risks entailed by US corporate tactics have global implications and can especially affect people in developing countries.⁶⁶ For instance, the worldwide practices used to market infant formulae violate the International Code of Marketing of Breast-milk Substitutes adopted by the World Health Organization, which is

based on the strong evidence that breast-feeding is the best option for infants.⁶⁸

A variety of other industries have used powerful corporate tactics against the regulation of oil, gas, coal, pesticides, and other products that threaten workers’ safety, and increase environmental pollution and the risk of global warming.⁶⁹ Widespread harm to public health is also caused by the marketing of products such as alcohol, food, cars, and guns.⁷⁰ Again, the most vulnerable targets of these practices may be children, the poor, and the least educated. These groups are especially affected by increasingly sophisticated advertising in which youth marketers use advances in psychology, anthropology, and neuroscience to lead children to become profitable consumers.⁷¹ To amplify audience exposure, cross-marketing uses multiple media channels⁷² such as movies with smoking actors,⁷³ TV entertainment programs with promoted sweetened beverages,⁷⁴ or, increasingly, electronic venues (video games, the Internet, cell phones); this strategy has been linked to childhood obesity.⁷⁵

CORPORATE POWER AND THE PUBLIC GOOD

In the previous examples, obligations to shareholders appear to override considerations of public health, not necessarily because of misguided executives,⁷⁶ but because firms are, by design, driven by profit. Master of Business Administration students choose profits over people when asked whether a harmful drug should be removed from the market, a response expected by the system⁷⁷ and not eliminated by the teaching of business ethics.⁷⁸ Corporate social responsibility (CSR) was proposed more than 70 years ago, when the Dean of the Harvard Business School said that “the only way to defend capitalism is through leadership which accepts social responsibility and meets the sound needs of the great majority of our people.”⁷⁹ Today, however, CSR is often used to improve a company’s public image, as expressed by a professor of business strategy: “Advertisement of the adoption of CSR provides a sustainable advantage among competitors through improved appearance.”⁸⁰ This analysis of CSR included the following statement: “Companies should not allow social responsibility to divert their attention from the main goal, which is to maximize shareholder value ... Behind the pressure to adopt social responsibility is the profit motive. Putting people before profits is the wrong tactic.”⁸⁰ This opinion implies that when the public good is at odds with corporate goals, the latter will prevail in the corporations’ decision-making processes.

A societal mechanism in the USA that enables industries to operate in ways that undermine public health has been the incremental corporate acquisition, through various Supreme Court rulings over the past 100 years, of the constitutional rights of a “natural person.” Through these rulings, the corporate entity has come to hold various rights and freedoms, including the right to free speech, the right to sue, the right to engage in diverse and integrated for-profit activities, freedom from unwarranted search and seizure, and the benefits of an unlimited lifespan and the limited liability of shareholders for corporate practices. These rights, and that of political speech, allow corporations to disproportionately in-

TABLE 2. Spectrum of Corporate Activities With Potential Impact on Public Good^{1,64,66,69,81–88}

Domain and Activities	Potential Consequences
Science: support for researchers and universities; ghost writing; suppression of unfavorable findings; claims of junk science against public health research; tampering with research data.	Threat to independence of research. Slanting of research and education away from theoretical questions and toward marketable products. Distortion of scientific evidence to limit exposure to liability and to maintain product sales.
Public relations: mass advertising; sophisticated use of media such as with the use of video news releases or undeclared payment to expert spokespersons.	Framing public agenda and discourse. Creating favorable corporate image disguised as news. Conveying distorted information.
Government: “revolving door,” that is, alternating movement of people between legislative bodies or regulatory agencies and industry positions or lobbying firms.	Priority in legislative and regulatory decision making that favors industry over the public interest.
Politics: lobbying, gifts, travel invitations, and contributions to election campaigns.	Corporate influence on political processes disproportionate to citizens and in favor of corporate interests over the public interests.
Regulation and taxation: promote deregulation and resist regulatory agency monitoring and enforcement; tax avoidance tactics.	Increase of unchecked externalities such as environmental pollution. Reduced payments to government for services to all citizens while increasing health burdens.
Litigation: use of superior finances to fight back, harass, or intimidate opponents and delay regulatory enforcement.	Weakening of public-health defenses.
Philanthropy: contribution to various cultural groups; creating or funding third-party groups to facilitate cross-subsidies of the activities mentioned above (“shell corporations”).	Misleading public debate by creating a positive image; co-opting community groups to add social respectability and gain support for industry positions.
Global Activities	Potential Global Impact
Global trade influences on international agreements by monopolies of transnational organizations.	Overruling government laws and regulations that protect public interests such as labor rights and environmental or workplace conditions. Global warming.
Intellectual property: selective dissemination of products to paying markets; patenting indigenous people’s heritage and life forms such as crop seeds.	Exclusion of poor countries from the benefit of life-saving innovations. Appropriation of public domains.

fluence the democratic process, ensuring that priority is given to industry interests over public health.

To assert these rights, corporations have developed a spectrum of tactics, reviewed elsewhere^{81,82} and summarized in Table 2, with a potentially negative effect on the public good.

The free market has accelerated the growth of modern industries, with many benefits to society, but now corporate power has become a threat to free competition. For example, the drug market is neither free nor competitive, including as it does patents, secret pricing, oligopoly, and fraud.⁴⁶ Corporations have gained influence and power beyond the reach of citizens, which endangers democratic processes and the public good.

UNBALANCED INFLUENCE OF CORPORATIONS ON DEMOCRATIC PROCESSES

Lobbyists have access to legislators and administration officials, which gives them the power to influence the development and passage of legislative bills. To gain a competitive advantage through public policy, corporate lobbying has reached massive proportions (with 32,890 registered lobbyists, annually spending more than \$2 billion in Washington, DC), thus reducing the capacity of democracy to respond to citizens’ concerns.¹ The extent of lobbying of elected officials by corporations has recently been illustrated during the 2008–2009 debate about health-

care reform. The health industry sector may have spent more than half a billion dollars on lobbying in 2009,⁸⁹ with large increases in financing by insurance companies, health maintenance organizations,⁹⁰ and pharmaceutical companies.⁹¹ Corporations target fiscal contributions to legislators serving on the congressional committees that have responsibility for their industry, such as health care,^{92,93} with generous donations to members of the Senate Finance Committee.^{94,95} Such large contributions give corporations access to legislators far exceeding access granted to individuals and consumer groups.

Corporate power can have an adverse effect on the world economy. Jeffrey Sachs, a prominent economist, recently commented:

An equally deep crisis stems from the role of big money in politics. Backroom lobbying by powerful corporations now dominates policymaking negotiations, from which the public is excluded. The biggest players, including Wall Street, the automobile companies, the healthcare industry, the armaments industry, and the real-estate sector, have done great damage to the US and world economy during the last decade. Many observers regard the lobbying process as a kind of legalized corruption, in which huge amounts of money change hands, often in the form of campaign financing, in return for specific policies and votes.⁹⁶

SOCIAL DETERMINANTS OF HEALTH

A considerable body of evidence strongly suggests that health is to a large extent determined by the social environment, including factors such as income, education, stress, social support, and the built environment.^{97,98} Relative poverty (rather than absolute income) contributes to bad health,⁹⁹ perhaps as profoundly as does genetic history, smoking, or lack of exercise, although the multiple underlying mechanisms have not been fully clarified.¹⁰⁰ The widening economic inequities within and between nations,^{88,101} associated with a poorly regulated free market and the growth in influence and power of corporations, harm public health.⁹⁶

Some research suggests that the mass privatization of an economy can itself lead to increased mortality, particularly where social capital is low, suggesting that caution is warranted in corporate globalization, especially in developing countries.¹⁰² The current dominant economic model, under which corporations operate with very weak restraints in the pursuit of profit, suggests that free market successes pose formidable challenges to social justice in public health.^{85,103} Overall, it appears that capitalism, successful for investors, has become a threat to the important values of democracy, including education, culture, free competition, and public health.¹

LIMITATIONS

The current review does not address the undeniable benefits to public health provided by social infrastructures and the medical innovations facilitated by modern industries. It may well be that the benefits of the free market override the harms ascribed to its excesses, but additional analyses and discussion are needed to reach that conclusion. The vulnerability of health to the excesses of modern capitalism suggests that more research is required to better understand the causes of that vulnerability and to encourage potential solutions to it. The blame might be attributable, at least in part, to a deterioration of the original construct of the free market toward more stringent neoliberal economics that emphasizes, among other tenets, deregulation of the market, reduction in the size and influence of government, and the privatization of public services. Adam Smith, an original proponent of the free market, strongly opposed the establishment of corporations and the idea of trade secrets as being contrary to market principles.¹⁰⁴

Indeed, our analysis does not allow a clear definition of the causal entities for the current problem. Is it only corporations? Is it the poorly regulated free market? Is it the capitalistic system and over-consumption? Is it a stock market that promotes accelerated growth of expectations and “gambling” through electronic trading of shares or monetary instruments rather than realistic profits in exchange for tangible goods and services? Is it the set of psychosocial and political constructs, disinformation, and corruption that have emerged from a combination of these factors? Or is it because competition, which is essential to free markets, tends to alienate values such as trust, solidarity, collaboration, community, and caring—key elements in health and health

care?¹⁰⁰ These questions warrant further economic and sociological analysis.

Finally, the scope of this article does not allow us to appropriately discuss potential remedies. Solutions that reduce the influence of corporations on public health⁸⁵ might include limiting the power of the corporate entity to lessen its influence on the democratic process, the increase of shareholder influence, and the strengthening of government regulation.¹⁰⁵ Buffered interfaces¹⁰⁶ between science and monetary interests, between medicine and business, and between government regulation and industry could ensure the integrity of research, the adherence to professional values, and the protection of public interests. Academic curricula in schools of public health could include a focus on the corporate entity as a social determinant of health, and examine the relationships between corporate economic indicators and public-health measures.^{85,105} Because the practice of medicine has become more business oriented, with economic implications, the curricula of schools of medicine could also introduce students to such concepts.

CONCLUSIONS

Health and health care appear to suffer at many levels from corporation-controlled markets. This cumulative harm has a disproportionately strong influence on vulnerable populations, such as children, the poor, the sick, and the least educated. The excesses of capitalism pose grave challenges to social justice and public health, and the American dream, which praises “market justice,” may have become a nightmare for health and for health care.^{107,108} Recognition of the severity of these problems may lead physicians and public-health professionals to develop creative solutions and recommend policy changes that would protect and promote the health and welfare of all citizens in a more equitable society.

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How to Make Market Competition Work in Healthcare

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Brezis and Wiist write a provocative article and make several salient points regarding the broken state of our current healthcare system.¹ We take no issue with their telling of the well-known tale of how vested interests manipulate markets so as to generate huge profits while providing little benefit (or even causing harm) to the public. We would, however, argue with their implication that profits and corporate self interest are the root problems afflicting US healthcare.

Winston Churchill once famously noted that “democracy is the worst form of government, except [for] all those other forms that have been tried.”² The same, we would argue, can be said about the economic system of capitalism. And just as democracy works well only with an informed public under the rule of law, so markets work well only under sufficient regulation to ensure transparency for consumers and fair competition among suppliers. When government focuses on ensuring these two requisites of a functional market, the opportunity to profit can be transformed from an instrument of the corrupt practices lamented by Brezis and Wiist to the most powerful and effective tool we have to further societal good³—including higher-quality and lower-cost medical care.

The problem is that under our current healthcare system, the ability to profit bears almost no relationship to the value of care provided. At the same time, the lack of accessible information regarding the real value of competing healthcare services precludes productive competition, and is easily exploited by vested interests to convince the public that more of the most technologically advanced healthcare is always better.⁴ Finally, protectionism by the profession and microregulation by government combine to stifle innovations in healthcare delivery that might otherwise bring down costs.⁵

None of these problems is primarily the fault of the pharmaceutical industry, for-profit hospitals, or any others who profit under our current system—as they are simply behaving in a rational way, taking advantage of the opportunity to profit where they may. Rather, we are at fault—the American public, our elected officials, and the medical profession itself—for our persistent tolerance of a dysfunctional system in which profits can be gained whether or not value is provided.

So let us change the system. Rather than blaming profits and greed, let us focus on finding ways to fix the broken US healthcare market—by realigning incentives to reward value, increasing the accuracy and transparency of information available to insurers and patients, and making room for innovation in models of healthcare delivery.

Below, we describe the most fundamental obstacles to value-driven healthcare under our current system, and briefly propose solutions that might move us towards a more functional healthcare market: one in which competition drives down cost, and providing value is rewarded.

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Physician Incentives Are Disconnected From the Quality or Efficiency of the Care That They Provide

As healthcare policy-makers brainstorm over innovative approaches to “bending the cost curve,”⁶ they should pay particular attention to the critical fact that physicians order or provide most of the medical care for which our nation spends so much. It should come as little wonder that our healthcare spending is at unsustainable levels—without any measurable effect on quality⁷—in a system where physicians’ financial success generally has little or no relationship to the value of the care that they provide.

If we consider efficient, high-quality care to indicate (1) providing the appropriate care at the right time while avoiding unnecessary care, and (2) providing that care effectively—ie, with good technique, prudent resource utilization, quickness, and avoidance of undue complications—we might quickly note that our largely fee-for-service healthcare system fails to reward efficiency and quality at best, and punishes them at worst. Caring physicians no doubt strive to provide high-quality care within the current system; but because our fee-for-service system primarily rewards volume of care, there is an incentive to prescribe more and more care, regardless of the value of that care.^{8–10} Conversely, discerning providers who judiciously minimize low-value return visits, referrals, tests, or procedures tend to do less well financially and in reputation. When it comes to quality in execution, there is undoubtedly a sense of responsibility and personal pride that drives physicians to perform their work well. But again, in relation to where incentives lie, our fee-for-service reimbursement system either does not distinguish among well- versus poorly-executed care, or inadvertently provides higher reimbursement for poorly-executed care that results in avoidable complications and the need for even more medical care.

Unfortunately, the medical profession has often allowed vested interests to influence care guidelines so as to exacerbate misaligned incentives—as many of the so-called pay-for-performance “quality measures” accomplish little more than the promotion of low-value care and cherry-picking of healthier patient populations.^{4,11–15} Further, these “quality measures” only reinforce the public’s misguided impression that physicians with a lower threshold for providing care—eg, those who more readily perform diagnostic tests, or provide more intensive management for patients with minimal disease—are the best, most conscientious doctors, and help to sustain the prevalent societal impression that more medical care is always better.

Thankfully, both the medical profession and policy-makers have begun to recognize the problem of misaligned provider incentives. The recently-passed Affordable Care Act calls for methods of physician payment that might incentivize value, as opposed to volume.¹⁶ Capitated payments for chronic disease care, for example, might encourage coordination of care and prudent resource allocation. Bundled payments for acute care might incentivize vigilance to prevent avoidable complications, and the streamlining of acute care processes.

But let us not delude ourselves. Payment reforms such as these cannot succeed—and might even cause harm, by stimulating restrictions on needed care—unless we also reform the very system under which healthcare is practiced. In short, we must have a way of monitoring the true quality of care provided by physicians, and assessing the effect of various payment methods not only on costs, but also on outcomes of care. In this regard, it must be noted that obtaining accurate information on quality of care for individual physicians and small group practices has proven difficult, due to both small sample size per physician and the substantial costs involved in obtaining clinically detailed information for each patient receiving care.^{17,18} As discussed further below, for these and other reasons, many have concluded that in order to truly make progress in rewarding value in healthcare, physicians should be incentivized to practice within integrated healthcare systems.

A Lack of Comprehensible Information by Which to Compare Providers and Health Plans Precludes Productive Competition Under Our Current System

In a functional market, the quality of goods and services goes up and costs go down as suppliers compete with each other to win consumer purchases. It is critical to note that in order for competition among suppliers to work in this way, consumers must possess both discernment and financial liability. Discernment enables consumers to reward suppliers of high-quality goods or services through their informed purchases. Financial liability makes their demand sensitive to price, which promotes efficiency by giving suppliers an incentive to keep costs low.

The problem in healthcare, of course, is that patients generally possess neither the opportunity for discernment, nor sufficient financial liability. Given the complexity of medical care and the difficulty in assessing an individual provider’s quality, patients rarely have good information by which to choose among providers or services, and are imminently vulnerable to provider- and profession-induced demand.^{14,19} Patients want to stay well or get better, but beyond these generalities, they are largely subject to the profession’s recommendations, individually and collectively, on what particular care is necessary. From this perspective, “valuable” medical care becomes whatever the provider at the point of care suggests. To make matters worse, given the unpredictable nature of the demand for most medical care—one does not generally know whether or when one will get sick or injured—grouping of risk under insurance is a necessity, such that patients are largely disconnected from any direct financial liability related to their care.

Of course, the problems of the uninformed healthcare consumer and the “moral hazard” of health insurance have been long recognized. Many have attempted to address these problems by increasing patients’ financial liability for their care, with the idea that increased liability will drive patients to become more judicious in their healthcare purchases. Healthcare savings accounts are an example of a recent effort in this direction, as a form of insurance under which benefi-

ciaries pay for most of the medical services they choose to pursue with their healthcare savings accounts funds.²⁰ The problem, however, is that considerable evidence shows that the public is neither comfortable with, nor adept at, making decisions about the value of individual components of medical care at the time of illness. Annual premium costs, therefore, are probably a better leverage point for increasing consumer financial liability to stimulate competition on cost.²¹

As mentioned earlier, for purposes of the “goods and services” being compared, competition in healthcare might best be accomplished through the comparison of integrated healthcare systems, rather than of individual clinicians or elements of care. Aside from the large sample sizes needed to accurately assess outcomes, there is the complicating reality that patients are not interchangeable widgets. Patients’ severity of illness, comorbidities, health habits, and personal preferences all play a major role in dictating the patient outcomes and costs of their care. As a result, clinically detailed information is essential to distinguish whether outcomes and costs vary due to patient factors, or to the care that they receive¹³—and the costs of obtaining sufficiently detailed information to make reliable assessments for individual clinicians can be prohibitive. Within a larger, organized system, the care provided by groups of physicians might feasibly be monitored through sampling, with a degree of accuracy and reliability that remains elusive in the assessment of individual physicians or episodes of care.^{17,18}

For purposes of facilitating competition among healthcare systems, one approach that deserves revisiting is Enthoven’s idea of “managed competition.” Enthoven clearly and eloquently describes the finer details of managed competition elsewhere,²² but its primary novelty entails the presence of governing bodies, or “sponsors,” who operate independently of, and above, health insurance companies. These sponsors set the rules under which insurance plans must operate, so as to facilitate fair and productive competition at the level of annual premiums. For example, sponsors would set requirements as to what broad areas of medical care must be covered under a given tier of plan, so as to prevent product differentiation and facilitate price comparisons. Second—and critically—these sponsors would provide transparent information on which physician groups or healthcare systems are providing beneficial medical care, how well they are doing so, and at what cost, so as to facilitate competition among providers as insurers and their beneficiaries use this information to direct their healthcare purchases. Third, sponsors would collect and promulgate information on outcomes and satisfaction under various insurance plans, so as to facilitate informed consumer choice among plans. At the same time, to prevent such problems as adverse selection and exclusion due to pre-existing conditions, sponsors would act as the conduit by which patients enroll in any given plan. Lastly, there would be a requirement for continuous coverage, combined with an individual mandate to carry health insurance—so that healthy persons could not obtain a “free ride” by enrolling only once they became sick, and might meanwhile subsidize

the cost of caring for the sick, so as to hold down premium costs for all.

Note that under a system of managed competition, additional financial leverage could always be gained within insurance plans through variation of out-of-pocket costs. Value-based insurance design (VBID), for example, is an insurance structure under which out-of-pocket costs depend on the degree of benefit offered by the medical service being provided. Highly beneficial services are fully covered, while progressively more discretionary services require progressively greater copays.²³ While we believe that VBID is a promising idea, we must admit that the complexity of its real-world administration might prove prohibitive—practically and politically—particularly given that the designation of “necessary” versus ‘discretionary’ care can be complex, frequently varying with the individual circumstances of the patient receiving the care.^{24–29} Nonetheless, the beauty of managed competition is that it might stimulate insurance plans to explore new methods—whether VBID or otherwise—of incentivizing high-value care and minimizing low-value care so as to both improve outcomes and hold down premium costs.

Aside from the political will necessary to implement a system of managed competition, arguably the most elusive component would be accurate and transparent information on which provider groups are providing beneficial medical care, how well, and at what cost. As suggested above, the ability to know what providers are doing at all would require the formation of organized healthcare delivery systems, within which processes, outcomes, and costs of care could be measured. This may sound daunting, but it can and has been done by some—including Kaiser Permanente, Geisinger Health System, Mayo Clinic, and no less than the Department of Veterans Affairs (VA).³⁰ Ironically, the “socialized” VA Healthcare System has created one of the most successful healthcare markets in the world—by stimulating competition among its 21 networks through the monitoring and promulgation of care processes and outcomes, and by rewarding high performers on measures of quality and value.³¹ Under a system of managed competition, sponsors could require that insurance networks include only those providers who operate within similar organized systems of care. While accountable care organizations are little more than an amorphous idea at present,³² with the right incentives, they could become a functional implementation project-in-progress.

Apart from the organization necessary to know what care is being provided, on the issue of what care should be designated as beneficial, we agree with Brezis and Wiist. Too often, evidence related to the benefit of medical treatments is interpreted by professional societies whose members profit from the services being examined, or derived from proprietary studies funded and filtered by industry. Because of this, such evidence can often be distorted to serve vested interests.^{24,33} At the same time, lobbying by professional guilds for generous physician reimbursement admittedly has an effect on driving the overutilization of expensive interventions and treatments, even when evidence for benefit is lacking.³⁴ Finally, the combined effects of direct-to-con-

sumer advertising, large payments to physicians by industry, and lobbying by industry-supported medical experts themselves often make it politically infeasible for a given provider or healthcare system not to provide unproven care, when these other forces have established such care as “needed” in the eyes of the profession and public. Physician payment reform, combined with insurer-driven competition to lower the costs of care, might go a long way towards mitigating such overuse of low-value care for the sake of profit. But to accurately distinguish low-value from high-value care, we first need better access to, and more objective vetting of, the evidence related to the benefit provided by various components of care—including medications, devices, screening tests, procedures, and management approaches for various chronic diseases. To this end, we have previously presented a proposal for improving transparency and reducing the collusion of vested interests around medical evidence and guidelines for care.²⁴ In brief, we have suggested that an independent, private-public partnership be formed that strives to objectively vet and report on the scientific evidence around a given component of medical care—working not only to discern whether it offers any real benefit on average (yes/no), but also to provide much-needed information on how beneficial it is likely to be for individual patients with varying levels of risk and disease. In short, we agree with Brezis and Wiist that members of the healthcare industry should no longer be allowed to hide information regarding variations in their treatments’ safety and efficacy across the population.^{25–29} However, merely making the data available will not be enough. Much work is needed on the part of health services researchers to make such information cognitively accessible to the public and their insurers, and applicable to the formation of professional care guidelines.

The Medical Profession, Aided by Regulators, Fosters Protectionism

Independent of the misaligned incentives under which our healthcare system operates, we cannot deny the anticompetitive practices of the medical profession itself. The number of providers in any given specialty, for example, is precisely controlled by the number of residency and fellowship positions allowed by the profession and its accrediting boards.³⁵ Undoubtedly, there are some aspects of medicine for which 4 years of medical school, followed by a long residency and interminable fellowship, are necessary. But there is little doubt that any bright person could learn to perform Pap smears and colonoscopies, or to read mammograms, electrocardiograms, and routine chest x-rays, eg, with 6 months training—at least well enough to take care of the 90% that require nothing special. We use our clout as physicians, however, to preclude such technicians from market entry, and protect our cabals against the interests of the public.

To be sure, the impending “physician shortage,” predicted due to hyper-specialization within the profession and a progressively aging population,³⁶ may, in part, fix this problem on its own by forcing creativity in medical staffing. Policy-makers might greatly facilitate this cost-saving opportunity, however, by directing licensing requirements for technical tasks based upon competence, rather than years of

advanced training.⁵ For example, becoming an electrocardiogram reader or endoscopist might require a 2-year technical certificate, with continued licensure based on periodic skill and competence testing. A similar paradigm could be applied for other technical tasks—not just as a means of replacing physicians, but also as a means of expanding their productivity as they oversee several tasks at once.

In the Midst of Misaligned Incentives and a Lack of Comprehensible Information, the Corporate Voice Speaks Loudly

It is inarguable and unsurprising that corporations, including the pharmaceutical industry, act in accordance with a primary goal of maximizing profits, rather than public benefit or social welfare. We would point out that this behavior is prudent, rather than corrupt—because any corporation that actually allowed the public good to substantively hurt its bottom line would undoubtedly be replaced by one that did not. As a more philosophical point, we believe that social responsibility belongs to the role of individuals and their democratically elected governments—not to corporate boards. Government certainly can, and should, enforce laws and regulations that discourage corporations from harming the public in an overzealous pursuit of profit (eg, by constraining pollution, collusion, willful deception, etc).^{4,37} But we ought not to limit profit potential in an effort to redirect corporate mores; the approach would not work anyway. While we would not disagree with Brezis and Wiist’s statement that “human minds can innovate without financial incentives,”³¹ it usually takes much more than an innovative mind to develop effective new treatments in medicine. Consider, for example, the enormous length of time and hundreds of millions of dollars often required to develop a new medication, carry out the trials necessary to obtain FDA approval, and subsequently make the medication known and accessible to patients and their doctors.^{38,39} In short, a sizeable profit needs to light the end of the tunnel in order for any company to risk such a large investment on the mere possibility of an effective new treatment.

To be sure, our current healthcare system frequently enables new treatments of unproven or little value to be hugely profitable—but that is only partly the fault of industry. While it is true that corporations expend enormous amounts of energy and resources to influence public opinion and policy so as to make their businesses more profitable, we—the public, the medical profession, and our elected officials—have enabled those corporations to play such an effective role in dictating our nation’s use of health care, because we have failed to provide any accessible, alternative source of influence: one that promulgates balanced information, and enables value-based decision-making. The healthcare system itself can become that source of influence—if only we would realign provider incentives; increase the rigor and availability of evidence by which to make medical decisions; and give the public tools, including transparent information and innovative insurance models, by which to demand that providers compete on cost and quality.

CONCLUSION

We ultimately agree with Brezis and Wiist that vested interests have often been able to generate huge profits while providing little value under our current healthcare system. But while Brezis and Wiist suggest that we should reform the players who are taking advantage of a broken system, we say—let's fix the broken system. We suggest that healthcare policies be aimed at realigning provider incentives, improving transparency, and facilitating fair competition on cost and quality.

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Vulnerability of Health to Market

Reply to Holman and Hayward

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Our article reviewed empirical evidence suggesting vulnerability of health to market forces both inside and outside the healthcare system. Without refuting the findings we presented, Holman and Hayward propose a different interpretation and focus on practical solutions, such as an innovative insurance model. Such solutions are interesting but so novel that it is difficult to predict to what extent they might succeed within the healthcare system. It is unlikely, however, that they will help poor patients or resolve the problem of widening socioeconomic gaps in the modern world. Over the last decade, studies have repeatedly shown that profit health care is inferior in several outcomes to that provided by not-for-profit care.^{1–11} Holman and Hayward do not respond to our contention about the vulnerability of health to market forces outside the healthcare system. They do not deny and address the considerable body of evidence suggesting that inequality is a powerful predictor of disease, over and above smoking, diet, and exercise.^{12–17} As sanitation was shown during the industrial revolution to have a major effect on public health, we realize now that socioeconomic policies might have greater impacts on health than healthcare interventions^{18,19} and actually provide huge savings to the society.²⁰

It appears as Holman and Hayward do not refute the overarching argument in our manuscript about threats to public health from the unbalanced economic and political power of corporations. Their argumentation is slanted toward “blaming the victim”: physicians and patients and to some extent the health care system—not the underlying, more fundamental, and larger system of societal power distribution that we address. They view corrupt practices as a “rotten apple” issue rather than acknowledging a systemic problem. We do not blame profits but rather a system where the profit motive is the sole driving force both inside and outside the healthcare system.

According to Holman and Hayward, “corporations, including the pharmaceutical industry, act in accordance with a primary goal of maximizing profits, rather than public benefit or social welfare.” While this is so, it also contradicts the historical record of the original social purposes that corporations served, and could serve again, under appropriate monitoring and regulation. In early US history, corporations were chartered by the government for a specific narrow purpose to serve the public good (eg, build a bridge or toll road). George W. Merck, the company’s founder in 1950, said: “We try never to forget that medicine is for the people. It is not for the profits. The profits follow, and if we remember that, they have never failed to appear. The better we have remembered it, the larger they have been.” So, in general, corporations were to serve the public good. Holman and Hayward indicate the time and the cost (of questionable estimate) required to make a new medication. They omit that its development is often based on government-funded basic and applied research, the cost of which is not paid back by the industry. They do not recommend a solution for the lack of new drugs for leading causes of morbidity and mortality (eg, malaria and tuberculosis) while pharmaceutical industries keep producing “me-too” drugs or medications targeting artificially created diseases.²¹

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We agree with Holman and Hayward that the current incentives for healthcare providers are largely based on quantity rather than quality. We need to recognize the challenge of measuring the true value of healthcare. It is easier to reward procedures than a shared decision-making that reduces overuse and inappropriate care.²² Aggressive and costly treatments near the end of life are more generously remunerated than often more valuable palliative care.²³ Physicians' time spent in listening to narratives or in supporting healthy lifestyle is negatively incentivized if the salary is based on number of patients rather than on the characteristics of care. Toward a solution, it might be useful to relate the root of this phenomenon to the broader concept of reification in modern society, where quality is misperceived as quantity and subjects become objects for exchange of commodities, in a mode of false consciousness prevalent in many spheres of the free market.²⁴ Attempts to "fix the broken system" (as suggested by Holman and Hayward) by tactical solutions focusing on insurance and incentives are likely to continue to disappoint as long we fail to address the strategic perspective that healthcare operates within a for-profit, corporate system.

Discussion about capitalism may benefit from avoiding political framing. Studies have shown that persons on both on the Left and the Right, when presented with new evidence, either adopt or reject it in a way to stay entrenched in their prior political views.^{25,26} Cognitive biases affect interpretation of politically framed evidence in a fast and subconscious mode determined by emotions rather than by rationality.²⁷ In fact, as discussed by Robert B. Reich, Professor of Public Policy at Berkeley, true politics are being diverted when democracy is overwhelmed by supercapitalism: the large flow of corporate money to both Republican and Democratic parties vitiates a real political discourse.²⁸ Legislation, justified as being in the "public interest," is often the result of intense lobby by industries while citizen voices are not heard. The influence of corporate money on democracy and public health was exacerbated by the recent US Supreme Court decision in the Citizens United case.²⁹

It is interesting to reflect on the evolution of evidence on free market efficiency. In 1968, in a seminal article entitled "The Tragedy of the Commons," published in *Science*, Garret Hardin, showed destruction of shared resources when individuals act only in their own best self interest.³⁰ After 40 years, biologic and psychosocial sciences have advanced and at present suggest solutions recognizing people's need for a sense of community.³¹ Solidarity may confer to groups evolutionary survival advantages as observed in insects.³² Attachment and love were found to have critical roles in social development.^{33–35} Helping others was observed as a natural disposition in very young primates.³⁶ Cooperation and altruism were discovered as winning strategies in game theory.³⁷ Responsibility to the other, according to contemporary thinkers (psychoanalysts, philosophers, and ethicists), was proposed as a fundamental step in finding our own existential meaning.^{35,38–40}

Human self interest, perhaps like Newton's law of gravity, cannot be eradicated, and a level of self interest is necessary for survival. Like modern physics expanding be-

yond Newton's mechanical laws, new scientific evidence suggests the need for a broader conceptual framework that provides a theoretical account for the suffering and costs caused by corporate-based markets, and stimulates the design of novel paradigms of social exchange more beneficial to humankind than unmitigated self-interest. In fact, Adam Smith, presciently wrote⁴¹: "No matter how egoistic one might regard man, he is still obviously predisposed by nature such that he is interested in the fate of others and in their happiness and well-being as being important to himself, although he has no benefit from this other than the joy of seeing others thus." The extreme level of contemporary greed appears to have evolved in a corporate system based on exclusive self-interest. From the 1970s through the 1990s, when neoliberal economic theory and practice emphasized unrestrained corporate expansion and global free trade, disparities increased within and between countries worldwide.^{12–19,42} These trends are reversible, as education that fosters empathy reduces violence⁴³ and compassion can be taught,⁴⁴ but it requires a concerted effort, such as by reducing the freedom of industries that sell violence.

We seem to agree with Holman and Hayward on the need for improved regulation of industry. Given the current power of corporations, this will be difficult. Increased transparency is unlikely to suffice for protecting public health. Compromises with drug and insurance industries do not solve the problem⁴⁵ and threaten current efforts at healthcare reform.⁴⁶ While we recognize the urgency of practical solutions, we present a conceptual model based on emerging evidence about damage to health from unintended consequences of free markets. Social rules based on trust, cooperation, altruism, and compassion rather than solely on competition, greed, and self-interest, might provide relief for human suffering, better health, economic development, improved welfare for all, and perhaps even existential meaning for some. Practical tools to achieve such goals might benefit from first recognizing the vulnerability of health to market forces.

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