

## IN DEPTH

# Reforming Health Care: The Single System Solution

Elliott S. Fisher, MD, MPH

Vol. 1 No. 5 | August 19, 2020

DOI: 10.1056/CAT.20.0456



The flaws of the U.S. health care system have been exposed and exacerbated by the coronavirus pandemic. This paper posits three underlying causes of our persistent poor performance: flawed assumptions; inadequate information; and fragmented delivery, payment, and insurance systems that make it easier to profit by shifting risk or costs to others than by improving value. To address these, Americans should adopt a *single system* approach to delivery, payment, and coverage where comprehensive, real-time information empowers providers and policy makers to deliver better care and protect the public's health, and where better performance measures and payment models enable competitive markets at every level to reward only those suppliers, providers, and insurers that help deliver better, less expensive care. This approach can satisfy current stakeholders, aligns with key interests of those on the political right and left, and offers a path toward an inclusive, resilient, and high-performing delivery system.

---

*Related reading:* [Health Care as an Ongoing Policy Project](#) by Eric C. Schneider, MD — first in the new series from the New England Journal of Medicine on “*Fundamentals of U.S. Health Policy*”.

By laying bare the weaknesses and inequities of the U.S. health care system, the coronavirus pandemic has made another swing at major health care reform inevitable. Obvious problems include the lack of public health infrastructure and preparedness, and an insurance system that leaves many uncovered when they most need care. The financial strain on provider organizations may cause many to close or be swallowed up by larger entities.<sup>1</sup> The inequities of our system are more apparent than ever.<sup>2</sup> The symptoms afflicting the U.S. health care system are clear, reflecting the broader structural inequalities that divide the nation. How best to treat the patient will be less clear.

Given the political polarization in this country, we can expect rancorous debates about how to reform the health care system. Many will advocate a single-payer system of government-funded universal insurance. Others will insist on preserving a role for private health insurance and employer-based plans. But this debate largely ignores serious problems that have plagued U.S. health care for decades, such as: costs that exceed those in other developed countries by 50% or more<sup>3</sup>; health outcomes that lag behind those in other countries<sup>4</sup> and where vulnerable populations — minorities, the poor, and those in rural communities — bear a disproportionate burden; serious problems with quality and safety, with large differences in mortality across hospitals<sup>5-10</sup>; and the increasingly visible strain on health professionals caused by working in a system that discriminates against those who most need their care.

This lack of progress is not for want of trying. The past decade has seen widespread adoption of electronic health records (EHRs),<sup>11</sup> a proliferation of digital tools,<sup>12</sup> new modes of care delivery,<sup>13</sup> burdensome increases in quality measurement,<sup>14</sup> the implementation of a wide variety of alternative payment models,<sup>15</sup> and greater attention to the causes of clinician burnout.

The trillion-dollar question is: With all this effort, why aren't we doing better? That we have a tremendous opportunity to improve — with estimates of waste in the U.S. health care system between 20% and 30% of spending (nearly \$1 trillion)<sup>16-20</sup> — is largely unquestioned. In this paper, I join many others in pointing to underlying problems in the health care market<sup>21-24</sup> but also bring attention to three largely ignored causes of market failure and of our persistent inability to improve health system performance for all Americans: **Flawed assumptions** that lead many to overestimate the benefits of biomedical interventions and fail to recognize major untapped opportunities to do better; **Inadequate information systems** that fail to make data available where needed, and leave treatments, providers, and health plans unevaluated and markets unable to function; and **Fragmented delivery, payment, and insurance systems** that make it easier to profit by shifting risk or costs to others than by competing successfully to improve value for all.

To address these underlying causes, Americans need to think differently, invest in better information, and create a single, unified system of delivery, payment, and insurance where comprehensive, real-time information empowers clinical teams to deliver better care, and where better performance measures and payment models enable competitive markets at every level to deliver better, less-expensive care.

The design principles proposed could be implemented under either a single- or multi-payer model; would reduce complexity, confusion, and both administrative and clinical waste; would increase resilience and responsiveness to future public health threats; and would be better for patients, physicians, and the public. Moreover, by creating a single system where all have the same benefits, rights, and responsibilities, we can take a step toward healing the divisions that have riven this country (Table 1).

This paper is organized in three sections. The first describes the underlying causes of poor performance and the principles that should guide reform. The second suggests how these principles could be applied within the U.S. health care system. The third addresses the practical, social, and political challenges to moving forward.

**Table 1. How to Address Intractable Problems to Improve Health System Performance**

Underlying Cause	How to Address
Flawed assumptions that lead many to overestimate the benefits of biomedicine, ignore other important determinants of health, and fail to recognize critical opportunities to improve	Recognize the importance of questioning assumptions and the benefits of adopting more useful and accurate ways of thinking about health and health care.
Fundamentally inadequate information systems that fail to make all relevant data available at the point of care and that fail to measure what is important, leaving biomedical interventions, providers, health plans, and public policies unevaluated and unable to improve	Create a single, unified information system to support clinical care, performance improvement, choice, and accountability — enabling market-based reforms to drive improvement and public policies to be continually evaluated and refined.
Fragmented delivery, payment, and insurance systems that leave many without care, weaken incentives, protect incumbents, create opportunities to evade cost control, and limit organizations' ability to innovate and improve	Establish a single, unified provider payment and insurance system that covers everyone with incentives aligned to reward improved population health and condition-specific treatment, while reducing opportunities to evade or shift costs.

## The Underlying Causes of Persistent Poor Performance and Corresponding Principles for Reform

We have known much of what's wrong with American health care for years. The need to adopt modern approaches to quality improvement and shared decision-making were recognized in the 1980s. The magnitude of waste from the high cost of administration and the overuse of supply-sensitive care were brought to light in the 1990s and early 2000s.<sup>19,25-28</sup> Overpricing has long been understood, although more and more actors seem to be taking advantage of their market power in recent years.<sup>29,30</sup> The dramatic differences in mortality from Covid-19 related to race, ethnicity, and income may have surprised some, but only reinforced what had been documented for years in annual government reports.<sup>31</sup>

“*Establish a single, unified provider payment and insurance system that covers everyone with incentives aligned to reward improved population health and condition-specific treatment, while reducing opportunities to evade or shift costs.*”

The unsolved puzzle of American health care has been the *persistence* of these problems. Although there are many causes of our failure to make meaningful progress — ranging from financial self-interest to our increasingly divided political environment — three underlying causes deserve attention because they point to approaches to reform that can lead to meaningful improvement, draw broad support, and begin to heal our divisions.

### *Flawed Assumptions and the Need to Think Differently*

Peter Senge, a leader in the study of organizational learning, called attention to the critical importance of recognizing, questioning, and revising our *mental models* — the often implicit assumptions we make about how the world works — to manage change in complex systems.<sup>32</sup> The origins and successes of biomedicine during the 20th century contributed to the emergence of many commonly held assumptions that now constrain our thinking. Table 2 offers examples

that are deeply relevant to the needed redesign of health care systems and healing of our divided communities.

**Table 2. Assumptions that Serve as Barriers to Health Care Reform — and Some More Useful and Accurate Ways of Thinking**

	Commonly Held Assumptions	More Useful Ways of Thinking
<b>Health</b>	Health is produced by health care.	Health has multiple determinants, one of which is health care.
<b>Purpose</b>	The purpose of health care is to improve health and prolong life.	The purpose of health care is to help individuals achieve their goals, one of which may be to extend life.
<b>Choice</b>	Patients should defer to their physicians because they are the experts in biomedicine.	Wise decisions require both the physician's and the patient's expertise and must be based on a full understanding of the patient's goals, preferences, values, and assets.
<b>Medical Care</b>	Care is only about which treatment (pill, device, or procedure) should be provided. Rising costs are due to advances in biomedicine.	Care delivery — how, where, how often, and by whom treatments are provided — is also important. Differences in care delivery drive substantial variations in spending.
<b>Innovation</b>	Innovations in health care emerge from the biosciences. New technology leads to increasing costs and thus rationing of care.	Innovations in care delivery offer double wins: better outcomes and lower costs. Redesign is an alternative to rationing.
<b>Prices</b>	The high prices charged to private payers by hospitals, physicians, and drug companies are needed because of underpayment by public payers and the high cost of drug development.	Raising prices is a choice. Those who face pressure to constrain price growth are able to reduce costs in order to maintain a reasonable margin.
<b>Spending and Equality</b>	More is better. We cannot afford to provide equal coverage to all. And if we try, we will have to ration needed care for rich and poor alike.	Waste abounds, and the harms of overuse are substantial. Universal and equal coverage in a single system can improve care and reduce costs for all.

Widely held assumptions such as those above present a barrier to needed reforms that could improve health and care. More accurate mental models would be more useful.

Source: The author.

Here are some of the flawed assumptions and their implications.

### What makes us healthy?

The notion that health is produced by health care alone was questioned decades ago,<sup>33-35</sup> leading to the growing recognition of the behavioral, social, and economic determinants of health. Covid-19 has brought these insights home with a vengeance.

### What is the purpose of health care and who should decide what to do?

The next two assumptions — about purpose and choice — are closely linked. As long as the purpose of health care is defined through the lens of biomedicine, decisions about what to do could plausibly fall to physicians. But the recognition that patients differ in how bothered they are by similar symptoms and in their attitudes, preferences, and goals for treatment<sup>36,37</sup> reveals the danger of physician-dominated decision-making, perhaps even more so in the era of Covid-19, when the likelihood of benefit from hospitalization or intubation in the elderly or frail is so low.<sup>38</sup> The ethical imperative for shared decision-making is now widely acknowledged.<sup>39</sup> Moreover, staying healthy or managing a chronic illness requires collaboration or *coproduction* between clinical teams and patients and their families.<sup>40</sup> Both will require better information and strong primary care.

## How should we think about medical care and innovation?

Thinking too narrowly about medical care, its benefits, and innovation represents an important barrier to reform. Physicians are selected and trained to be experts in the biology, diagnosis, and treatment of injury and disease — to identify what’s wrong clinically and to prescribe the best treatment for the patient before us. While critically important, this mental model ignores the also-important matters of care delivery. For most physicians, the questions of where, how, when, and by whom an intervention is delivered have largely been absent from our thinking and our training.

“

*The dramatic differences in mortality from Covid-19 related to race, ethnicity, and income may have surprised some, but only reinforced what had been documented for years in annual government reports."*

Decisions about care delivery are almost certainly the most expensive — and variable — decisions physicians make. For example, when primary care physicians in the U.S. were asked when they would recommend the next visit for a patient with well-controlled hypertension and no other problems, answers ranged from once per month to once per year.<sup>41</sup> The frequency of use of physician services, hospital and intensive care unit beds, and other *supply-sensitive* care varies dramatically across the U.S., with two factors — the local supply of hospital beds and medical specialists — explaining almost half the variation in Medicare spending.<sup>25,42</sup> Moreover, the greater use of the hospital, physician services, and testing observed in high-spending Medicare regions are not associated with better health, better technical quality, or better patient or physician perceptions of quality, pointing to substantial opportunities for savings.<sup>19,25,26,43</sup> The rapid emergence of telemedicine during the pandemic has made abundantly clear just how much care can be delivered in innovative and less costly ways.<sup>44</sup>

## What are the real reasons for lack of price constraint?

Higher prices are a major reason that spending is higher in the U.S. than elsewhere.<sup>45-47</sup> Many accept at face value the notion that hospitals and physicians must charge higher prices to private payers (i.e., private-sector commercial payers, employer-funded plans) because public payers (i.e., public-sector government programs) don’t pay their fair share — the notorious *cost shift*. The uninsured and Medicaid often do not pay the actual full cost of their care, requiring payers to cover these costs in other ways, sometimes by raising prices to private payers. But the evidence for underpayment by Medicare is a different story: Hospitals under competitive pressure can reduce the cost of delivering care and maintain a reasonable margin.<sup>48</sup>

The major reason health care prices are so high is that increasing consolidation — having a monopoly — makes it possible, whether this is for providers, insurers, or prescription drugs.<sup>29,30,45</sup> (Drug pricing is further exacerbated through price discrimination<sup>49</sup> and the complex systems of rebates that encourage overuse of high-cost drugs while limiting access to new, less-expensive ones.<sup>50</sup>) It should be obvious: Raising prices is a conscious choice (it’s easier than taking out costs, if you can get away with it). The implication for reform is clear: Pressure to constrain prices can

work, whether this is through ensuring that markets are competitive or, if that is not feasible, through regulation.<sup>30</sup>

## Spending, Equality, and the Challenge of Separate Systems

Many assume that when it comes to medical care, more is better.<sup>51</sup> The corollaries are pernicious: Spending less can only be achieved by rationing — denying a treatment of proven benefit; spending more on the poor can only come at the expense of others. These ideas ignore three facts. First, much of medical care remains either unevaluated or is now recognized to do no good (e.g., stents for stable angina<sup>52-54</sup>). Second, supply is highly elastic (as explained earlier). Finally, as discussed in detail below, waste abounds. As the remainder of this paper argues, a single system that includes everyone is likely to be the only way to squeeze out waste and unnecessary care and improve care for all.

“

---

*The notion that health is produced by health care alone was questioned decades ago, leading to the growing recognition of the behavioral, social, and economic determinants of health. Covid-19 has brought these insights home with a vengeance.”*

---

The assumptions listed in the left-hand column of Table 2 are thus simply wrong (health is produced by health care alone) or critically incomplete (medical care is just about what pill to prescribe). Adopting the ways of thinking suggested in the right-hand column, however, requires better information.

## *Inadequate Information and Why Improvement Requires Timely Data and Meaningful Measurement*

The second underlying cause of persistent high costs and variable quality is inadequate information for clinical care and public health. At a time when our financial histories are updated overnight so that today's lenders can evaluate our creditworthiness, evaluation of a patient in an emergency room or by a new physician often depends either on the patient's memory or on whether they happen to have received all of their prior care within the same system. Imagine how much more quickly we could have responded to Covid-19 if we had already implemented the comprehensive real-time surveillance systems just now being proposed.<sup>55</sup>

Two other problems are exacerbated by this lack of information. As suggested earlier, many assume that a system rooted in science would be built on a solid foundation of scientific evidence. This is far from the case. The weaknesses in our current evaluation of prescription drugs and clinical interventions have been well documented, from biases in trial design to failing to publish findings that show harm or lack of benefit.<sup>56,57</sup> Many devices and surgical procedures are simply not evaluated or are grandfathered because of supposedly minimal changes from earlier versions. A review of 3,000 interventions found that half lacked evidence of effectiveness.<sup>58</sup> Studies that are completed, whether of drugs, devices, or new surgical procedures, often have such small samples

that the benefits and harms to different subgroups — children, the elderly, different racial or ethnic groups — are unknown. And studies almost never include all of the outcomes that are most important to patients, whether this is on their quality of life (pain, sleep, sex, mood, energy, or physical function, to name a few) or their pocketbooks.

Nor do we have adequate information on the performance of providers or the myriad health plans offered by insurers. Variation in outcomes that is due not to patient risks but to the quality of providers has been documented since the 1960s,<sup>59</sup> with dramatic and important differences in outcomes.<sup>7,60</sup> Although there has been some progress with the implementation of basic measures of quality for a few common conditions, there is almost no information on provider-specific outcomes of surgical procedures or the treatment of less common medical conditions, such as inflammatory bowel disease, multiple sclerosis, or any number of others. And while some health plans are subject to basic measures of performance, most are not. Most of the important choices we make in health care are made in the absence of useful information. This need not be so.

“

---

*For most physicians, the questions of where, how, when, and by whom an intervention is delivered have largely been absent from our thinking and our training.”*

---

Billions of dollars have been invested in EHRs that were intended to ensure that providers had all relevant information at their fingertips when needed and to support the kind of timely measurement systems we need, such as identifying disease outbreaks, defining relevant clinical episodes, and tracking patients over time across settings.<sup>61</sup> But the early implementation of EHRs made it next to impossible to pull needed information from the multiple providers most patients see. The 21st Century Cures Act, passed in 2016, includes provisions to overcome these barriers. Also, the federal government funded the development of the Patient-Reported Outcomes Measurement Information System, which has developed measures and tools to enable the routine collection of the outcomes that patients care about.<sup>62</sup>

The vision proposed by the National Academy of Medicine of a “Learning Health System” is now technically within reach.<sup>63</sup> Such a system has been implemented to speed diagnosis and treatment for sepsis, winning the 2019 John M. Eisenberg Patient Safety and Quality Award.<sup>64,65</sup> In such an information-rich environment, every clinical encounter would be based on a patient’s complete history and each encounter would help advance understanding of how best to care for patients, protect the public’s health, and support improvement, choice, and accountability through performance measurement.

Better information on its own, however, cannot overcome the barriers to improvement posed by the current fragmentation of our delivery, payment, and insurance systems.

## *Fragmentation and How a Single System Can Help*

Fragmented delivery, payment, and insurance systems have long been recognized to pose serious challenges to care coordination and motivated calls for more integrated delivery systems.<sup>66,67</sup> Fragmentation also weakens incentives, discourages innovation, and makes it easy for providers and insurers to evade efforts to control costs.

### **Mixed — and Mostly Fee-for-Service — Payment Models**

With the notable and rare exception of organizations that operate under full capitation, such as Kaiser Permanente, almost all U.S. hospitals and the vast majority of physicians are paid under both value-based payment (VBP) and fee-for-service (FFS). The persistent dominance of the latter, however, is worth noting. Almost all hospitals are paid under FFS, and in 2018, 87% of physicians received at least some FFS revenue and 70.3% of all physician revenue was derived from FFS. (Even practices participating in accountable care organizations [ACOs] or medical homes received 60% of their income from FFS.)<sup>68</sup>

“ *Raising prices is a conscious choice (it’s easier than taking out costs, if you can get away with it). The implication for reform is clear: Pressure to constrain prices can work, whether this is through ensuring that markets are competitive or, if that is not feasible, through regulation.*”

The models under which most providers currently receive payment have three untoward effects. First, the strength of any incentive is limited by the share of payments received under that model<sup>69,70</sup>; with FFS such a dominant force, no one should be surprised by cost growth. Second, meaningful innovation requires new, dedicated teams who can implement new workflows,<sup>71</sup> which can’t be easily supported under traditional FFS models.<sup>69</sup> Third, the existence of multiple unaligned payment streams makes it possible to respond to cost pressure from one payer by raising costs to others, whether by raising prices or increasing the volume of discretionary, supply-sensitive services.

Consider two examples. The dramatic increases in coinsurance and deductibles over past decades have not demonstrably altered the trajectory of U.S. health care spending: A reduction in use of services by patients sensitive to those financial incentives can be offset by visits, procedures, or hospital admissions for those who are not. Similarly, hospitals with some patients under an ACO payment model can reduce inpatient utilization for those patients (receiving bonuses for cost reductions) while at the same time using the newly available beds and operating rooms for more profitable patients who may not need or, if adequately informed, want the care.

## **Fragmented Insurance Systems**

Our fragmented insurance systems also contribute to high and rising costs. Most obvious is the administrative waste inherent in the diverse billing systems employed by each insurer; less obvious is the complexity of the almost infinite variety of plan designs negotiated each year between insurers, employers, and providers. Both types of complexity impose a huge burden on providers and consumers. This diversity of plan designs also makes it hard to compare health plans head-to-head, thus reducing competition. And with the elimination of the individual mandate and the recent loosening of restrictions on Association Health Plans, the stability of insurance markets is again under threat.<sup>72</sup>

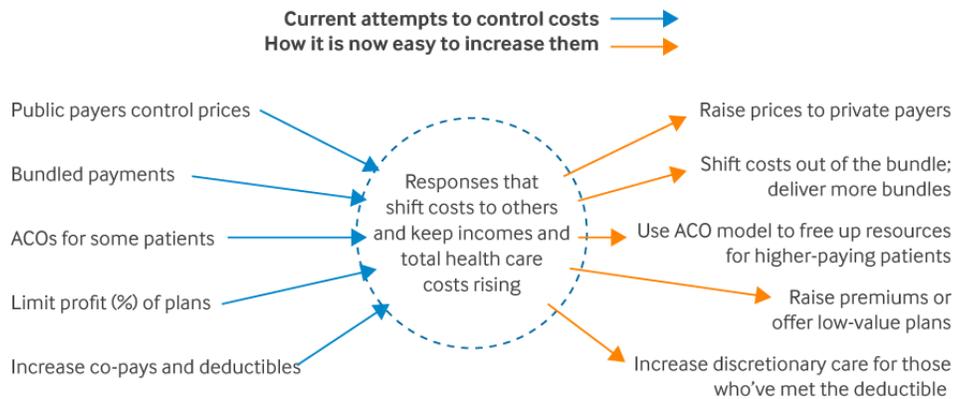
## **Fragmentation and the Challenge of Cost Containment**

These dynamics were well described 30 years ago and explain the difficulty of effective cost containment in fragmented health care systems.<sup>73</sup> The schematic in Figure 1 demonstrates both the weaknesses of the current model, and the strengths of the single system model. The left-hand panel of the figure reveals some of the ways providers and insurers can evade pressure to constrain spending growth. Our current system can thus be imagined as a balloon: Push on one part and the expansion simply continues somewhere else.

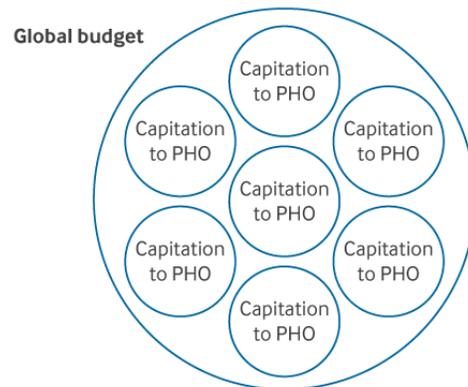
FIGURE 1

## A Schematic View of How the Single System Approach Can More Effectively Limit Cost Growth

A few of the ways providers and insurers evade efforts to limit cost growth in the current fragmented and porous U.S. system



How a single system approach can more effectively limit cost growth: Everyone chooses between competing population health organizations (PHOs) paid under capitation.



**Impact of a single system approach:**

Capitation to PHOs imposes cost constraint on the system as a whole, as long as cost-shifting to patients is limited. Competition among PHOs with transparent performance measures strengthens incentive to improve care and lower costs.

Source: The author

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

The fundamental challenge of cost containment is to figure out how to exert pressure in ways that preclude such cost-increasing evasive maneuvers.

## Principles and Policies: A Single System Approach

To address these underlying causes of poor performance, Americans need to transition from a fragmented, inexorably expansive health care system where avoiding the uninsured, poor, and sick is rewarded to, instead, a single, unified system where everyone has coverage and competitive markets drive improvement at every level. Key principles include:

- Universal coverage
- Equitable access to the same system of care
- Comprehensive information on performance
- Informed consumer choice where it can plausibly work
- Payment models that incentivize what's needed

The core of the proposal is the notion of population health organizations (PHOs) — provider partnerships that are paid under capitation, which is almost certainly the only way to control cost growth, as suggested in the Global Budget portion of Figure 1. Under the proposal, consumers would choose PHOs with identical benefits and a limited range of income-sensitive cost-sharing options on state exchanges. Funding would be provided by the federal government under a single-payer model, or with funding from multiple purchasers (Medicare, Medicaid, employers) and individuals (with or without subsidies) under a multi-payer model.

“

*The weaknesses in our current evaluation of prescription drugs and clinical interventions have been well documented, from biases in trial design to failing to publish findings that show harm or lack of benefit.”*

The notion is twofold: to explicitly define the providers within the PHO and — through capitation and performance measurement — to establish powerful incentives for those providers to improve population health, deliver high-quality primary and specialty care, and control costs. Under both single- and multi-payer models, PHOs would be responsible for managing the health and care of their enrollees, for paying their providers, and for managing the financial risk associated with capitation. Bearing financial risk would require meeting state insurance regulations either on their own or in partnership with a national or local insurer. Because PHOs would have identical benefit designs, consumers would be choosing based on quality, price, and the providers within the PHO — choosing provider organizations rather than “health plans.”

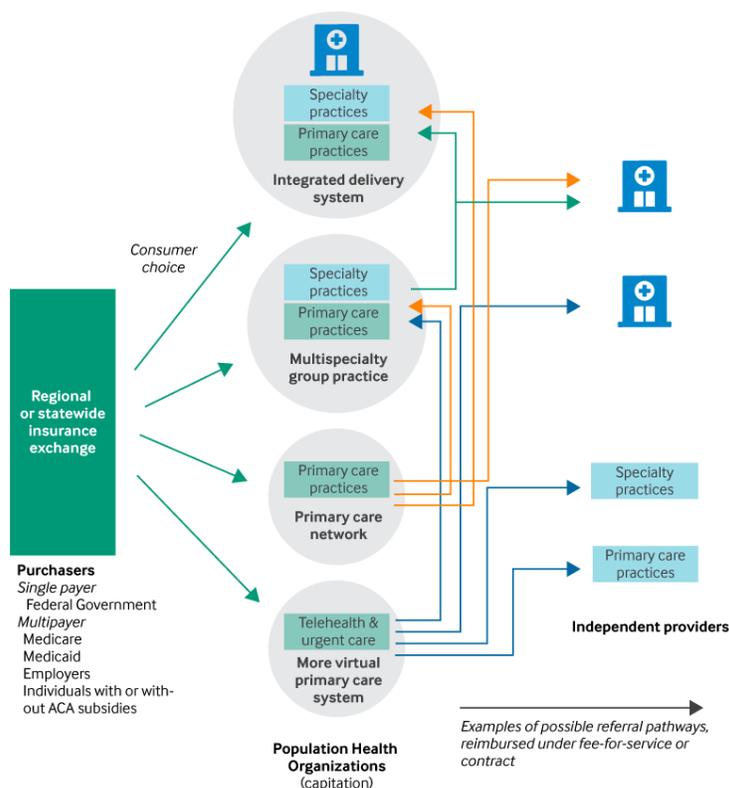
The design builds on Alain Enthoven’s proposals (managed competition among well-regulated plans<sup>66</sup>) and the ideas of Michael Porter and Thomas Lee (competition among providers to deliver better value for specific conditions<sup>74</sup>). Finally, it addresses the limitations of the ACO model,<sup>70</sup>

shifting from attribution to enrollment and expanding the breadth of the payment model to cover all primary care patients enrolled with the PHO, strengthening the incentives and enabling the organization to fully redesign care.

Figure 2 shows how actors in the current system would be organized to support competition to improve population health and lower annual costs (left side) and to improve value for condition and episode-specific care (right side).

FIGURE 2

### The Single System Solution: How Competition Can Improve Care and Lower Costs



#### Competition on overall cost and quality as consumers make annual choices of population health organizations

Exchanges offer enrollment in population health organizations (PHOs) that meet criteria for solvency, network adequacy, quality, and price, with a limited set of standard benefit packages.

PHOs — explicit primary care-focused provider partnerships — must take responsibility for the health and care of their enrolled population, be paid under capitation, and assume financial risk.

Comprehensive performance measures (see Appendix), identical benefit packages, and consumer choice will ensure competition among PHOs on overall cost and quality.

Under single payer, the federal government would make risk-adjusted payments to PHOs for all enrollees. Under multipayer, current purchasers would continue to make these payments.

Source: The author

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

#### Competition on cost and quality of condition- and episode-specific care, as clinicians and patients select specialists and facilities

All providers report performance on acute, chronic, and elective episodes (see Appendix) whether these are delivered by providers within the PHO or by independent providers.

Transparency enables PHOs to build high-performing networks and enables consumers and physicians to make informed choices for specialist and facility-based care, promoting competition on cost and quality for condition- and episode-specific care.

Payments outside PHOs are based either on a uniform fee schedule (if based on traditional fee-for-service) or contract, enabling clinicians to make care decisions based upon need, not ability to pay.

**Table 3. Health Policies: Create a Single System for Health Care Where Organizational Diversity Is Encouraged and Competition to Improve Value Is the Best Strategy for Market Success**

<b>A Single Purpose</b>
<b>Purpose:</b> Helping to improve the health of the public while helping each individual achieve their health-related goals at high quality and low costs.
<b>Means:</b> Identifying and addressing disparities in health and care, while fostering collaboration between patients and clinical teams to clarify goals, needs, and capacities and to develop care plans that empower patients and caregivers as coproducers of their care.
<b>A Single, Shared Information System: The Key to Improvement and Successful Market-Based Reform</b>
<b>Clinical information systems:</b> Eliminate barriers to the free flow of clinical information. Require implementation of a universal set of patient-centered performance measures (see Appendix).
<b>Comparative effectiveness research (CER):</b> Increase investment in CER to advance understanding of the risks, benefits, and costs of current and new medical treatments overall and for subgroups.
<b>Public reporting:</b> Implement public reporting of outcomes at geographic and provider-specific levels — both for population health organizations (PHOs) (annual performance) and for clinical episodes wherever these are delivered (acute, chronic, and elective).
<b>At Each Level, a Single Competitive Market with Fewer Ways to Avoid Competing on Value</b>
<b>Payment reform:</b> Risk-adjusted global payment to PHOs with accountability for longitudinal care. All enrolled patients of an eligible PHO are paid for under global payment. Fee-for-service or contracted payment is used for specialist and facility-based care. Implement universal claims forms and fee schedules with frequent updates, limited variation, and opportunity to establish value-based contracts. Financial incentives for improved performance could be implemented for both PHOs and episode-based care.
<b>Benefit design:</b> A single clinical benefit package, with well-designed, income-sensitive cost-sharing that encourages information-seeking and access to primary care.
<b>Strong exchanges:</b> Exchanges that serve as active purchasers, ensuring network adequacy and holding PHOs accountable for annual and episode-based performance — and making choice of PHOs feasible.
<b>Health insurance:</b> Universal coverage (single payer or multi-payer); mandatory enrollment and mandatory offer (to eliminate discrimination based on preexisting conditions); subsidies for low-income consumers; risk equalization across PHOs.

Source: The author.

The single system structure is designed to support organizational diversity and competition (Table 3).

The sections that follow provide additional detail about the key policy changes that would be needed, as laid out in Table 3.

### *A Single Purpose*

Perhaps the biggest change needed to improve care is to recognize the importance of *flipping* health care so that the whole system focuses on what is truly important to consumers, patients, and caregivers — and that we measure what matters to them. Well-informed patients and clinicians can help accelerate the adoption of beneficial and cost-effective treatments and the elimination of harmful or useless ones, making the market for drugs, devices, and innovative procedures work more effectively.<sup>75</sup> Provider selection can motivate providers to improve,<sup>76</sup> make better referrals, and allow PHOs to put together higher-performing networks. Annual choice among PHOs is likely the only way to drive out the waste inherent in our current fragmented system.

“

*Fragmented delivery, payment, and insurance systems have long been recognized to pose serious challenges to care coordination and motivated calls for more integrated delivery systems. Fragmentation also weakens incentives, discourages innovation, and makes it easy for providers and insurers to evade efforts to control costs."*

Only by making transparent how health and health care vary across communities and providers will we be able to identify and intervene to address current disparities. The flawed assumptions underlying our current delivery system will be harder to maintain. Finally, such a system would also be better aligned with the values of those who came to health care to make a difference.

### *A Single Shared Information System*

Better information must, therefore, be a central focus of policy reform. We need federal policy to create an interstate highway system for health care information, given how many people cross state lines to receive health care. This information system would require universal interoperability and shared longitudinal measurement. We also need comprehensive information to track the health of the public, evaluate current and new medical treatments, support national benchmarking for performance improvement and provider choice, and enable continued refinement of policy and payment reforms.

*Clinical information systems.* Complete clinical information from all of a patient's providers must be available at the point of care, wherever patients are seen. The 21st Century Cures Act included provisions to improve access to patient data across different EHRs,<sup>77</sup> but much more work will be needed to make EHRs less burdensome to clinicians, more useful for patient care and system-wide care improvement, and less susceptible to manipulation to keep patients from seeking or receiving care from anyone other than their current provider. Even with better interoperability, finding relevant information across and within EHRs is likely to remain difficult. Comprehensive shared care plans, which summarize all currently active clinical problems, medications, pertinent history, and patients' goals and preferences, would help.<sup>78</sup>

*Better measures and measurement systems.* Current measurement systems fail to provide information on what is most important to patients: their likely experience and outcomes with different treatments and providers. Many have called for a patient-focused longitudinal approach to measurement<sup>61</sup> that would provide the essential data not only for provider performance reporting,<sup>79</sup> but also for comparative effectiveness research (CER) (the same underlying data are used for both). The kinds of measures suggested in the [Appendix](#) can be derived from EHRs, patient-facing digital tools, and all-payer claims data systems (an essential element), and could reduce reporting burdens on clinicians while improving quality measurement, outcomes assessment, and risk adjustment. Such approaches are already being implemented in clinical registries that support patient-clinician collaboration for improvement.<sup>80,81</sup>

*Comparative effectiveness research.* Such data would accelerate and improve CER.<sup>75</sup> If universally implemented, it would allow the vision of a *learning health system* to be realized, as described earlier.<sup>80,82</sup> If every patient with Covid-19 (or whatever disease the next pandemic brings) were able to contribute information and be easily enrolled in needed clinical trials, learning which treatments worked best for which patients could be accelerated.

*Provider performance reporting.* Better measures would yield the information needed to help providers improve care and motivate them to do so, by revealing regional and national variations in quality, outcomes, and costs.<sup>76</sup> Patients are not going to choose where to get care during an acute event (e.g., for their heart attack), but they may well want to choose their PHO based not only on their ability to maintain and improve health, but also on the quality of care delivered by the providers within their PHO for such acute events as well as for conditions where choice is possible (e.g., cancer care, joint replacement). Transparency within and across organizations will help PHOs choose specialists and hospitals to include in referral networks, and, importantly, help patients argue for referral to a “better orthopedist” (or other specialist) than the one in their PHO. With better data, dangerous providers cannot hide in the shadows.<sup>83</sup>

“ *To address these underlying causes of poor performance, Americans need to transition from a fragmented, inexorably expansive health care system where avoiding the uninsured, poor, and sick is rewarded to, instead, a single, unified system where everyone has coverage and competitive markets drive improvement at every level.* ”

Reporting of performance should occur not only at the PHO and provider levels, but also at community and regional levels. The only way to know whether health care costs are slowing due to improvement (rather than various forms of cost shifting) is to measure spending for the entire population residing in each region, as is finally beginning to occur.<sup>18,84,85</sup> The same is true for understanding whether disparities are being addressed and the health of our communities is improving. As suggested in the [Appendix](#), regional measures should be included as components of performance-based payment to PHOs, to encourage local collaboration to address the social and economic determinants of health.

### *A Single Competitive Market and Fewer Ways to Avoid Competing on Value*

We need to structure the market to make meaningful choice possible and to limit opportunities to evade the pressure to improve by shifting risks or costs to others or by using monopoly power to raise prices or limit choices. An ideal approach would create a level playing field through payment reform (including regulated prices), a common benefit package, active exchanges, and universal coverage. Designing this as a single system would reduce administrative complexity (a handful of benefit packages, a single billing system) and consumer obfuscation, make evading cost-containment pressure difficult, and help to heal our divided communities.

## Payment Reform

As discussed previously, responsibility for the total cost of care for enrolled patients provides powerful incentives to improve the quality and safety of routine and specialty care (complications are expensive) and to reduce avoidable supply-driven care through shared decision-making and innovations in care delivery. By encouraging diverse structures for PHOs and their associated networks, the approach supports the emergence of innovative primary care-based provider organizations that could differ, for example, in their limitations on out-of-network care (more open networks would have to charge a higher price on the exchange).

With identical clinical benefits and transparent performance measures, consumer choice among competing PHOs would drive improvement in both cost and quality. If capitation is the only spigot through which funds flow for health care, effective cost control is at least more likely. This should be linked to global budgets, which would force a discussion of whether those should decline (because improved performance is squeezing out waste) or increase (because new, expensive technologies require additional funding). One of the major advantages of a better information system with regional- and provider-specific reporting is to provide the data needed for each side to make evidence-based arguments: If Rochester, New York, can deliver great care at lower cost than Manhattan (after controlling for case mix and input costs) — which they can<sup>18</sup> — why should we raise the global budget for New York City?

“

*Only by making transparent how health and health care vary across communities and providers will we be able to identify and intervene to address current disparities.”*

Under capitation to PHOs, the cost-increasing effects of FFS can be mitigated, while its fragility at times of crisis could be managed through regulations requiring some degree of ongoing support. FFS has many advantages (tracking costs, paying bills when people travel, and making choice of specialists and facilities more practical). Our current FFS system, however, is corrupted to varying degrees by the market power of consolidated provider organizations. A single, national fee schedule for drugs and services would offer several advantages: eliminating one of the ways monopolies evade the pressure to improve cost performance; reducing administrative costs; enabling care delivery to continue to be evaluated; and allowing continued adjustment to get the prices “right.”<sup>86</sup> (The fee schedule could set the maximum price, allowing efficient providers to offer lower prices or value-based contracts for services).

Of course, providers who have raised their prices (and made more expensive investments than their counterparts in more competitive markets) will complain that the new prices do not meet their costs. Rather than caving in to such pressure, however, the fee schedule should be phased in gradually to give them time to become as efficient as their peers, as was done with the implementation of diagnosis-related group codes in the 1980s.<sup>87</sup> And the fee schedule could include bundled payments for specific episodes, avoiding the administrative costs of individually negotiated terms between PHOs and providers.

A single, uniform fee schedule would not only reduce costs. Perhaps the most important advantage would be its benefit to patients and physicians, making sure that the choice of which patient to see and what care to provide is made not based upon what the patient or their insurer will pay (as is the case now), but upon what they need (as would occur with fully risk-adjusted capitation to PHOs and a uniform fee schedule). This would improve care for patients and eliminate the violence done to physicians' professional values under a system that currently forces them to discriminate on the basis of ability to pay.

### **Benefit Design**

A single benefit package that covers all needed services and a limited set of cost-sharing arrangements (with multiple tiers as under the Affordable Care Act [ACA]) would force PHOs to compete on price and quality. Requiring identical cost-sharing models across PHOs that protect primary care and ensure access to needed chronic disease treatments (as in many value-based insurance designs) would help align insurance and delivery system reforms.<sup>88</sup>

### **Strong Insurance Exchanges**

PHOs should be offered on an exchange that operates as an active purchaser. California's ACA exchange is a good example.<sup>89</sup> The "plans" offered on the exchange are just the kind of explicit provider-insurer partnership recommended earlier and are carefully vetted for network adequacy, quality, and price before being allowed on the exchange. Because the benefit packages are the same and the cost-sharing arrangements are identical within each tier (bronze, silver, etc.), competition is on price and quality; early data suggests that consumers are making wise choices that are leading to lower cost growth.<sup>88,90</sup>

### **Universal Health Insurance**

In unregulated markets, insurance companies' primary means of making a profit is by avoiding risk. In health care, this led not only to high levels of administrative costs (as insurers look for and limit coverage for potential costly conditions), but also to competition focused on risk-avoidance rather than better care and lower costs,<sup>24</sup> a situation toward which we again appear to be heading. Universal coverage is the right thing to do. And, if the U.S. chooses to remain with a multi-payer model, universal coverage is the best way to create an affordable and competitive insurance market.

“*A single, national fee schedule for drugs and services would offer several advantages: eliminating one of the ways monopolies evade the pressure to improve cost performance; reducing administrative costs; enabling care delivery to continue to be evaluated; and allowing continued adjustment to get the prices 'right.'*”

Although other approaches are possible,<sup>91</sup> the simplest (at least in a multi-payer model) would be to complete the path laid out first in Massachusetts<sup>92</sup> and then in the ACA: Mandatory participation

eliminates free-riders; mandatory acceptance eliminates discrimination based on preexisting conditions; poor people need financial support to make this work; and risk-adjustment or post-hoc risk equalization helps create a level playing field among insurers. Supplemental insurance should be permitted only for benefits that are not in a comprehensive basic plan such as those offered under the ACA in order to limit providers' ability to escape cost-containment pressures.<sup>73</sup>

Because of the remarkable elasticity of supply — discussed previously — universal coverage need not cost more. Consider this thought experiment: If every physician simply doubled every visit interval (1 week became 2 weeks, 3 months became 6, etc.), what would happen? It's unlikely that patients would notice or that care would suffer (the differences in average visit intervals across the U.S. are greater than this<sup>41</sup>). The effective physician supply of the U.S., however, would approximately double.

The implications for coverage expansion are clear: Covering everyone need not increase costs (assuming we are willing to hold total spending constant). Under risk-adjusted capitation with no systematic differences in pricing across payers, the previously well insured will receive a bit less care (fewer unnecessary visits, tests, procedures, and hospital stays) and will spend less; the previously uninsured (who need care) will get it and spend more. Physician judgment, rather than who pays or how much they pay, would determine who gets needed care when there are such constraints. Studies of intensive care unit utilization<sup>93,94</sup> and hospitalization rates<sup>27</sup> show that physicians manage different resource levels effectively.

## Moving Forward: Opportunities and Challenges

The impact of Covid-19 on vulnerable populations — whether defined by race, ethnicity, income, or geography — has brought needed public attention to long-recognized disparities in economic opportunity, health, and access to care. The continued killing of people of color has highlighted the persistent failure of the United States to address the pervasive social and structural racism that underlies so many American institutions. No one should have been surprised to see the protests that followed the killing of George Floyd.<sup>95</sup>

---

“ *Universal coverage is the right thing to do. And, if the U.S. chooses to remain with a multi-payer model, universal coverage is the best way to create an affordable and competitive insurance market.* ”

---

Universal coverage — as some are now suggesting — presents an opportunity to start down a better path. The current moment, however, calls for something more than Medicaid expansion and buttressing the exchanges, and the next legislative window offers an important opportunity. One argument in favor of the single system approach lies in the message of inclusion and solidarity that it conveys. Whether you are poor or Black or brown or live in a rural community where jobs have dried up, being relegated to the safety net sets you apart. Separate systems are inherently unequal. A second argument lies in the greater effectiveness with which disparities can be addressed in a system based on inclusion, choice, equalized funding based on need, and transparency on quality,

**Table 4. Estimates of the Magnitude of Waste in U.S. Health Care and How a Single System of Measurement, Payment, and Insurance Would Help Reduce These Sources of Waste**

Category	Berwick and Hackbarth <sup>T1</sup>	Shrank, Rogstad & Parekh <sup>T2</sup>	How a Single System Approach Could Help
<b>Failures of Care Delivery:</b> Waste due to poor execution or failure to adopt known best practices	3.8% – 4.8%	2.7% – 4.3%	Comprehensive and accurate information on treatment outcomes and provider performance would support improvement and choice, both leading to better outcomes.
<b>Failures of Care Coordination:</b> Waste from fragmented care	0.9% – 1.3%	0.7% – 2.0%	Everyone is enrolled in a population health organization with strong primary care, effective information systems, and powerful incentives to improve and coordinate care.
<b>Overtreatment:</b> Waste from care that, according to known science, cannot help patients	5.9% – 7.1%	2.0% – 2.6%	Better information would reduce overuse of biomedical interventions. Global payment would provide incentives to reduce overuse of both biomedical treatments and supply-sensitive care.
<b>Administrative Complexity:</b> Waste from inefficient rules, such as failure to standardize forms.	4.0% – 9.2%	7.0%	A single, simplified billing, payment, and insurance system that all are required to use would reduce costs, while also reducing avoidable confusion.
<b>Pricing Failures:</b> Waste from prices that migrate far from those expected in efficient markets	3.1% – 4.9%	6.0% – 6.3%	A single, constantly updated fee system will accurately reflect costs, set a ceiling on price variation, and promote competition.
<b>Fraud and Abuse:</b> Waste that comes as fraudsters issue fake bills and run scams	3.0% – 6.6%	1.3% – 2.2%	Eliminating fragmented data will make it harder to hide fraudulent activity. Global payment creates incentives for providers to reduce fraud and discretionary overuse.
<i>Overall Percent of Spending</i>	20.7%–33.8%	19.9%–24.5%	<i>A key barrier to achieving even a fraction of the potential savings shown remains the fragmentation that enables producers, providers, and insurers to shift or raise costs to others: a single system would help.</i>
<i>Total Spending on Waste</i>	<i>\$558B–\$910B</i>	<i>\$760B–\$935B</i>	

Efforts to estimate the magnitude of waste in U.S. health care, with recent studies shown above, have identified multiple specific sources of waste. The major limitation of both of these estimates is that the definitions of overtreatment focus on overuse of biomedical treatments, where clinical evidence has proven lack of benefit. This ignores waste from incentive-driven overuse of treatments where judgment is required (the vast majority of clinical decisions) and overuse of supply-sensitive care delivery (visits, tests, or facility-based care) that could be safely delivered in less-costly ways.

A single system of measurement, payment, and insurance coverage could help reduce waste in each of these areas while at the same time addressing the fragmentation that enables persistent cost growth from profit-maximizing behavior that offers no value to consumers. This could be implemented whether the payer is a single federal program or a tightly regulated and uniform system where all play by the same rules.

Sources: The author and cited studies: T1: Berwick DM, Hackbarth AD. Eliminating waste in US health care. *JAMA* 2012;307:1513-1516 <https://www.ncbi.nlm.nih.gov/pubmed/22419800>. T2: Shrank WH, Rogstad TL, Parekh N. Waste in the US health care system: estimated costs and potential for savings. *JAMA* October 7, 2019 [Online ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/31589283>.

outcomes, and disparities. Many, however, may fear that we simply cannot afford to move in this direction.

The third argument is that the United States cannot afford *not* to do so. With rising national debt and health care increasingly unaffordable for individuals, businesses, and governments, we have a second important opportunity: to adopt a system that can both improve care and meaningfully reduce costs. Two studies, summarized in Table 4, reveal both the magnitude of the opportunity to reduce waste in U.S. health care and the limited progress that has been achieved over nearly a decade.<sup>16,20</sup>

Commentaries on the most recent of the two studies pointed to specific approaches to reform that could help address these sources of waste, including better measures, continued movement toward VBP, increased transparency, and better alignment across all payers.<sup>96</sup> All of these would be key elements of a single system approach, and would help address the major sources of waste identified

in these studies. But without addressing how current fragmentation and lack of information enables suppliers, providers, and insurers to evade pressure to improve quality and lower costs, we will not be able to capture even a fraction of these savings. The barriers to change, however, are real: technical, social, and political.

---

“ *With rising national debt and health care increasingly unaffordable for individuals, businesses, and governments, we have a second important opportunity: to adopt a system that can both improve care and meaningfully reduce costs.* ”

---

The technical challenges are likely to be manageable: Outcome-based measurement is technically within reach, federal and state agencies are already running administrative systems that do everything suggested above, and many provider organizations are succeeding under VBP models.

The social challenges are more serious. It will be hard for some physicians and for many in the public to transition from mental models rooted in professional authority and blind faith in the evidence now available to one based on equal partnership between patients and physicians, healthy skepticism about evidence and provider performance, and a commitment to learning. Many, however, might appreciate a renewed focus on what is important, on improving evidence, and on learning how to do better.

It is also possible that the very notion of a single system — to have everyone playing by the same rules and eligible for the same system of care — will be seen as a step too far for some. America talks about equality under the law and equal opportunity, but we don’t operationalize these values very well. The wealthy and well connected may fear that they won’t be able to buy themselves better care under a single system approach (although better information and more resources would help them find “better” out-of-network providers). Those who don’t want to pay for the poor will resist, failing to recognize that we all pay not only for the poor, the elderly, and the sick (directly or indirectly), but also for the costs of poor care.

The argument here is one of effectiveness and efficiency. In our current system, the wealthy may be as likely to be harmed as others because we don’t actually know what treatments are safe and effective or who’s a good doctor and who’s not. (Think Joan Rivers.<sup>97</sup>) The market fails to deliver value not only because we don’t measure it, but because our fragmented system makes it too easy to make money in other ways. A single system approach addresses both these challenges.

---

“ *Those who don’t want to pay for the poor will resist, failing to recognize that we all pay not only for the poor, the elderly, and the sick (directly or indirectly), but also for the costs of poor care.* ”

---

The political challenges are also daunting. Many current stakeholders will resist, some because they see their incomes threatened, but more, I suspect, by the challenge of having to learn to work in new and unfamiliar ways. At the same time, the single system approach — if implemented in a multi-payer model that preserves a role for private insurers — should satisfy the core interests of all key stakeholders: better, less expensive care for consumers; better support, information, and working environments for clinicians; and a continued important role not only for hospitals, but for insurers, too. Conflict is also likely to arise between advocates of single- or multi-payer approaches. I believe this is a false choice. It is certainly possible that a streamlined and well-regulated private insurance system could be as effective as government agencies that have been captured by provider interests — as is plausibly the case under Medicare.

Perhaps, however, these ideas could draw support from both the right (with its emphasis on making the market work) and the left (by ensuring universal and equal access to a shared and better-performing system). But the core conflict over money would remain challenging. Striking the kind of deal needed to get us to a single system model would require not only leadership, but also the kind of window for major reforms that opens only rarely. The key message of this paper is the following: If such an opportunity arises, Americans should not waste it arguing about single payer, multi-payer, or repeal and replace. We should address the underlying causes of poor performance. We will be able to best improve care for ourselves and our children if we create a single system where the market improves care for all.

**Elliott S. Fisher, MD, MPH**

Professor, Dartmouth Institute and the Geisel School of Medicine, Dartmouth College

[Appendix](#)

*Disclosures: Dr. Fisher serves as a consultant on strategy for Covered California.*

## References

1. MGMA. COVID-19 Financial Impact on Medical Practices. Medical Group Management Association. 2020. <https://www.mgma.com/resources/government-programs/covid-19-financial-impact-on-medical-practices>
2. Webb Hooper M, Nápoles AM, Pérez-Stable EJ. COVID-19 and Racial/Ethnic Disparities. JAMA.
3. Anderson GF, Hussey P, Petrosyan V. It's Still The Prices, Stupid: Why The US Spends So Much On Health Care, And A Tribute To Uwe Reinhardt. Health Aff (Millwood). 2019;38(6):87-95
4. Papanicolas I, Woskie LR, Jha AK. Health Care Spending in the United States and Other High-Income Countries. JAMA. 2018;319(6):1024-39
5. Birkmeyer JD, Siewers AE, Finlayson EV. Hospital volume and surgical mortality in the United States. N Engl J Med. 2002;346(6):1128-37
6. Bradley EH, Herrin J, Curry L. Variation in hospital mortality rates for patients with acute myocardial infarction. Am J Cardiol. 2010;106(6):1108-12

7. Ghaferi AA, Birkmeyer JD, Dimick JB. Variation in hospital mortality associated with inpatient surgery. *N Engl J Med.* 2009;361(6):1368-75
8. Sheetz KH, Ibrahim AM, Nathan H, Dimick JB. Variation in Surgical Outcomes Across Networks of the Highest-Rated US Hospitals. *JAMA Surg.* 2019;154(6):510-5
9. James JTA. A new, evidence-based estimate of patient harms associated with hospital care. *J Patient Saf.* 2013;9(6):122-8
10. Makary MA, Daniel M. Medical error—the third leading cause of death in the US. *BMJ.*
11. Furukawa MF, King J, Patel V, Hsiao CJ, Adler-Milstein J, Jha AK. Despite substantial progress in EHR adoption, health information exchange and patient engagement remain low in office settings. *Health Aff (Millwood).* 2014;33(6):1672-9
12. Topol E. Digital medicine: empowering both patients and clinicians. *Lancet.* 2016;388(6):740-1
13. Tuckson RV, Edmunds M, Hodgkins ML. Telehealth. *N Engl J Med.* 2017;377(6):1585-92
14. Wilensky G. The Need to Simplify Measuring Quality in Health Care. *JAMA.* 2018;319(6):2369-70
15. Burwell SM. Setting value-based payment goals—HHS efforts to improve U.S. health care. *N Engl J Med.* 2015;372(6):897-9
16. Berwick DM, Hackbarth AD. Eliminating waste in US health care. *JAMA.* 2012;307(6):1513-6
17. Farrell D, Jensen E, Kocher R, et al. Accounting for the Cost of U.S. Health Care: A New Look at Why Americans Spend More: McKinsey Global Institute; 2008 December, 2008. [https://healthcare.mckinsey.com/sites/default/files/MGI\\_Accounting\\_for\\_cost\\_of\\_US\\_health\\_care\\_full\\_report.pdf](https://healthcare.mckinsey.com/sites/default/files/MGI_Accounting_for_cost_of_US_health_care_full_report.pdf)
18. Cooper Z, Craig SV, Gaynor M, Van Reenen J. The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured. *QJ Econ.* 2019;134(6):51-107
19. Fisher ES, Wennberg DE, Stukel TA, Gottlieb DJ, Lucas FL, Pinder EL. The implications of regional variations in Medicare spending. Part 1: the content, quality, and accessibility of care. *Ann Intern Med.* 2003;138(6):273-87
20. Shrank WH, Rogstad TL, Parekh N. Waste in the US Health Care System: Estimated Costs and Potential for Savings. *JAMA* 2019 Oct 7. <https://www.ncbi.nlm.nih.gov/pubmed/31589283>
21. Orszag PR. US Health Care Reform: Cost Containment and Improvement in Quality. *JAMA.* 2016;316(6):493-5
22. Skinner J, Chandra A. The Past and Future of the Affordable Care Act. *JAMA.* 2016;316(6):497-9
23. Gaynor M, Mostashari F, Ginsberg PB. Making Health Care Markets Work: Competition Policy for Health Care. 2017 Apr 4;317(13):1313-1314. doi:<https://www.ncbi.nlm.nih.gov/pubmed/28253376>

24. Vladeck BC, Rice T. Market failure and the failure of discourse: facing up to the power of sellers. *Health Aff (Millwood)*. 2009;28(6):1305-15
25. Fisher ES, Wennberg DE, Stukel TA, Gottlieb DJ. Variations in the Longitudinal Efficiency of Academic Medical Centers. *Health Aff (Millwood)*. 2004;Suppl Variation:VAR19-32. <https://www.ncbi.nlm.nih.gov/pubmed/15471777>
26. Fisher ES, Wennberg DE, Stukel TA, Gottlieb DJ, Lucas FL, Pinder EL. The implications of regional variations in Medicare spending. Part 2: health outcomes and satisfaction with care. *Ann Intern Med*. 2003;138(6):288-98
27. Fisher ES, Wennberg JE, Stukel TA, Sharp SM. Hospital readmission rates for cohorts of Medicare beneficiaries in Boston and New Haven. *N Engl J Med*. 1994;331(6):989-95
28. Woolhandler S, Campbell T, Himmelstein DU. Costs of health care administration in the United States and Canada. *N Engl J Med*. 2003;349(6):768-75
29. Gaynor M. Examining the Impact of Health Care Consolidation: Statement before the Committee on Energy and Commerce Oversight and Investigations Subcommittee. Washington, D.C.: US House of Representatives; February 14, 2018. <https://docs.house.gov/meetings/IF/IF02/20180214/106855/HHRG-115-IF02-Wstate-GaynorM-20180214.pdf>
30. Kesselheim AS, Avorn J, Sarpatwari A. The High Cost of Prescription Drugs in the United States: Origins and Prospects for Reform. *JAMA*. 2016;316(6):858-71
31. AHRQ. (2018). 2018 National Healthcare Quality and Disparities Report. Agency for Healthcare Research and Quality. Rockville MD. <https://www.ahrq.gov/research/findings/nhqrdr/nhqrdr18/index.html>
32. Senge PM. *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday/Currency; 1990. <https://www.worldcat.org/title/fifth-discipline-the-art-and-practice-of-the-learning-organization/oclc/21226996>
33. Evans RG, Stoddart GL. Producing health, consuming health care. *Soc Sci Med*. 1990;31(6):1347-63
34. Illich I. *Medical Nemesis, the Expropriation of Health*. London: Calder & Boyars, 1975. <https://ratical.org/ratville/AoS/MedicalNemesis.pdf>
35. McGinnis JM, Foege WH. Actual causes of death in the United States. *JAMA*. 1993;270(6):2207-12
36. Nease RF, Kneeland T, O'Connor GT. Variation in patient utilities for outcomes of the management of chronic stable angina. Implications for clinical practice guidelines. *JAMA*. 1995;273(6):1185-90
37. Wennberg JE, Mulley AG, Hanley D. An assessment of prostatectomy for benign urinary tract obstruction. Geographic variations and the evaluation of medical care outcomes. *JAMA*. 1988;259(6):3027-30

38. Lynne J. (2020). "Getting Ahead of COVID-19 Issues: Dying From Respiratory Failure Out of the Hospital." Health Affairs Blog. <https://www.healthaffairs.org/doi/10.1377/hblog20200330.141866/full/>
39. Drake RE, Deegan PE. Shared decision making is an ethical imperative. *Psychiatr Serv*.
40. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness: the chronic care model, Part 2. *JAMA*. 2002;288(6):1909-14
41. Sirovich BE, Gottlieb DJ, Welch HG, Fisher ES. Variation in the tendency of primary care physicians to intervene. *Arch Intern Med*. 2005;165(6):2252-6
42. Sirovich B, Gallagher PM, Wennberg DE, Fisher ES. Discretionary decision making by primary care physicians and the cost of U.S. Health care. *Health Aff (Millwood)*. 2008;27(6):813-23
43. Sirovich BE, Gottlieb DJ, Welch HG, Fisher ES. Regional variations in health care intensity and physician perceptions of quality of care. *Ann Intern Med*. 2006;144(6):641-9
44. Hollander JE, Carr BG. Virtually Perfect? Telemedicine for Covid-19. *N Engl J Med*. 2020;382(6):1679-81
45. Anderson GF, Hussey P, Petrosyan V. It's Still The Prices, Stupid: Why The US Spends So Much On Health Care, And A Tribute To Uwe Reinhardt. *Health Aff (Millwood)*. 2019;38(6):87-95
46. Anderson GF, Reinhardt UE, Hussey PS, Petrosyan V. It's the prices, stupid: why the United States is so different from other countries. *Health Aff (Millwood)*. 2003;22(6):89-105
47. Papanicolaos I, Woskie LR, Jha AK. Comparing Spending on Medical Care in the United States and Other Countries-In Reply. *JAMA*.
48. Medicare Payment Advisory Commission. Report to Congress: Medicare Payment Policy. Washington, D.C. March, 2018. [http://www.medpac.gov/docs/default-source/reports/mar18\\_medpac\\_entirereport\\_sec.pdf](http://www.medpac.gov/docs/default-source/reports/mar18_medpac_entirereport_sec.pdf)
49. Frank RG. Prescription drug prices: why do some pay more than others do? *Health Aff (Millwood)*. 2001;20(6):115-28
50. Feldman R. *Drugs, Money and Secret Handshakes: The Unstoppable Growth of Prescription Drug Prices*: Cambridge University Press 2019. .
51. Fisher ES, Welch HG. Avoiding the unintended consequences of growth in medical care: how might more be worse? *JAMA*. 1999;281(6):446-53
52. Al-Lamee R, Thompson D, Dehbi HM. Percutaneous coronary intervention in stable angina (ORBITA): a double-blind, randomised controlled trial. *Lancet*. 2018;391(6):31-40
53. Stergiopoulos K, Brown DL. Initial coronary stent implantation with medical therapy vs medical therapy alone for stable coronary artery disease: meta-analysis of randomized controlled trials. *Arch Intern Med*. 2012;172(6):312-9

54. Kolata G. Surgery for Blocked Arteries Is Often Unwarranted, Researchers Find. *New York Times*. 2019, November 16. <https://www.nytimes.com/2019/11/16/health/heart-disease-stents-bypass.html>
55. McClellan M, Gottlieb S, Mostashari F, Rivers C, Silvis L. (2020). A National COVID-19 Surveillance System: Achieving Containment. Washington, D.C.: Duke-Margolis Center for Health Policy. <https://healthpolicy.duke.edu/publications/national-covid-19-surveillance-system-achieving-containment>
56. Every-Palmer S, Howick J. How evidence-based medicine is failing due to biased trials and selective publication. *J Eval Clin Pract*. 2014;20(6):908-14
57. Ioannidis JP. Why Most Clinical Research Is Not Useful. *PLoS Med*.
58. Frakt A. Half of Medical Treatments of Unknown Effectiveness. *The Incidental Economist*. January 16, 2013. <https://theincidentaleconomist.com/wordpress/half-of-medical-treatments-of-unknown-effectiveness/>
59. Moses LE, Mosteller F. Institutional differences in Postoperative death rates. Commentary on some of the findings of the National Halothane Study. *JAMA*. 1968;203(6):492-4
60. Ghaferi AA, Birkmeyer JD, Dimick JB. Complications, failure to rescue, and mortality with major inpatient surgery in medicare patients. *Ann Surg*. 2009;250(6):1029-34
61. National Quality Forum (NQF). Measurement Framework: Evaluating Efficiency across Patient-Focused Episodes of Care. Washington, D.C.: 2009. [https://www.qualityforum.org/Publications/2010/01/Measurement\\_Framework\\_Evaluating\\_Efficiency\\_Across\\_Patient-Focused\\_Episodes\\_of\\_Care.aspx](https://www.qualityforum.org/Publications/2010/01/Measurement_Framework_Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx)
62. Cella D, Yount S, Rothrock N. The Patient-Reported Outcomes Measurement Information System (PROMIS): progress of an NIH Roadmap cooperative group during its first two years. *Med Care*. 2007;45(6):S3-S11
63. Olsen A, Aisner D, McGinnis JM. Medicine Io. The Learning Healthcare System: Workshop Summary. Washington, D.C.: The National Academies Press, 2007. <https://www.ncbi.nlm.nih.gov/pubmed/21452449>
64. Perlin JB, Lee TH. A True Learning Health Care System. *NEJM Catalyst*.
65. Perlin JB, Jackson E, Hall C. 2019 John M. Eisenberg Patient Safety and Quality Awards: SPOTting Sepsis to Save Lives: A Nationwide Computer Algorithm for Early Detection of Sepsis: Innovation in Patient Safety and Quality at the National Level (Eisenberg Award). *Jt Comm J Qual Patient Saf*. 2020;46(6):381-91
66. Enthoven AC. The history and principles of managed competition. *Health Aff (Millwood)*. 1993;12(6):24-48
67. Fisher ES, Staiger DO, Bynum JPW, Gottlieb DJ. Creating accountable care organizations: the extended hospital medical staff. *Health Aff (Millwood)*. 2007;26(6):w44-57

68. Rama A. Payment and Delivery in 2018: Participation in Medical Homes and Accountable Care Organizations on the Rise While Fee-for-Service Revenue Remains Stable: American Medical Association; 2019. <https://www.ama-assn.org/system/files/2019-09/prp-care-delivery-payment-models-2018.pdf>
69. Basu S, Phillips RS, Song Z, Bitton A, Landon BE. High Levels Of Capitation Payments Needed To Shift Primary Care Toward Proactive Team And Nonvisit Care. *Health Aff (Millwood)*. 2017;36(6):1599-605
70. Lewis VA, Fisher ES, Colla CH. Explaining Sluggish Savings under Accountable Care. *N Engl J Med*. 2017;377(6):1809-11
71. Govindarajan V, Trimble C. *The Other Side of Innovation: Solving the Execution Challenge*. Boston, MA: Harvard Business School Publishing, 2010. <https://www.hbs.edu/faculty/Pages/item.aspx?num=48484>
72. Keith K. Final Rule Rapidly Eases Restrictions on Non-ACA-Compliant Association Health Plans. Washington, D.C.: Health Affairs Blog, June 21, 2018. <https://www.healthaffairs.org/doi/10.1377/hblog20180621.671483/full/>
73. Evans RG. Tension, compression, and shear: directions, stresses, and outcomes of health care cost control. *J Health Polit Policy Law*. 1990;15(6):101-28
74. Porter ME, Lee TH. The Strategy That Will Fix Health Care. *Harvard Business Review* October, 2013. <https://hbr.org/2013/10/the-strategy-that-will-fix-health-care>
75. Chandra A, Jena AB, Skinner JS. The pragmatist's guide to comparative effectiveness research. *J Econ Perspect*. 2011;25(6):27-46
76. Berwick DM, James B, Coye MJ. Connections between quality measurement and improvement. *Med Care*. 2003;41(6):I30-8
77. Johnson DW. Interoperability Battle Lines: Data Freedom Fighters vs. Entrenched Data Blockers. *4sightHealth*; 2019 March 26, 2019. <https://www.4sighthealth.com/interoperability-battle-lines-data-freedom-fighters-vs-entrenched-data-blockers/>
78. Baker A, Cronin K, Conway PH, DeSalvo KB, Rajkumar R, Press MJ. Making Comprehensive Care Plans a Reality. *NEJM Catalyst*.
79. Porter ME, Larsson S, Lee TH. Standardizing Patient Outcomes Measurement. *N Engl J Med*. 2016;374(6):504-6
80. Nelson EC, Dixon-Woods M, Batalden PB. Patient focused registries can improve health, care, and science. *BMJ*.
81. Share DA, Campbell DA, Birkmeyer N. How a regional collaborative of hospitals and physicians in Michigan cut costs and improved the quality of care. *Health Aff (Millwood)*. 2011;30(6):636-45

82. Institute of Medicine. Best Care at Lower Cost: The Path to Continuously Learning Health Care in America. Washington, D.C.: National Academy Press, 2013.
83. Goodman M. Dr. Death. D Magazine. Dallas: November 2016. <https://www.dmagazine.com/publications/d-magazine/2016/november/christopher-duntsch-dr-death/>
84. Cooper Z, Craig S, Gaynor M, Harish NJ, Krumholz HM, Van Reenen J. Hospital Prices Grew Substantially Faster Than Physician Prices For Hospital-Based Care In 2007-14. Health Aff (Millwood). 2019;38(6):184-9
85. Cooper Z, Craig S, Gray C, Gaynor M, Van Reenen J. Variation In Health Spending Growth For The Privately Insured From 2007 To 2014. Health Aff (Millwood). 2019;38(6):230-6
86. Berenson RA, Ginsburg PB. Improving The Medicare Physician Fee Schedule: Make It Part Of Value-Based Payment. Health Aff (Millwood). 2019;38(6):246-52
87. Schulman KA, Milstein A. The Implications of “Medicare for All” for US Hospitals. JAMA. 2019;321(6):1661-2
88. Fisher ES, Lee PV. Toward Lower Costs and Better Care—Averting a Collision between Consumer- and Provider-Focused Reforms. N Engl J Med. 2016;374(6):903-6
89. California C. Covered California’s First Five Years: Improving Access, Affordability and Accountability. Sacramento, CA: December 2019. [https://hbex.coveredca.com/data-research/library/CoveredCA\\_First\\_Five\\_Years\\_Dec2019.pdf](https://hbex.coveredca.com/data-research/library/CoveredCA_First_Five_Years_Dec2019.pdf)
90. Scheffler RM, Arnold DR, Fulton BD, Glied SA. Differing Impacts Of Market Concentration On Affordable Care Act Marketplace Premiums. Health Aff (Millwood). 2016;35(6):880-8
91. Pauly MV, Danzon P, Feldstein P, Hoff J. A plan for ‘responsible national health insurance’. Health Aff (Millwood). 1991;10(6):5-25
92. Holahan J, Blumberg L. Massachusetts health care reform: a look at the issues. Health Aff (Millwood). 2006;25(6):W432-43
93. Singer DE, Carr PL, Mulley AG, Thibault GE. Rationing intensive care—physician responses to a resource shortage. N Engl J Med. 1983;309(6):1155-60
94. Strauss MJ, LoGerfo JP, Yeltatzie JA, Temkin N, Hudson LD. Rationing of intensive care unit services. An everyday occurrence. JAMA. 1986;255(6):1143-6
95. Eze N. Equality Is Our Last Hope. NEJM Catalyst.
96. Joynt Maddox KE, McClellan MB. (2019). “Toward Evidence-Based Policy Making to Reduce Wasteful Health Care Spending.” JAMA. DOI:

97. Gottlieb E. Top 22 Celebrities Harmed by Medical Malpractice. The Center for Justice & Democracy at New York Law School. September 20, 2018, <http://centerjd.org/content/top-22-celebrities-harmed-medical-malpractice>