

For Whom the Bill Tolls: Why Health Costs are Too High, and What to Do About It

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In this paper, we examine the rise and fall of managed care during the 1990s for clues as to why household health costs grew rapidly after 2000, and how best to reverse this trend. A key conclusion: commercial costs are driven by the rise of monopoly health systems. Half or more of markets have hospital monopolies, whose pricing power gives them little incentive to curb waste.

BACKGROUND

Moderating health cost growth is essential to restoring the growth of household living standards. Household health spending has exploded this century. Milliman estimates that the typical working family of four has seen its annual health bills grow by \$19,752 since 2001—with most of this rise occurring after the passage of the Affordable Care Act in 2010. Compensation gains that would have come as pay instead were diverted toward employer health premiums, causing wages to stagnate or decline. If current trends persist, the typical family could spend 40 percent of their income on health care by the early 2030s.

The only extended period when wages outpaced health costs came in the mid-1990s, during the "managed care boom"—an eight-year period associated with steeply rising wages. Managed care systems became controversial, in part, because they curbed demand for pricey specialty care by using general practitioners as "gatekeepers." Price stability came undone during the "managed care backlash", as workers grew suspicious that health maintenance organizations were denying needed care. Later disproved, these fears were stoked through a lobbying campaign led by physician specialty associations.

Concentration

Contributing to this trend were a series of antitrust deregulatory actions making it easier for providers to merge, ostensibly to improve care coordination. The most recent such relaxation came in 2011, to pave the way for accountable care organizations. Weakened antitrust enforcement coincided with wave after wave of health system consolidation. By 2007 one could traverse the entire continental United States, going in almost any direction, without encountering a single competitive hospital market. Today more than 90 percent of all Americans live in "highly concentrated" markets.

Payrolls

More than half of the projected shortage is in the specialties. This implies that average physician salaries are poised go up. Specialists tend to prescribe more expensive care. All else being equal, changes in the composition of the physician workforce towards specialists will amplify cost growth going forward.

Waste

Accompanying the increase in hospital pricing power has been the proliferation of waste. During 1999-2003, as the managed care boom unraveled, hospital volumes increased 21 percent. Spending on hospitals rose an even greater 40 percent, in part because the spike in demand had created labor shortages that drove up wages. Notably, these increases were not associated with improved population health. More recently, the growing share of medical school graduates in the specialties has helped to drive up both medical pay and care volume.



RECOMMENDATIONS

Improving competition in provider markets holds great promise. Yet market-oriented reforms alone will find little fertile ground in monopoly markets. Here, price regulation can create needed price signals to become more efficient.

- A method for curbing health costs has been Medicare's system of administered prices. This year, for example, Medicare and Medicaid will pay only about 60 percent of commercial rates, saving the federal government roughly \$300 billion. An unintended effect has been to create a ballooning disparity between Medicare and unregulated commercial rates. Allowing private payers to pay Medicare rates in uncompetitive markets would be administratively simple while putting as much as \$10,000 a year back into the pockets of working families. Administered pricing need not come at the expense of beneficial competition. For example, Medicare Advantage plans—private plans that administer Medicare benefits and pay Medicare rates—compete by providing care more efficiently than traditional Medicare. MA plans have seen their market share more than double over the past decade, in part because they are able to provide more comprehensive coverage.
- To further promote competition, we should adopt policies that set the right conditions for market rivalries. The Senate HELP Committee's "Lower Health Care Costs Act" would outlaw anti-competitive business practices, such as "anti-steering", "anti-tiering", and "most-favored nation" clauses.
 Another path would be to have the FTC police anti-competitive contract items. To implement such policies, Congress would need to significantly expand the FTC's funding and authority over not-for-profit hospitals. For example, a proposal by Rep. Jim Banks (HR 506), would establish a new Bureau of Health Care Competition within the FTC, and provide a statutory mandate to scrutinize hospital markets with HHI > 4000 (5000 in rural areas).
- Additional reforms could include repealing the moratorium on physician-owned hospitals to allow
 competition with incumbents, bar the deployment of hospital-led accountable care organizations
 in concentrated markets, and publish—on a quarterly basis—data for every ZIP code or region
 regarding hospital market concentration and require DOJ and FTC to systematically review local
 markets and seek to improve competition in markets that are not competitive.

The result of these reforms could be electric. It would put more money back into households' pockets by reducing the price of medical services. We estimate these reforms could bring NHE down by 3.5 percent of GDP, which would still leave the U.S. paying nearly half again more than the developed country average. If these savings were spread among the privately insured, it could cut premiums in half—by roughly \$13,000 a year for the median family of four, at 2017 prices. The transformation of American medicine from a drain on working families to one that fuels our prosperity is a daunting, but necessary task if we are to avoid an unbearably costly future.



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The health sector is big—really big. This year it accounts for roughly 18 percent of the U.S. economic activity—one-third more than the State of California. Driven in part by persistent price increases in private markets, health spending is on track to top \$50 trillion during the next decade, reflecting nominal growth of about 70 percent between 2018 and 2028.¹ Today's partisan divide over health policy obscures the risks this growth poses to rest of the economy. Fortunately, the mechanisms for curbing commercial costs are at hand; in fact, they play an essential role in federal budgeting. Applied to private insurance, Medicare's system of administered pricing in monopoly markets could put \$10,000 a year back into the pockets of working families—restoring the prosperity and morale of Middle America while cushioning household and public finances from the looming fiscal shocks of population aging. Yet price controls are inherently problematic because they distort markets, create access issues, and, by themselves, would not address the many inefficiencies caused by regulation.

I. Doing Nothing is Not an Option

As Republicans contemplate their failure to repeal and replace the Affordable Care Act of 2010 (ACA), aka "Obamacare", they should consider this: In 2019, administered pricing under the Medicare and Medicaid programs will produce federal budget savings of nearly \$300 billion. These savings stem from the fact that hospitals, physicians and other health service providers charge the government about 60 percent what private health insurers pay.²

Were Medicare and Medicaid to pay commercial rates, the federal budget deficit would deteriorate significantly. One early casualty would be Medicare's Hospital Insurance Trust Fund, which would go into deficit as early as 2022. Alternatively, entitling private insurers to pay Medicare rates, as the Medicare Advantage program does, would oblige hospitals and allied providers to squeeze payrolls—medicine's main cost center—harming labor relations and sending some enterprises into bankruptcy.

² Jared Lane Maeda and Lyle Nelson, An Analysis of Private Sector Prices for Hospital Admissions, Congressional Budget Office Working Paper 2017-02. April 2017. See Table 1. (Online.) The authors calculate that in 2015 insurers paid 89% more than Medicare for hospital stays and surgeries, and find similar disparities for other services. Because Medicare can control costs and private insurers cannot, the gap between public and private payment rates grows larger every year. In FY2017 Federal and state spending for price-controlled programs—Medicare, Medicaid and CHIP—were projected to total \$1.34 trillion, of which the federal share was about \$1.1 trillion. More recent research pegs commercial rates as more than 100 percent higher than Medicare: see Chapin White & Christopher Whaley, "Prices Paid to Hospitals by Private Health Plans Are High Relative to Medicare and Vary Widely: Findings from an Employer-Led Transparency Initiative," RAND Corporation (2019). Available at: https://www.rand.org/pubs/research_reports/RR3033.html.



¹ Centers for Medicare and Medicaid Services, National Health Expenditure Projections, Table 1 (online) and authors' calculations. CMS projects NHE will total \$43.4 trillion during 2019-2027. If NHE continues growing at the projected 2027 rate, NHE will total \$49.7 trillion during 2019-2028.

Private health costs have exploded since 2000—mostly reflecting insurers' inability to resist inflationary price increases. Health costs have grown 3-4 times faster than household incomes, depending on the measure used. The Milliman Medical Index (MMI)—a measure of total annual health spending by a prototypical family of four with employer-sponsored insurance—reached \$28,166 in 2018. By this metric, annual family health bills were \$10,092 higher than they were in 2010, when the ACA was enacted; and \$19,752 higher than in 2001, President George W. Bush's first year in office.³ The effect on living standards has been akin to an unending (and uncompensated) series of tax increases.

As health costs have risen, households earning below the median have suffered more. In 2018 the MMI was equal to 112 percent of the federal poverty threshold for a family of four with two children, up from 72 percent in 2008 and 47 percent in 2001.⁴ As long as coverage costs grow faster than household incomes, every year more working Americans will need public subsidies in order to afford insurance.

Healthcare delivery, meanwhile, is riddled with hidden taxes, thanks to a tangle of federal and state rules governing the distribution and use of premium dollars. These policies turn insurers, employers and many hospitals into tax-collectors for a price-insensitive regulatory welfare state that redistributes trillions of consumer dollars to providers with little accountability. A prime example is the Emergency Medical Treatment and Labor Act of 1986 (EMTALA), a quasi-safety-net program that obliges hospital emergency rooms to treat the indigent and spread the costs among paying customers.⁵

The only durable solution to our nation's health cost crisis is to hold medical inflation at or below the rate of household income growth. Medicare has done this through administered pricing—a policy that brings with it well-known risks. For example, until recently, Medicare has been indifferent to the misapplication of high-tech treatments for the chronically ill, fostering over-reliance on wasteful technology. If implemented too rapidly, price controls might also cause the mass retirement of older physicians—30 percent of whom are over 60—thus weakening health system access.⁶ Nevertheless, every other developed country uses some form of price controls and spends, on average, about 7 percent of GDP less.

The only extended period in modern history when private health costs grew more slowly than wages was during the so-called "managed care" boom of the mid-1990s. Notably, this era ended in controversy. But it also coincided with booming prosperity—hinting that there may be positive macroeconomic effects when household income gains go toward discretionary items, as opposed to being siphoned away by medical inflation. Understanding how employer health plans cut costs during the managed care boom, and why that era ended, is essential to recalibrating the role of markets in our health care political economy.

Despite the star-power of high-tech medicine, most health care is mundane and labor-intensive. The Bureau of Economic Analysis calculates, for example, that compensation accounts for 83 percent of value-added in hospitals.⁷ Little evidence suggests that the quality of care is better when provided by a physician specialist making \$425,000 a year—the U.S. national average in 2015⁸ —versus one making 40 percent less, as in France.

⁸ Medical Group Management Association, "Provider Compensation and Production Report, Based on 2015 Data", 2016. (Online.)



³ Christopher S. Girod, Susan K. Hart and Scott A. Weltz, 2017 Milliman Medical Index, Milliman. May 16, 2017. (Online.) For previous year estimates, see Milliman Insight archives online.

⁴Census Bureau poverty thresholds. (Online.)

⁵ The American Hospital Association estimates that uncompensated care represents cost hospitals about \$38.4 billion in 2017. (Online.) To the extent emergency room physicians and other professionals are not on hospital payrolls, they too bear the cost of uncompensated care.

⁶ Aaron Young, PhD; Humayun J. Chaudhry, DO, et al., "A Census of Actively Licensed Physicians in the United States, 2016," Federation of State Medical Boards. 2018 (Online

⁷ Bureau of Economic Analysis, Interactive Tables, GDP by Industry, Components of Value Added by Industry as a Percentage of Value Added, Accessed online June 17, 2019. By other estimates, compensation, professional fees and other labor intensive services account for 71.9% of hospital costs. See: 2016 AHA Trendbook, Chart 6.10. (Online.)

Nor do Medicare patients receive poorer care because their services are provided at a discount. Providers charge more when they can—reflecting their pricing power. Medicare's ability to demand discounts, likewise, reflects the government's dominant (monopsony) bargaining position.

The political challenge facing reformers is to choose between inevitable controversies. By pledging to fix health care, but presiding over rising costs, Republicans risk more of the same discontent that since 2010 has weakened the Democrats' claim to represent working families. Yet stabilizing those costs seems certain to provoke the industry's many stakeholders—a prosperous, vote-rich constituency representing nearly one fifth of the economy and 11 percent of the workforce. There are many less-controversial steps that policymakers can take to improve competition in local health markets—such as the new Executive Order highlighting the need to focus on promoting competition and limiting consolidation throughout the healthcare system. But whether price stabilization is possible using market mechanisms alone is doubtful, given the monopoly power wrought by more than two decades of breakneck medical industry consolidation.

To avoid the mistakes of Obamacare, Republicans must reconcile their faith in free markets with Medicare's apparently successful system of price controls—the budgetary pillar upon which, ironically, much of their legislative agenda depends. Democrats, likewise, must come to terms with the fact that the likely losers under "Medicare-for-all" (or simply Medicare payment rates for all) include armies of health workers, many of whom are deployed inefficiently. Consumers, too, might lose, if aggressive price controls limit supply without commensurate productivity improvements. To reach consensus, both parties must find a balance, melding the best innovations of the private sector on primary care and patient outcomes with tools that enhance the public sector's ability to demand reasonable prices from consolidated health systems.

To illuminate these policy choices, this paper reviews the scope and cost structure of the U.S. health system and its main cost-drivers; discusses the mechanisms by which private prices are set; and explores recent history for insights into the role of market forces in driving up spending. We conclude with a brief discussion of the policy options to address these challenges.

II. COST DRIVERS

A. Poor Value: The Interaction of High Prices, Waste and Chronic Illness

America spends roughly 7 percent of GDP—or 70 percent—more on health care than the average of other high-income countries but by the most important measures gets subpar value. U.S. health indicators are the worst in the developed world. Relative to other rich countries, we have either the lowest, or one of the lowest life expectancies across practically every socioeconomic group at practically every age. Only in America is mortality rising for large segments of the working-age population (most prominently, in the rural Midwest and South). This unhealthiness stems in part from an epidemic of neglected or inefficiently treated chronic diseases. Yet population health factors are only one dimension of the medical cost trend. International comparisons show large discrepancies between the prices that Americans and their foreign peers pay for the same services and products.

¹¹ Meredith S. Shields et al, "Trends in Premature Mortality in the USA by Sex, Race, and Ethnicity from 1999 to 2014: an analysis of death certificate data," The Lancet, Vol 389 No. 10073. March 11, 2017. (Online.)



⁹ President's Executive Order on Promoting Health Care Choice and Competition Across the United States published October 12, 2017. (Online.)

¹⁰ Institute of Medicine, "U.S. Health in International Perspective: Shorter Lives, Poorer Health," The National Academies Press, January 2013. (Online.)

In many cases, private prices for common health services in the U.S. exceed the developed country average by a factor of three or more.¹²

Table 1
Variation of Medical and Hospital Prices by Country in 2012

					U.S.		U.S. Avg. as % of Peer Country	U.S. Price
	France	Switzerland	Netherlands	Low	Average	High	Average	Variation
Cost Per Hospital Day	853	n/a	731	1,514	4,287	12,537	541%	828%
Total Cost								
Bypass Surgery	22,844	17,729	14,061	46,547	73,420	150,515	403%	323%
Hip Replacement	10,927	9,574	11,187	25,061	40,364	87,987	382%	351%
Angioplasty	7,564	5,295	6,332	16,533	28,182	61,649	441%	373%
Appendectomy	4,463	4,782	4,498	8,156	13,851	29,426	302%	361%
Normal Delivery	3,541	4,039	2,669	7,262	9,775	16,653	286%	229%
C-Section	6,441	5,186	5,328	10,545	15,041	26,305	266%	249%
Cataract Surgery	1,938	2,566	1,534	2,418	3,738	8,143	186%	337%

Source: International Federation of Health Plans

These high costs might be manageable were it not for excessive volume and intensity. The Institute of Medicine (IOM), a branch of the American Academy of Sciences, estimates that 30 percent of the care Americans receive is wasteful.¹³ Others, such as former Center for Medicare and Medicaid Services (CMS) Acting Administrator Donald Berwick, put the toll even higher: as much as 49 percent, when the cost of neglect is factored in.¹⁴ Even without improved population health, some combination of lower prices and less waste could cut annual health bills for working families by several thousand dollars a year. If the savings were concentrated among the commercially insured, a 50 percent reduction in the disparity in per capita spending between U.S. and its peers—3.5 percent of GDP—could boost household incomes by \$10 trillion or more over the next decade.¹⁵

The inconvenient truth about American health care is that the medical industry knows how to practice efficient, high-value medicine but chooses not to, largely for business reasons, including liability concerns. Dartmouth Health Atlas, which uses big-data encompassing tens of billions of records to track Medicare treatment and outcome patterns across U.S. health markets, has calculated that Medicare would have spent 43 percent less in 2008 had every local health system provided care as efficiently (and safely) as Salt Lake City-based Intermountain Healthcare. The fact that myriad entrepreneurs in this \$3.8 trillion industry (in 2019) are not racing to emulate Intermountain's cost-saving ways points to something dysfunctional about U.S. health markets. In other industries, relentless competition for consumer dollars fuels innovation that ruthlessly winnows out the less efficient. In health care, these Darwinian forces work in reverse.

¹⁶ John E. Wennberg, et al, "Improving Quality and Curbing Health Care Spending: Opportunities for the Congress and the Obama Administration," December 2008, The Dartmouth Institute for Health Policy and Clinical Practice. (Online.)



¹² International Federation of Health Plans, 2015 Comparative Price Report. (Online.)

¹³ Institute of Medicine, "Better Care at Lower Cost: The Path to Continuously Learning Health Care in America," published on-line, September 2012. (Online).

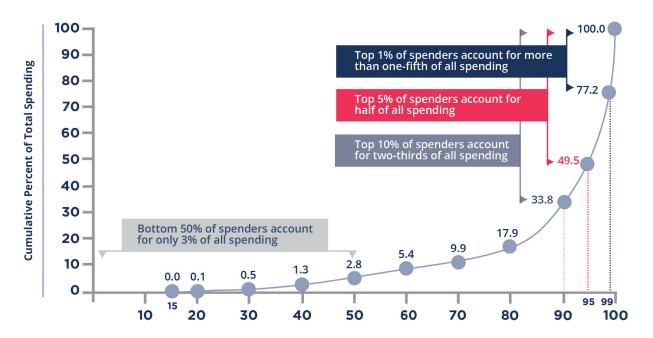
¹⁴ Donald Berwick and Andrew Hackbarth, "Eliminating Waste in US Health Care," JAMA 307, no. 14 (April 11, 2012): 1531-6. (Online.)

¹⁵ This would require, roughly, a 20 percent system-wide reduction in costs—for example, limiting private prices to no more than 140 percent of Medicare rates. CMS projects that cumulative NHE during 2015-2025 will total \$43 trillion. Extrapolating this projection, NHE could total \$50 trillion during 2017-2027.

B. Chronic Complaints: The Concentration of Health Spending

Figure 1 shows the concentration of health costs among the U.S. population in 2014. The most expensive 5 percent of patients accounted for about half of total health spending, while the most expensive 20 percent accounted for 82 percent of spending.¹⁷ The healthiest 50 percent incurred just 2.8 percent of medical bills. Chronic disease is a prime culprit. Only 16 percent of health spending goes toward patients with one or fewer chronic diseases.¹⁸

Figure 1



Percent of Civilian Non-Institutionalized Population Ordered by Health Care Spending, 2014

¹⁸ Gerard Anderson, "Chronic Care: Making the Case for Ongoing Care," Robert Wood Johnson Foundation and Johns Hopkins School of Public Health, p. 16.. 2010. (Online.)



¹⁷ Kaiser Family Foundation, Kaiser Fast Facts (Online.)

Table 2 ranks the prevalence and cost of chronic conditions in the U.S. for the period 2004-2007. ¹⁹ Chronic diseases are long in duration and have no definite cure. High-cost patients often have persistently high costs from one year to the next. Left untreated, conditions multiply. For example, diabetes carries high risks of heart disease and hypertension, which in turn carry high risks of debilitating heart attacks and strokes. Over time, these accumulating ills create greater room for medical mishaps, such as drug interactions. IOM provides the example of a 79-year-old patient with osteoporosis, osteoarthritis, type 2 diabetes, hypertension, and chronic obstructive pulmonary disease. This patient takes 19 medications per day. ²⁰ When many providers are involved, and these providers do not collaborate or even communicate, the result can be a high incidence of life-threatening drug interactions and expensive hospitalizations.

Table 2
Characteristics of Chronic Disease in the U.S.

Rank	Prevalance	Cost per Person	Cost to U.S.
1	High Cholesterol	Alzheimer/Dementia	Heart Disease
2	Back Problems	HIV/AIDS	Arthritis
3	Arthritis	Arthritis	Cancer
4	Hypertension	Stroke	Hypertension
5	Heart Disease	Emphysema	Alzheimer/Dementia
6	Asthma	Cancer	Diabetes
7	Diabetes	Asthma	Stroke
8	Depression/Anxiety	Gallbladder Disease	Back Problems
9	Cancer	Diabetes	Depression/Anxiety
10	Stomach Ulcer	Heart Disease	High Cholesterol
11	Alzheimer/Dementia	Depression/Anxiety	Emphysema
12	Stroke	Hypertension	Asthma
13	Gallbladder Disease	Back Problems	HIV/AIDS
14	Emphysema	Stomach Ulcer	Gallbladder Disease
15	HIV/AIDS	High Cholesterol	Stomach Ulcer

Although population aging is a factor in the rise of chronic illness, most new prevalence has been among the non-elderly. Many conditions arise from unhealthy lifestyles early in life, such as too little exercise, poor nutrition, drug and alcohol abuse and smoking.

Strikingly, among the most costly health behaviors is the failure of many patients under care for chronic conditions to take their medicines. For example, 34 percent of Medicare spending is attributable to the effects of heart failure, yet surveys have found that 40 percent of heart patients fail to take their medications as prescribed.^{21, 22} Estimates of the direct medical costs of this self-neglect range from 7 percent to 13 percent of national health spending. In 2017, those cost range from \$250 billion to \$460 billion.

²² Roebuck C, Liberman J, et al., "Medication Adherence Leads to Lower Health Care Use and Costs Despite Increased Drug Spending", Health Affairs. January 2011. (Online.)



¹⁹ Unacknowledged, "Disease Incidence and Prevalence – Summary of Findings," Harvard University Health Care Delivery Policy Program, the Kennedy School of Government, updated January 2008.

²⁰ Institute of Medicine chart pack (2012). (Online.)

²¹ Bruce Pyenson, Kathryn Fitch and Pamela Pelizzari, "The high cost of heart failure for the Medicare population: An actuarial cost analysis," Milliman. February 4, 2015. (Online.)

At the high end of this range, the cost of non-adherence could total upwards of \$6 trillion over the next decade, comparable to that of smoking.^{23, 24}

Obesity, a precursor to diabetes, is perhaps the largest risk factor of all. The percentage of dangerously overweight Americans has ballooned from 17 percent in 1980 to 38 percent in 2015—more than two times higher than in France and ten times higher than in Japan.²⁵

Not all of the rise in chronic disease is due to aging and unhealthy behaviors. Some of the rise may reflect "up-coding"—aggressive diagnoses designed to increase reimbursements. Partly, too, it is a byproduct of diagnostics, the result of more screening for conditions such as high cholesterol or breast or colon cancer. In other cases, new therapies have emerged where none existed before. Advances in psychopharmacology, for instance, have turned depression/anxiety into a more treatable, and thus more diagnosed, condition.

C. Cutting Edge: Why Technology Drives Up Costs

Technology is a two-edged sword—a cause for both optimism and concern. As in other sectors, information technology (IT) increasingly is able to automate labor-intensive tasks—from record sharing and patient outreach to the remote monitoring of vital signs and medication adherence, to x-ray interpretation, to artificial-intelligence (AI)-aided diagnoses and prescribing.²⁵ Pharmaceutical research, meanwhile, is at last yielding advances against cancer and other genetic conditions, but these gains have come at great cost. Harnessed to a business model that rewards revenues over results—and circumscribed by a pre-IT-era regulatory framework that compartmentalizes care and hardwires labor-intensive practices—technology is a prominent driver of the health spending spiral.

The inability of rulemaking to keep pace with technical developments imposes a growing burden on medicine's ability to adapt. Nowhere is this more evident than in provider-patient communications, where stringent privacy rules make even emails about head sniffles fraught with legal peril. Technologists fear that the remote monitoring of patient health may subject fast-evolving smart-phone apps to lead-footed Food and Drug Administration (FDA) and other agency oversight. Meanwhile, burgeoning advances in artificial intelligence could render tomorrow's nurses more capable of interpreting x-rays than today's un-aided radiologist. Even if that were so, licensure rules would prevent it.

In 2008, the Congressional Budget Office (CBO) estimated that new technologies—mainly drug therapies—had fueled as much as half of the increase in Medicare spending per beneficiary during 1965-2005, concluding that "large increases in health care spending are likely to continue" without curbs on the application of new treatments.²⁷ A poster child for this "failure of success" is Kymriah, a therapy for a rare form of leukemia, priced at \$475,000 for a course of treatment.²⁸

²⁸ Sy Mikherjee, "Is \$475,000 Too High a Price for Novartis's 'Historic ' Cancer Gene Therapy?". Fortune. August 31, 2017. (Online.)



²³ The commonly cited low-end estimate of \$100 billion a year is based on costs in 2000. In the interim, national health expenditures (NHE) have increased 257 percent. (See, for example: Lars Osterberg and Terrence Blaschke, "Adherence to Medication", New England Journal of Medicine. August 4, 2005.) The commonly cited high-end estimate of \$289 billion a year is based on a study of costs in 2000, updated to 2008. Since 2008, NHE has increased 47 percent. (See: "Thinking Outside the Pillbox," New England Healthcare Institute. August 2009.) The Centers for Medicare and Medicaid Services estimates that NHE will total \$44 trillion during 2016-2025, a 9 year period. Over ten years, NHE would total about \$50 trillion, of which 13 percent is equal to \$5.9 trillion.

²⁴ Victor U Ekpu and Abraham K Brown, "The Economic Impact of Smoking and of Reducing Smoking Prevalence: Review of Evidence", US National Library of Medicine, National Institutes of Health, July 14, 2015. (Online.) Estimates of the share of health care expenditure attributable to smoking range between 6 percent and 18 percent across different states.

²⁵ Organization for Economic Cooperation and Development, "Obesity Update 2017." (Online.)

²⁶ For a discussion of the many possibilities, see: Eric Topol, The Patient Will See you Now, Basic Books 2015.

²⁷ Congressional Budget Office, "Technological Change and the Growth of Health Spending." January 2008. (Online.)

Once approved, new technologies tend to be used in ways that increase rather than cut costs. Dartmouth Health Atlas estimates that 60 percent of health services given to Medicare patients is "supply sensitive," meaning its provision is motivated as much by the availability of resources as medical need. Thus, for example, patients have longer hospital stays when hospitals have empty beds. Another 24 percent of care is "preference sensitive." Spinal fusion often produces results no better than low-tech physical therapy. Given an informed choice, most patients will opt for the less invasive, less costly alternative. Yet many choose such treatment for lack of better advice.

Among America's leading medical centers, the cost of care for chronically ill Medicare patients varies by 250 percent or more, without evidence that more prescribing yields better outcomes.³¹ Poor population health thus provides only a partial explanation for the concentration of U.S. health spending. How we care for the chronically ill matters more.

What sets the U.S. health system apart is the extraordinary latitude physicians (and their employers) have to create demand simply by prescribing it. Profits go up, for example, when hospital-acquired infections or surgical mistakes require remedial care.³² The freedom to prescribe turns efficiency, even patient safety, into an opportunity cost, biasing myriad business decisions—from facilities investment, to hospital staffing to medical educations—in favor of more technically intensive, and expensive, practices.

Writing in Health Affairs, Brent James and Lucy Savitz describe how Intermountain's decision to cut back on elective induced births improved patient outcomes while costing the hospital system \$50 million in revenues. "As we improved," they lament, "the resources to drive further change disappeared."

Opportunity costs also help to explain why the same health systems that are quick to substitute expensive high-tech treatments for low-tech alternatives remain resolutely hidebound when it comes to IT. In 2006, long after IT had permeated other sectors, only 1.5 percent of hospitals had "comprehensive" (present in all clinical units) electronic records systems. An additional 7.6 percent had a "basic" system (present in at least one clinical units). In 2009, Congress addressed this backwardness with a combination of carrots and sticks under the Health Information Technology for Economic and Clinical Health (HITECH) Act. But eight years and \$38 billion in incentive payments later, only 30 percent of hospitals were fully able to share medical records with unaffiliated providers. This disappointment owes in part to the weakening of Medicare payment penalties for failure to share and use health information, the result of lobbying against tougher interoperability standards such as banning information blocking and a permissive enforcement attitude toward data hording.

A 2005 study by RAND hints at the origins of this reverse digital divide. The authors calculated that the widespread adoption of health information technology could boost labor productivity (defined as achieving the same outcomes with fewer resources) by four percent a year, on par with manufacturing.³⁶

³⁶ Anthony G. Bower, "The Diffusion and Value of Health Care Information Technology," The RAND Corporation. 2005. (Online.)



²⁹ John E. Wennberg, Tracking Medicine: A Researcher's Quest to Understand Health Care, pp. 54-117. Oxford University Press. 2010.

³⁰ Shannon Brownlee, "Overtreated: Why Too Much Medicine is Making Us Sicker and Poorer," Bloomsbury USA, 1997.

³¹Wennberg, Op. Cit, p. 187. Says Wennberg: "The extent of variation among academic medical centers in the way they manage chronic illness is incompatible with the hypothesis that these institutions share a common clinical science that informs their everyday practice."

³² Sunil Eappen; Bennett H. Lane; Barry Rosenberg; et al, "Relationship Between Occurrence of Surgical Complications and Hospital Finances," 2013;309(15):1599–1606. doi:10.1001/jama.2013.2773. (Online.)

³³ Brent C. James and Lucy A. Savitz, "How Intermountain Trimmed Costs Through Robust Quality Improvement Efforts," Health Affairs, May 2011.

³⁴ AK Jha, CM DesRoches, et al, "Electronic Health Records and Quality of Diabetes Care," New England Journal of Medicine, 3/26/09. (Online.)
³⁵ A. Jay Homgren, Vaishali Patel and Julia Adler-Milstein, "Progress in Interoperability: Measuring U.S. Hospitals' Engagement in Sharing Patient Data," Health Affairs Blog. October 2017. (Online.)

The Veterans Affairs (VA) health system found that \$4.07 billion in IT investments made in the early 2000s had yielded cumulative net savings of \$3.09 billion by 2007. More than 90 percent of those savings came from reductions in unnecessary care and the elimination of redundancies.³⁷

D. Mouths To Feed: Medicine's Growing Labor-Intensiveness

For all of its struggles in bettering population health, the medical industry has been stellar at creating jobs. As shown in Table 3, health care accounted for 28 percent of economy-wide job growth from 2000 to 2019, during which time its share of the labor force increased 32 percent. From 2000 to 2012, health care was responsible for all net job creation. Given the labor-intensiveness of health services, the persistent, recession-proof expansion of the medical workforce (averaging 2.2 percent a year) explains much of the rise coverage costs at the household level.³⁸

Table 3
Employment (in thousands) in the Healthcare and Non-health Economy, Selected Years, 2000-2019

	2000	2007	2012	2017	2019
Healthcare	10,768	12,778	14,165	15,592	16,227
Ambulatory Health Care Services	4,273	5,383	6,223	7,203	7,645
Hospitals	3,980	4,470	4,763	5,052	5,207
Nursing & Residential Care Facilities	2,555	2,925	3,180	3,337	3,375
Non-Health	120,252	124,715	119,140	130,103	134,360
Total Civilian Labor Force	131,020	137,493	133,269	145,695	150,587
Health Care's Share of Labor Force	8.2%	9.3%	10.6%	10.7%	10.8%
Health Care's of Job Creation Since 2000		31.1%	151.0%	32.9%	27.9%

The medical workforce consists mainly of hourly workers in a range of support roles. Doctors and nurses together currently total about 4.5 million full-time employees. Two-thirds of health workers are in nonprofessional occupations, such as technicians and assistants. In recent years, most of the sector's job growth has come in outpatient facilities, where the workforce has grown three times faster than in hospitals. These facilities pay on a lower scale than hospitals. An analysis of occupational pay during 2005-2015 found that workers at outpatient facilities had suffered a 6 percent decline in real wages over the decade—pointing to pent-up wage pressures that could accelerate health costs in the years to come.³⁹

In a 2017 report, BLS estimated that healthcare would account for 35 percent of economy-wide job growth during 2016-2026.⁴⁰

⁴⁰ Bureau of Labor Statistics press release, "Employment Projections—2016-26." October 24, 2017. (Online.). See also: https://www.bls.gov/emp/home.htm.



³⁷ Colene M. Byrne, Lauren M. Mercincavage, et al., "The Value From Investments In Health Information Technology At The U.S. Department Of Veterans Affairs," Health Affairs, April 2010. (Online.)

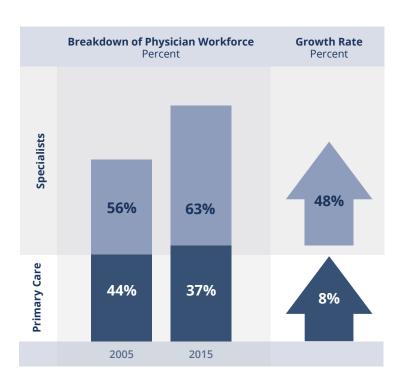
³⁸ Bureau of Labor Statistics, Data Retrieval: Employment, Hours and Earnings. "Table B-1. Employees on nonfarm payrolls by industry sector and selected industry detail", seasonally adjusted, January over January. (Online.)

³⁹ Eileen Appelbaum and Rosemary Batt, "Organizational Restructuring in U.S. Healthcare Systems: implications for Jobs Wages, and Inequality," Center for Economic and Policy Research. September 2017. (Online.). The authors include food and cleaning service workers in the healthcare workforce.

Meanwhile, physicians dominate BLS's list of highest paid occupations, accounting for 13 of the top 15 occupations.⁴¹ One in five physician households is in the top 1 percent of the income distribution.⁴² This affluence reflects, in part, the trend toward specialists. In 2019 the Association of American Medical Colleges (AAMC) predicted that by 2032 there would be a shortage of up to 121,900 physicians—one-tenth of the current physician workforce. More than half of the projected shortage is in the specialties.⁴³ This implies that average physician salaries are poised go up.

Such forecasts, however, are predicated on current treatment patterns. AAMC has drawn fire from, among others, IOM, which has concluded that public subsidies for medical students should be overhauled, not increased.⁴⁴ By emphasizing the specialties, medical schools may be responding to demands by students for higher-paying career paths. Specialists tend to prescribe more expensive care. All else being equal, changes in the composition of the physician workforce towards specialists will amplify cost growth going forward.⁴⁵

Figure 2
Growth in Physician Workforce, 2005-2015⁴⁶



Source: McKinsey

⁴⁶ Christopher Barbey, Nikhil Sahini, Robert Kocherm Michael Chernew, "Physician Workforce Trends and Their Implications for Spending Growth, Health Affairs. July 28, 2017 (Online.)



⁴¹ Bureau of Labor Statistics, "May 2018 National Occupational Employment and Wage Estimates in the United States." Online data query. Rounding out the top 15 are nurse anesthetists and chief executive officers (a non-health occupation). Notably, these estimates cover salary only, and do not include professional fees, which often comprise the majority of physician incomes.

⁴² Shalia Dewan and Robert Gebeloff, "Among the Wealthiest 1 Percent, Many Variations," New York Times. January 2012. (Online.)

⁴³ AAMC, "2019 Update: The Complexities of Physician Supply and Demand: Projections from 2017 to 2032." April 2019, Washington, D.C.

A44 Aaron E Carroll, "A Doctor Shortage? Let's Take a Closer Look," New York Times. November 7, 2016. (Online.)

⁴⁵ Christopher Barbey, Nikhil Sahni, Robert Kocher, and Michael Chernew, "Physician Workforce Trends and the Implications for Spending Growth," Health Affairs Blog. July 28, 2017. Figure 3 comes from this article. (Online.)

Pointing to BLS projections and high vacancy rates in many parts of the country, staffing agencies, likewise, see a persistent shortage of nurses. Yet compared to doctor educations, training to become a registered nurse (RN) is relatively fast. For example, the two-year program at California's San Joaquin Valley Community College is one of the nation's best. Even so, the profession's large numbers—2.9 million—and high degree of political organization make RNs a potent force in state capitals, where they lobby for measures designed to plump their wages, such as a narrower scope of practice for licensed practical nurses. Tellingly, salaries are highest in California, where in 1999 the nursing association succeeded in pushing through the nation's only per-bed staffing ratios.^{47, 48}

E. Blame The Boss: Employer-Sponsored Insurance

The first years of this century were lean ones for American prosperity. Only in 2016 did the median income—a measure of cash compensation—reach the inflation-adjusted level last seen in 2000. One culprit was employer sponsored insurance (ESI), as rising medical costs tilted compensation away from pay into non-cash benefits. Official projections show little let-up in this trend, even as other evidence suggests that CMS is not fully measuring private health costs.

In its latest National Health Expenditure (NHE) projections, CMS envisions that health care's share of the economy will expand by 1.5 percent of GDP during 2018-2027 This is the same percentage that NHE rose over the preceding decade—a period that saw health spending grow explosively as a percentage of household incomes.

Table 4 contrasts CMS's estimates of the growth in ESI per enrollee from 2005 to 2015 with industry measures covering the same period. All have ESI as their main component, but track different elements of household costs, using different methods. Estimates by the benefits consultancies Milliman and Willis Towers Watson (WTW) draw on client data, reflecting mainly the experience of large and medium sized employers. WTW provides blended averages of employer costs for single and family coverage, and includes employer contributions to health accounts. Milliman uses an actuarial model designed to capture all costs for a two-parent family of four, including contributions to health accounts plus out-of-pocket cost spending. To make the MMI comparable from one year to the next, Milliman holds the actuarial value (AV) of insurance (i.e., the share of medical costs covered by premiums) constant, at 83 percent of medical costs—a "rich" plan, by today's standards. Kaiser's data comes from an annual employer survey that in recent years has become lessrepresentative of total household costs, as AVs have declined and both employer contributions to accounts and employee out-of-pocket shares have risen. Taken together, these industry measures suggest that CMS understates trends in ESI.

⁴⁸ Mathew Mc Hew, Margo Carthon, et al, "Impact of Nurse Staffing Mandates on Safety-Net Hospitals: Lessons from California," The Milbank Quarterly. March 2012. (Online.)



⁴⁷ American Nurses Association, Nurse Salary Rankings in the U.S. Top 50 Metro Areas 2013". (Online.)

Table 4
Comparison of Estimates of Changes in the Cost of ESI, 2005 to 2015

SOURCE AND COMPONENTS FOR ESI COST ESTIMATES

	CMS	Willis Towers Watson	KFF-HRET	Milliman (MMI)
	Employer Sponsored Insurance Spending Per Enrollee	Average Employer & Employee Premiums + Contributions to Health Accounts Per Employee	Average Employer & Employee Premiums Only For Family Coverage	Employer& Employee Premiums + Accounts & Out-of-Pocket For Typical Four Person Household
Estimate, 2015 Dollars				
2005	4,379	9,144	13,334	14,969
2015	5,433	13,249	17,545	24,671
Change	1,054	4,106	4,211	9,702
Pct. Change (2015 Dollars) From 2005 Estimate	24.1%	44.9%	31.6%	64.8%

Source: CMS, Milliman, Kaiser Family Foundation, Willis Towers Watson, author's calculations

Increasingly relevant to living standards is out-of-pocket spending—medical bills paid with after-tax incomes. This component has gone up in recent years as health plans and employers have come to rely on deductibles and copayments to make consumers more price-sensitive. The MMI is the only measure to include this component, but by holding AV constant it may be missing the behavioral impacts of deductibles. Asiser found that single coverage plan deductibles rose 253 percent during 2006 to 2016—from \$584 to \$1,478. One implication is that, net of the increase in out-of-pocket spending, living standards at the median may not have surpassed 2000 levels in 2016.

Because medical costs rise independently of households' ability to pay, the effect of health costs on a family's budget over time depends on its income. For example, if wages grow by an average of 3.3 percent a year over the next decade, as CBO projects, 50 and the MMI averages 4.5. percent—CMS's projected rate of ESI growth—health costs will consume 42 percent of the median family's income gains during 2020 to 2030.

⁵⁰ Congressional Budget Office, An Update to the Budget and Economic Outlook: 2019 to 2029, "Data Underlying Figures and Supplemental Materials, Supp," Figure 4. June 29, 2017. (Online.)



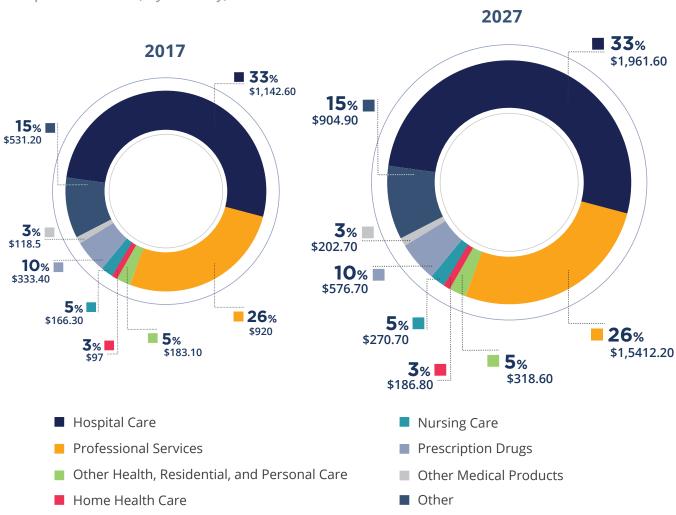
⁴⁹ Zarek Brot-Goldberg, Amitabh Chandra, Benjamin Handel, Jonathan Kolstad, "What Does a Deductible Do? The Impact of Cost-Sharing on Health Care Prices, Quantities, and Spending Dynamics", NBER Working Paper No. 21632. October 2015. (Online.) The authors found that deductibles discourage necessary as well as unnecessary care, perhaps contributing to the costs of self-neglect, including medication non-adherence.

F. On Steroids: Pharmaceutical Spending

CMS envisions that NHE will grow 68 percent from 2018 to 2027, compounding at 5.5 percent a year. As shown in Figures 3 and 4, spending for all industry components are expected to grow roughly at the same pace. Most of the projected growth in drug spending is for patented therapies. As commodities, drugs are subject to fierce price competition once their patents expire—a trend that in recent years has moderated drug spending. This dependence on patents distinguishes drugs from health services, where pricing power is rooted in geographic monopolies.

Driving up drug spending is a new generation of precision medicines targeting narrow patient populations. An example is Xalkori, approved in 2011 to treat the four percent of non-small-cell lung cancers driven by rearrangements in the ALK fusion protein gene. The average cost of developing a new drug is high—\$2.9 billion, according to one estimate.⁵¹ In 2017, domestic pharmaceutical companies spent \$71 billion on research and development—one-sixth of total U.S. R&D.⁵² Yet in that year the Food and Drug Administration approved only 46 novel compounds. ⁵³ Many more precision therapies are in the pipeline. This raises the question of who will pay, and under what conditions.

Figure 3
Components of NHE, by Industry, 2017 and 2027

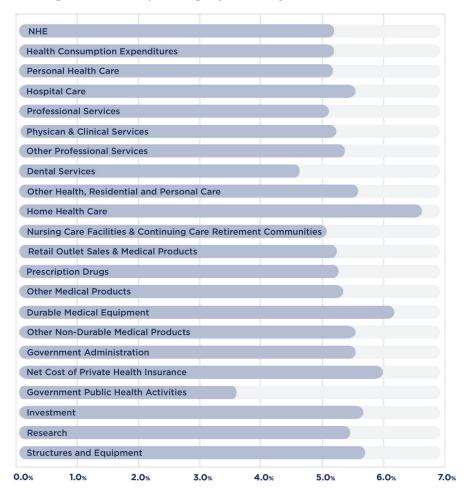


Source: CMS



Figure 4

Average Annual Change in Health Spending, by Industry, 2017-2027



Source: CMS

CBO has concluded that, on balance, drugs can reduce spending on services when taken as prescribed. Scoring rules adopted in 2012 assume that a 1 percent increase in number of prescriptions filled results in a 0.20 percent decrease in spending on medical services in Medicare.⁵⁴ Research suggests the offsets may be 3 to 6 times greater for beneficiaries with chronic conditions.

Generic drugs, meanwhile, have been a pleasant surprise. In their 2004 report, Medicare's Trustees anticipated spending \$146 billion on the Part D prescription drug program in FY 2012. Actual spending for that year, as reflected in the 2017 Trustees Report, was \$67 billion.⁵⁵ Part D had allowed beneficiaries to shop among drug plans for the lowest premiums and copayments. Plans compete for customers by aggressively negotiating discounts with drug makers. These discounts are built into plan bids and that help determine premiums. Plan bids have consistently fallen over time as intense competition drives down costs. This has also prompted a wholesale shift away from name brand drugs to generic competitors. Generic penetration in Medicare Part D is now 90 percent.⁵⁶ Among the Medicare beneficiaries least likely to embrace generics: participants in the Low Income Support program, whose costs were fully subsidized.

⁵⁶ Jerome Brimeyer, "Longer Term Investments," UBS. July 2017. (Online.)



⁵⁴ Congressional Budget Office, "Offsetting Effects of Prescription Drug Use on Medicare's Spending for Medical Services," November 2012. ⁵⁵ Centers for Medicare and Medicaid Services, Office of the Chief Actuary, 2004 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medicare Insurance Trust Funds, Table II.C.18p. 102. (Online.) See also Table III.D3 in 2017 Trustees Report, p. 105. (Online.)

III. A BRIEF HISTORY OF THE RISE AND REPUDIATION OF MANAGED CARE

A. Hillarycare: The Era of Muscular HMOs

A virtuous circle of favorable trends fueled the "Goldilocks" economy of the mid-1990s, an era when unemployment and inflation stayed low and surging paychecks kept tax revenues flowing and the nation's factories and retail outlets humming. Contributing to this prosperity was the slowdown in health costs. During 1993-2000, as hospitals teetered and medical pay scales drooped, the median household (cash) income soared 17 percent in real terms. The disruptive forces roiling healthcare in those years still reverberate in today's health reform debate, as does the campaign that eventually turned back the tide.

The four-year presidency of George H. W. Bush had been trying for the country, but good for medicine. Adjusted for inflation, NHE surged 24 percent during 1988-1992, even as real incomes fell. In 1992, presidential candidate Bill Clinton made health reform a centerpiece of his economic program. On taking office, he appointed First Lady Hillary Clinton to develop the plan. The eventual legislation, dubbed "Hillarycare," envisioned a reordering of medicine around the principles of "managed care"—essentially, delivery systems where physician autonomy is constrained by considerations of cost-effectiveness.

Price-setting under Hillarycare was to be overseen by regional "health alliances." These were purchasing cartels with single-payer (monopsony) heft. The plan had radical implications for health insurers. Gone would be their central role in annual price negotiations with myriad providers in thousands of local markets; instead, competition on alliance-run insurance exchanges would hinge on the price of coverage (as reflected in premiums), determined not by a health plan's bargaining power, but how efficiently it could organize care. Practically speaking, this meant that health plans would need to integrate with health systems. In effect, all would become health maintenance organizations (HMO).

Seeing an existential threat, the Health Insurers Association of America, the industry's main trade group, responded with a blistering ad campaign featuring the iconic Harry and Louise at the kitchen table agonizing over rising costs and shrinking choices. As Hillarycare slipped into oblivion, "They choose, you lose" took its place among the most successful themes in the annals of political advertising.⁵⁷

A second set of ads, targeting employers, raised alarm about Hillarycare's "community rating" rules—regulations that prevent plans from charging higher rates to enrollees who were older, or who had prior medical conditions. As a redistributive tool, community rating forces younger, healthier policyholders to pay billions to subsidize older, sicker populations without directly raising their taxes. Employers would be the collectors of this hidden tax.

Galvanized by this prospect, big business seized the initiative. Writing in Health Affairs in early 1994, then-chairman of the Health and Employee Benefits Committee of the U.S. Chamber of Commerce Robert Petricelli warned that Hillarycare's "new layer of regional public utilities" would disrupt a system that employers with company-run plans had already fixed "These employers," he said, "have sophisticated staffs who can challenge and work with managed care vendors, and they do so because they are self-insured and get the economic benefit of any savings they generate."

⁵⁷ On YouTube, see: https://www.youtube.com/watch?v=Dt31nhleeCg



Buttressing his case was evidence of a remarkable turnaround: Rates negotiated for 1994 showed that the growth in real private insurance spending per enrollee had slowed to just 0.9 percent, well below wage growth.⁵⁸

Petricelli's formulation was not the whole story. Companies benefit only indirectly from cost containment. Total compensation levels—pay plus benefits—are the product of labor market supply and demand. Savings from managed care merely allowed employers to compensate workers for their rising productivity in cash rather than through higher insurance premiums. The most vigorous cost-cutters might have been able to offer higher wages, and thus attract better talent, but the savings would have flowed mainly to workers. The surge in household incomes that began in 1994 reflects this dynamic.

Table 5
Average Annual Change in Private Health Costs and Median Household Income, 1988-2004

AVERAGE ANNUAL PERCENTAGE CHANGE Real Median Household Income Real Private Insurance Spending Per Enrollee 1998-1992 -0.7% 7.00% 1993-2000 2.60% 2.50% 2001-2004 -0.50% 6.50%

Source: National Health Statistics, Bureau of Labor Statistics

It remains that health benefits are a murky form of compensation, open to many interpretations. Even though employer premiums might account for one-third of compensation at the bottom of the pay scale, neither the Internal Revenue Service nor the BLS count them as income. Workers are only dimly aware of raises that come in the form of more expensive health insurance. Few, for example, would regard a \$500 increase in their employer's premium as an improvement in their living standard. This opacity allowed opponents of managed care to claim that companies were pinching costs entirely for their own benefit—a misperception that undergirded the managed care backlash.

B. HMOs Ascendant: How They Cut Costs

HMOs are delivery systems run by, or organized to share risk with, insurers. They achieve savings through three mechanisms: By creating exclusive "narrow" provider networks, HMOs can bargain for volume discounts—offering providers plenty of business in return for cheaper rates. By requiring that specialty care be pre-authorized by "gatekeepers"—typically, primary care physicians—HMOs can keep track of patients and winnow out wasteful tests and procedures. Finally, in sharing risk with providers HMOs give health systems a business case for efficiency. An at-risk delivery system will want to get the quantity and quality of care just right, since both under- and overtreatment will lead to higher medical spending and hence lower profits.

⁵⁸ Robert Petricelli, "Why Do We Need Health Alliances?", Health Affairs 13, no. 1. Spring 1994. (Online.) At the time, about 70% of employer plans were "self-insured" under ERISA. Today the share is about 80%.



As it happened, HMOs did shorten hospital stays, but most savings came from discounts. In Massachusetts, for example, nine out of ten dollars in cost reductions came from lower payments for services.⁵⁹ Compensation surveys show that the average income of physician specialists fell despite a more than doubling in the average number of "hospital encounters." Non-specialists had modest pay gains, but saw their real incomes decline relative to inflation.⁶⁰

Even at their peak, narrow-network HMOs were never more than 30 percent of employer plans. This was enough to produce beneficial system-wide spillovers. Although HMOs were the first to adopt utilization review and price negotiation, fee-for-service (FFS) plans soon followed suit. By the mid-to late-1990s, there were no longer differences between cost for inpatient- and outpatient-use patterns between HMO and FFS plans. By the end of the 1990s, even Medicare, which sets payment rates administratively, was reaping spillover effects. Wou couldn't have had a government edict that would declare that Medicare inpatient costs would fall for four consecutive years, gushed Stuart Guterman of The Urban Institute.

Buttressing Medicare's newfound stability was the fact that the price cuts engendered by HMOs not only had moderated health professional's wage growth, they had also reduced investment in the plant and equipment that drove supply- and preference-sensitive demand for wasteful procedures. HMOs had imposed an uneasy truce in the medical arms race.

The term, "arms race," refers to capital intensive, non-price competition that drives up demand. With few constraints, hospitals will tend to follow a retail strategy, building hotel-like amenities and high-tech specialty departments, and then advertising them to create name recognition. Brand identity permits big name hospitals to charge more for the same services, even when less glitzy rivals are just as competent. High-end surgery and disease treatment centers attract prominent specialists, who in turn prescribe supply- and preference-sensitive procedures. Non-price competition helps to explain why, paradoxically, hospital markets with the most competitors have been found to have the highest spending per patient.⁶⁴

HMOs induced a critical mass of hospitals to adopt a "wholesale" business model, characterized by the bulk sale of services to large purchasers. Rather than build new capacity, hospitals invested in vertical and horizontal consolidation, ostensibly to provide one-stop shopping for HMOs. As discounts ate into their margins, retail-oriented hospitals also trimmed expansion plans. By the middle of the decade, the hospital industry was behaving normally: markets with more competitors were producing lower per patient spending.⁶⁵

^{28-31. (}Online.)
⁶⁵ Kelly J. Devers, Linda R. Brewster, and Lawrence P. Casalino, "Changes in Hospital Competitive Strategy: A New Medical Arms Race?" HSR: Health Services Research 38:1 Part II (February 2003): 449-469. (Online.)



⁵⁹ Daniel Altman, David Cutler and Richard Zeckhauser, "Enrollee Mix, Treatment Intensity and Cost in Competing Indemnity and HMO Plans," Journal of Health Economics (January 2003): 23-45. (Online.) See also: David M. Cutler, Mack McClellan, and Joseph P. Newhouse, "How Does Managed Care Do It?" Rand Journal of Economics (fall 2000): 526-48. (Online.)

⁶⁰ Guy L. Clifton, Flatlined: Resuscitating American Medicine," Rutgers University Press (2009): 31, 125-128.

⁶¹ Sherry Glied, "Health Care Costs: On the Rise Again," Journal of Economic Perspectives. Spring 2003. (Online.)

⁶² Medicare Payment Advisory Commission," Report to the Congress: Selected Medical Issues (Washington; MedPAC; June 2000): 122. (Online.)

^{65 &}quot;Robert Cunningham, "Hospital Finance: Signs of 'Pushback' Amid Resurgent Cost Pressures," Health Affairs (March/April 2001): 237. See also: Stuart Guterman, "Putting Medicare in Context: How does the Balanced Budget Act affect Hospitals?" Urban Institute (July 2000).

64 Office of Attorney General Martha Coakley, "Examination of Health Care Cost Trends and Cost Drivers," (March 16, 2010): 3, 16-17, 28-31 (Online)

Yet the HMO business model was inherently unstable. Dartmouth Health Atlas groups the nation's 4,973 community hospitals into 3,436 Hospital Service Areas (HSA)—on average, fewer than 1.5 hospitals per HSA.⁶⁶ For competitive and regulatory reasons, health plans generally offer policyholders hospital admission privileges within their local markets. This combination of scarcity and necessity gives hospitals a natural edge in price negotiations. To counter local provider oligopolies, HMOs needed to dominate their local markets, mimicking single payer. In contrast, hospitals' market power is rooted in physical facilities and equipment and a labor force of finite proportions. Many communities do not need more hospital beds—naturally limiting market entry. It was only a matter of time before hospitals out-organized the HMOs.

The wave of hospital consolidation that began in 1994 had multiple origins. The prevailing wisdom at the time, voiced by many hospital executives, was that to realize its full potential, managed care required large, risk-bearing health systems capable of controlling the full care continuum. According to this view, provider consolidation is a natural, even desirable, outgrowth of the HMO business model.⁶⁷

When these savings failed to materialize, many hospitals found themselves with money-losing managed care contracts on the one hand and restive labor on the other. The cost cutting instigated by HMOs had precipitated a shakeout among less efficient hospitals and physician groups, many of which would survive only by merging with dominant competitors. Within hospitals, meanwhile, the emphasis on cost control threatened cross-subsidies for money-losing emergency rooms (ER) and trauma facilities. In one Houston trauma center, ER physicians refused to treat the injured until management guaranteed them \$3,000 per day.⁶⁸

C. Physicians Fight Back: The Managed Care Backlash

These disruptions fueled the "managed care backlash," a physician-led media and lobbying campaign centering on charges that HMOs were preventing doctors from performing, and even discussing, necessary care. Armed with talking points supplied in part by medical association lobbyists, patient rights advocates argued that HMOs were costing lives. ⁶⁹ This populist theme of corporate callousness—amplified by the 1997 hit movie, *As Good As it Gets*—resonated among consumers exasperated by sluggish gate keeping and unstable relationships with primary care physicians, as physicians and employers alike cycled among HMOs in search of better deals.

Although pre-authorization had affected utilization at the margin, no evidence of harm emerged. A 1997 report by the General Accounting Office refuted claims that contractual "gag" clauses had impeded physicians from discussing treatment alternatives with patients. Later, CBO would find no evidence that HMOs had stinted on high-tech care relative to other plans. Yet the charges stuck. In 1998, as enrollment peaked, only 36 percent of the public viewed HMOs favorably, versus 69 percent who felt favorably

⁷³ Robert J. Blendon, Mollyann Brodie, John M. Benson, Drew E. Altman, Larry Levitt, Tina Hoff, and Larry Hugick, "Understanding the Managed Care Backlash," Health Affairs, July 1998. (Online.)



⁶⁶ Dartmouth Health Atlas 1999, "Appendix on the Geography of Health Care in the United States": (Online.) The HSA designation reflected patterns of use according to Medicare enrollee ZIP Codes during 1992-1993. At the time, more than 51 percent of the population lived in HSAs where the localization index exceeded 70 percent.

⁶⁷ Lawton R. Burns and Mark V. Pauly, "Integrated Delivery Networks: A Detour On The Road to Integrated Health Care?" Health Affairs (July/August 2001): 132-133. (Online.)

⁶⁸ Ćlifton, Op Cit.

⁶⁹ See, for example: How to Play HMO Hardball: The Patient's Self Protection Manual, by Robert D. Finney (1998). The book's publisher, Counterpoint Communications, is a government relations firm specializing in "crisis communications."

⁷⁰ Robert Miller and Harold Luft, "HMO Plan Performance Update: An Analysis of the Literature, 1997-2001," Health Affairs (July/August, 2002). (Online.)

⁷¹ Government Accounting Office, "Explicit Gag Clauses Not Found in HMO Contracts, But Physician Concerns Remain," August 1997. (Online.)
72 Op.Cit. CBO (2008)

toward doctors. An ominous 52 percent wanted more regulation of managed care. 73

The medical industry's proffered remedy was the Patient's Bill of Rights (PBR), a regulatory agenda that, in its most expansive form, promised that physicians would make all medical decisions, and that patients could keep their primary care doctors, visit specialists without preauthorization, appeal denials of services and sue health plans whose denials resulted in harm. Congress ultimately incorporated the spirit of PBR into the Affordable Care Act. But at the time most legislative action occurred at the state level. In a statistical study of 761 state backlash regulations adopted during 1996-2001, Maxim Pinkovskiy finds a strong causal relationship between the resumption of medical inflation and the backlash, but not between costs and the regulations themselves. Costs ballooned even in states that had fewer or no new regulations.

One explanation for this disconnect is that the same bad press that had fueled the state regulatory blizzard also had prompted employers, regardless of their locales, to switch to wide provider networks with weak constraints on utilization. The resulting increase in volume pushed up provider labor costs nationally.

A peculiarity of the U.S. health system is that consumers have little say in the selection of their insurance plans. ESI provided about 90 percent of private health coverage in the 1990s. This meant that employers accounted for virtually all of the price sensitivity in private insurance markets. Employers' role as purchasing agents stems from tax laws that exempt compensation paid in the form of health benefits from income or payroll taxes. Workers thus have strong incentives to buy coverage through the workplace. And employers have corresponding incentives to offer such coverage as a means to attract and retain workers. By constraining premiums, HMOs had allowed companies to pay more attractive salaries. The weakness in this arrangement was that workers could not see the inverse relationship between premiums and wages. As the backlash made HMOs a recruitment liability, employers saw little downside in abandoning them.

Contributing to this logic were HMOs' considerable spillover effects. The penetration of narrow network HMOs had soared from about 13 percent employer insurance market in 1990 to about 30 percent in 1999. Their growing market share prompted wide-network competitors to emulate HMO cost cutting—which then mitigated the perceived advantage of narrow networks. In 1994, CBO downgraded its assessment of the potential savings from HMOs, noting, "...the now universal presence of utilization review in the fee-for-service sector has reduced differences in use between HMOs and fee-for-service plans." This apparent convergence may have convinced employers (and Congress) that narrow networks were an unnecessary inconvenience.

As employers lost interest in cost-cutting, HMOs became shadows of their former frugal selves. By 2001, many were offering wide networks and no gatekeepers. Capturing the new mood, one California plan rebranded its gatekeepers as "medical concierge" service.⁷⁸

⁷⁸ Debra A. Draper, Robert E. Hurley Cara S. Lesser and Bradley C. Strunk, "The Changing Face of Managed Care," Health Affairs (January/February 2002): 13-16. (Online.)



⁷³ Robert J. Blendon, Mollyann Brodie, John M. Benson, Drew E. Altman, Larry Levitt, Tina Hoff, and Larry Hugick, "Understanding the Managed Care Backlash," Health Affairs, July 1998. (Online.)

⁷⁴ On the Internet, see: http://en.wikipedia.org/wiki/U.S._patients'_bill_of_rights. Two of the three lead sponsors, John Edwards and John McCain, were presidential aspirants at the time.

⁷⁵ Maxim Pinkovskiy, "The Impact of the Managed Care Backlash on Health Care Costs: Evidence from State Regulation of Managed Care Cost Containment Practices," Massachusetts Institute of Technology (January 19, 2013): 11-14, 43. (Online.)

⁷⁶ Ihid

⁷⁷ Congressional Budget Office, "Effects of Managed Care: An Update," (March 1994): 4.

D. All Together Now: Hospital Consolidation

In the early-1990s, however, the perception of HMOs as permanent and perfectible was deeply entrenched. Typical was the lament by Brookings Institution economists Henry Aaron and Robert Reischauer that, "Medicare is rapidly becoming the last remnant of relatively unmanaged fee-for service care." Indeed, a review of the literature on HMOs finds no contemporary alarm that the dynamic they had unleashed might prove perishable. Rather, reformers overwhelmingly argued that HMOs required greater clinical integration. Beginning in 1992, the Department of Justice (DOJ) and Federal Trade Commission (FTC) set out to support this vision through a series of increasingly permissive antitrust guidelines—opening the floodgates to a vast industry consolidation that would dramatically increase providers' bargaining power.

The 1992 Horizontal Merger Guidelines established that, when evaluating hospital mergers, the antitrust agencies would consider whether "cognizable efficiencies likely would be sufficient to reverse the merger's potential harm to consumers." The 1994 policy statements created "safety zones" for joint ventures between hospital and physician groups. The 1996 update sanctioned dominant multi-provider networks that achieve "substantial clinical integration," and clarified that hospital mergers were in the safety zone if they allowed the merged entity to "realize significant cost savings that could not otherwise be realized." 82

The effect was electric. Hospital mergers—in which geographically proximate entities combine under a single license—had averaged about 12 per year during the 1980s and 24 per year during the early 1990s.⁸³ During 1994-2000, there were 924 hospital mergers—an average of 131 per year.⁸⁴ Meanwhile, hospital acquisitions—in which the entities retain their separate licenses, usually because they serve different markets—also grew explosively. The number of hospitals in systems rose from 28 percent in 1995 to 43 percent in 2000.⁸⁵ By 2017, 56 percent of hospitals were in systems; another 28 percent were in networks.⁸⁶

Mergers and acquisitions at best produce only modest efficiency gains.⁸⁷ Although many mergers were justified on this basis, the savings rarely materialized, and even more rarely flowed to consumers.⁸⁸

FTC measures the competitiveness of local hospital markets using Herfindahl Hirschman Index (HHI). ⁸⁹ Under current antitrust guidelines, markets with HHIs of 1,500-2,500 are "moderately concentrated" while markets with HHIs of 2,500 or greater are "highly concentrated". ⁹⁰

⁹⁰ Justice Department (DOJ) and Federal Trade Commission (FTC), Horizontal Merger Guidelines (August 19, 2010): 18-19 (Online.) Under the 1992 Guidelines (p. 15), the agencies defined "moderately concentrated" as having an HHI of 1,000-1,800 and "highly concentrated" as above 1,800.



⁷⁹ Henry J. Aaron and Robert D. Reischauer, "The Medicare Reform Debate: What Is the Next Step?" Health Affairs (Winter 1995): 20-22. (Online.) The authors proposed converting Medicare from purchaser of services to a purchaser of insurance, a mechanism they called "premium support."

For example, see: Robert H. Miller, "Health Systems Integration: A Means to an End," Health Affairs (May 1996). (Online.)
 Justice Department (DOJ) and Federal Trade Commission (FTC), Horizontal Merger Guidelines (April 2, 1992): 30-33. (Online.)

⁸² U.S. Department of Justice and the Federal Trade Commission, "Statements of Antitrust Enforcement Policy in Health Care," (August 1996).

⁸³ Tamara Hayford, "The Impact of Hospital Mergers on Treatment Intensity and Health Outcomes," Working Paper 2011-5, Congressional Budget Office (October 2011): 1 (Online.)

⁸⁴ Irving Levin Associates, various years.

⁸⁵ Allison Evans Cuellar and Paul J. Gertler "Trends in Hospital Consolidation: The Formation of Local Systems," Health Affairs (November/December 2003):80-81. (Online.)

⁸⁶ American Hospital Association, "Fast Facts 2019," from the Annual Survey of Hospitals, 2017.(Online.) Networks do not share ownership, but may reflect a division of labor that affects bargaining power.

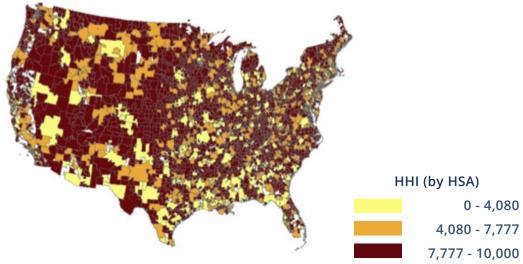
⁸⁷ David Dranove and Richard Lindrooth, "Hospital Consolidation and Costs: Another Look at the Evidence," Journal of Health Economics (November 2003): 3-6. (Online.)

⁸⁸ Op. Cit., Vogt and Town: 1

⁸⁹ The Herfindahl-Hirschman Index (HHI) is the sum of squared market shares. For example, a market consisting of four firms (which can be unaffiliated hospitals or a multihospital chain) with market shares of thirty percent, thirty percent, twenty percent, and twenty percent has an HHI of 2600 (302 + 302 + 202 + 202 = 2600). In Figure 5, 2,500 = .25000. All orange and green areas are highly concentrated.

In 1990, the typical resident of a Metropolitan Statistical area (MSA) lived in a hospital market with an HHI of 1,576. By 2016, 90 percent of MSAs had an HHI above 2,500. Ten percent had pure monopolies (with an HHI of 10,000), foreclosing even the possibility of price competition. As illustrated by Figure 5, by 2007 one could traverse the continental United States going any direction without encountering a single competitive hospital market. Twelve years later, the situation has deteriorated and more than 90 percent of all Americans live in highly concentrated hospital markets.

Figure 5 Hospital Market Concentration in 2007. by Hospital Service Area



E. Antitrust Bust: Court Rulings

Accelerating this wave of consolidation was a series of court rulings that severely weakened FTC's most potent enforcement tool: the threat of lawsuits. During 1994-2001, the agency litigated six antitrust "close calls," and lost them all. ⁹⁵ This losing streak was rooted in two mistaken behavioral theories. The FTC would refute both, but only after the post-1994 merger wave had permanently changed the competitive landscape.

The first theory held that, because nonprofit and public hospitals (currently about 80 percent of the industry) had no shareholders to enrich, they had no incentive to charge monopoly rents. In the 1995 Freeman case, for example, the court reasoned that community representation on the merged entity's board meant, "...there is no rational economic incentive for such an organization to raise its prices to the monopoly level even if it has the power to do so." In the 1997 Butterworth decision, the court took the merged entity's pledge to invest in "quality programs for the underserved" as evidence of benign intent. Even if the hospital did use its monopoly powers, the reasoning went, it would do so for socially beneficial purposes. 96

⁹⁶ Barak D. Richman, "The Corrosive Combination of Nonprofit Monopolies and U.S.-Style Health Insurance: Implications for Antitrust and Merger Policy," Duke University Journal of Law and Contemporary Problems, (2006): 143-144. (Online.)



⁹¹ William B. Vogt and Robert Town, "How Has Hospital Consolidation Affected the Price and Quality of Hospital Care?" Research Synthesis Report No. 9, Robert Wood Johnson Foundation (February 2006): 9-10. (Online.)

⁹² Brent Fulton, Health Care Market Concentration Trends in the United States: Evidence And Policy Responses," Health Affairs 36, no. 9. September 2017. (Online.)

⁹³ Cory Capps and David Dranove, "Market Concentration of Hospitals," Bates and White Economic Consulting (June 2011): 2. (Online.)

⁹⁴ This map comes courtesy of Kosuke Tamura of Perdue University. The source was the Hospital Association Hospital Survey Database, 2010. Both the green and orange areas are "highly concentrated." (Online.)

⁹⁵ Steven Tenn, "The Price Effects of Hospital Mergers: A Case Study of the Sutter-Summit Transaction," Federal Trade Commission Working Paper No. 293 (November 2008): 26. (Online.)

Yet nonprofit hospitals face the same exigencies as for-profits. They compete in national labor markets for highly skilled labor—particularly physician specialists, who generate most hospital revenue by referring patients, prescribing treatments and performing inpatient procedures. Thus, nonprofits in Salt Lake City or Rochester must provide earnings opportunities equivalent to those offered by for-profits in Miami or Boston. For their part, specialists prefer hospitals with the latest treatment technologies. (A proton-beam radiology center, for example, might cost \$150 million.)

Nonprofit hospitals raise capital by issuing bonds, both to expand their facilities and to acquire one another. Bond-rating agencies give higher credit scores to hospitals with greater pricing power. The practical effect is to give monopolies cheaper access to capital.⁹⁷ Even local governments have a financial stake in boosting hospitals' pricing power. According to Bloomberg, outstanding municipal hospital debt totaled \$260 billion in 2012.⁹⁸ Financial distress in a publicly owned or sponsored hospital might undercut the sponsoring municipality's ability to borrow for other purposes.

A second theory impeding antitrust enforcement was the expectation that consumers would incur substantial travel costs in order to avoid pricy services. This reasoning presumed that patients were both aware of and sensitive to prices. In many cases, prices are unavailable to consumers . For example, hospital price contracts explicitly forbid health plans from disclosing negotiated prices to their policyholders. In some cases, hospital contracts prohibit plans even from steering patients to less costly competitors. In Finally, because employers themselves can be price-insensitive (because workers bear premium increases through foregone wages), many opt for plans that shield patients from pricing differentials between hospitals. The effect is to make consumers more sensitive to convenience than cost.

Rather than relying on behavioral models, FTC turned its attention to the effects of previously consummated mergers. In 2007, FTC won its retroactive challenge of a 2000 merger between nonprofit hospitals in Evanston, IL, proving that the merged entity had used its new pricing power to renegotiate price contracts with managed care organizations.¹⁰¹ A 2008 working paper examining a 2000 merger of hospitals located 2.5 miles apart, in Berkeley and Oakland, CA, respectively, concluded that the merger had allowed the smaller of the two hospitals to raise its prices by 28.4 percent to 44.2 percent (for different insurers). This was despite the presence of 17 hospitals within a 20-mile radius.¹⁰²

F. Medicine Unshackled: The Trend Toward Aggressive Prescribing

The FTC's findings in *Evanston* were the tip of an iceberg. In 2000, a survey of 991 hospital CEOs found that 30 percent had unilaterally cancelled HMO contracts in the preceding 24 months. Underscoring the returns to bigness, the "walk away" rate of hospitals and systems with more than 500 beds was 60 percent. During 1999-2003, hospitals belonging to large systems received a 34 percent price differential while the price differential for small systems was 17 percent. But the larger effect of

¹⁰³ Glenn Melnick and Emmett Keeler "The Effects of Multi-hospital Systems on Hospital Prices," Journal of Health Economics, (November 2006).



⁹⁷ William O. Cleverly and Paul C. Nutt, "The Decision Process Used for Hospital Bond Ratings—and Its Implications," Health Services Research (December 1984): 623. The authors characterize monopolies as ideal. (Online.)

⁹⁸ Michelle Kaske, "Best-Returning Hospitals Get Fuel from Court: Muni Credit," Bloomberg (July 29, 2012). This is a low rate of leverage, about 8% of the cost of all plant and equipment.

⁹⁹ Paul B. Ginsburg, "Shopping for Price in Medical Care," Health Affairs, Web Exclusive, vol. 26, no. 2 (February 6, 2007), p. w213. (Online.)

¹⁰⁰ Op. Cit., Office of Attorney General Martha Coakley (2010): 28

¹⁰¹ Evanston Nw. Healthcare Corp., No. 9315, at 78 (FTC Aug. 6, 2007). FTC did not seek divestiture. (Online.)

¹⁰² Op. Cit., Tenn: 20. The State of California contested the merger, but lost.

managed care's retreat came from the repudiation of efforts to curb waste. In 2000 for-profit hospitals reported 4-6 percent increases in "same store" volume, a trend that Moody's Investors Service attributed in part to a relaxation of utilization management.¹⁰⁴

During the 1990s, HMO-driven utilization review had accelerated the ongoing shift away from inpatient toward outpatient care. One result was a glut of hospital beds, which, in turn, created slack in hospital labor markets. Registered nurses, two-thirds of whom worked in hospitals, were vulnerable to this trend. In 1994 nursing associations began pressing state legislatures to boost hiring by adopting hospital nursing staff ratios per bed. (In fact, ratios had risen steadily during 1983-1993, but declined slightly in 1994.) To dramatize the purported dangers of managed care, some took to the streets.¹⁰⁵

Table 6 summarizes estimates by Bradley Strunk and Paul Ginsburg of the relative contribution of prices and quantity to changes in per capita private hospital spending during 1994-2003. Their reports suggests that per patient volume ballooned by more than one-fifth in the space of just five years, making it by far the main driver of private hospital spending during the backlash period. Volume affects the price of services indirectly via the labor market. As nursing demand grew, labor markets tightened, driving up wages. By 2003 the newly busy hospital industry was reporting high nursing vacancy rates, and many hospitals were offering bonuses and large pay contracts to fill positions. As one California hospital executive put it, "all of a sudden everyone was under capacity and no beds were available." A 2003 forecast of nursing supply projected at least 10 more years of shortages, and estimated that alleviating this scarcity would require a 69 percent increase in nursing pay. 108

Table 6
Decomposition of Hospital Spending Trends, 1993-2002

CUMULATIVE PERCENT CHANGE PER CAPITA

	Spending on Hospital Services	Hospital Prices	Quantity
1994-1998	4.5%	11.7%	-6.4%
1999-2003	40.2%	15.4%	21.4%

Source: Bradley Strunk and Paul Ginsburg (2003)

Medicare sets prices based on statutory input price indices, of which labor costs are the main component. As volume pushed up labor costs, the average rate of growth in per-patient spending under the Part A Hospital Insurance program quadrupled from 1.3 percent a year during 1995-2000 to 5.4 percent a year during 2001-2005. Volume also played a prominent, and more direct, role in the growth of Medicare Part B, which covers physician and outpatient services. Per patient spending under

¹⁰⁸ Joanne Spetz and Ruth Given, "The Future of the Nurse Shortage: Will Wage Increases Close the Gap?" Health Affairs (November/December 2003). (Online.)



¹⁰⁴ Op. Cit., Cunningham: 234-235

¹⁰⁵ Peter I. Buerhaus and Douglas O. Staiger, "Managed Care and the Nurse Workforce," Journal of the American Medical Association (November 13, 1996): 1487-1494. (Online.)

¹⁰⁶ Bradley C. Strunk and Paul B. Ginsburg, "Tracking Health Care Costs: Trends Turn Downward in 2003," Health Affairs Web Exclusive (June 9, 2004): Exhibit 3. The authors' estimates support other accounts. (Online.)

¹⁰⁷ Robert A. Berenson, Paul B. Ginsburg and Nicole Kemper, "Unchecked Provider Clout in California Foreshadows Challenges to Health Reform," Health Affairs (April 2010): 2. (Online.)

Part B grew by an average of 9.6 percent per year during 2000-2005. CMS calculated that rising volume accounted for half of these increases—boosting Part B per-patient outlays by an average of 4.8 annually (compounding 26.7 percent over five years).¹⁰⁹

G.Takeout: Vertical Concentration

The final chapter in the demise of managed care was the resumption of the medical arms race—this time, between hospitals and outpatient clinics. Hospitals have high overhead costs, in part due to EMTALA. They rely on high-margin procedures, such as surgery, to cross-subsidize money-losing emergency rooms and trauma centers. (CDC estimates that 20 percent of ER patients are uninsured.) The search by health plans, both public and private, for less costly venues had been winnowing the number of hospital beds since the 1970s. As hospital prices resumed their climb in the early 2000s, this created opportunities for independent, physician-led outpatient centers to siphon away hospitals' most profitable service lines.¹¹⁰

Hospitals responded aggressively. They built ambulatory outpatient clinics, inpatient specialty centers (aka "centers of excellence"), testing centers and expanded intensive care units to handle higher volumes of elective surgeries.¹¹¹

Hospitals also pursued a more traditional strategy of acquiring, hiring or affiliating with their physician competitors. The percentage of physicians employed by or affiliated with hospitals stood at 43 percent in 2000. By 2013, the share had risen to 63 percent.¹¹² This surge was fueled in part by uncertainty among antitrust authorities over the potential harm to consumers of vertical market concentration. In 2011, the Obama administration relaxed antitrust guidelines to accommodate the formation of "accountable care organizations" under the ACA. Adding fuel to the fire are Medicare payment policies (many still in effect) that give higher payments for certain services when performed in hospital-owned clinics. As of 2018, only 31 percent of physicians were independent practice owners or partners.¹¹³ In some metropolitan areas, just 10 percent of doctors are independent.¹¹⁴

IV. HEALTH AND TAXES

A. Forgotten: The Effects On Prosperity

America's economy, fiscal integrity, population health, and social cohesion have been in retreat since the beginning of the 21st century, when the managed care backlash ushered in an era of runaway medical spending. Living standards have crashed and only partially recovered. Productivity growth has plummeted. So, too, has labor force participation. The surge in caregivers—which accounted for 149 percent of net economy-wide job growth during 2000-2012 (see Table 2)—has done nothing to prevent America from becoming the only developed country where large swaths of the middle class are dying earlier. Had these developments taken place against the backdrop of a drip-drip 11 percent hike in payroll taxes—or of the persistent edging up of gas prices to \$12 dollar a gallon—we would know exactly what to blame. The

¹¹⁴ Ann S. O'Malley, Grace Anglin, Amelia M. Bond, Peter Cunningham, Lucy Stark and Tracy Yee, "Greenville & Spartenberg: Surging Hospital Employment of Physicians Poses Opportunities and Challenges," Center for Studying Health System Change. February 2011. (Online.) In these markets, independents may fear exclusion by hospitals.



¹⁰⁹ Author's calculations based on Annual Report of the Board of Trustees, Center for Medicare and Medicaid Services, 2008 and 2012. See tables III.A4, III.B3, III.C9 and IV.B1 (2008), and III.C5 (2012). This burst in activity was the genesis of the "Sustainable Growth Rate" deficit.

¹¹⁰ Robert A. Berenson, Paul B. Ginsburg, and Jessica H. May, "Hospital-Physician Relationships: Cooperation, Or Separation?" Health Affairs (December 6, 2006): w31-w32. (Online.)

¹¹¹ Op. Cit, Devers, et al. 427.

Accenture, "The Independent Doctor Will NOT See You Now," (2015). (Online.)

¹¹³ The Physicians Foundation, "2018 Survey of America's Physicians Practice Patterns & Perspectives," (Online.)

forces driving health costs are largely hidden, but no less destructive.

Today Congress seems more divided than ever over the direction of health policy—except in one respect. Neither side appears ready to revisit President Obama's failed promise to "bend the cost curve," much less to embrace the Bill Clinton's era of muscular HMOs. Yet taming the private medical cost trend is exactly what needs to be done, not just in the interests of households and the economy, but, soon, Medicare's fiscal sustainability.

The failure of the Republican House and Senate majorities to replace Obamacare with a plan that is just a little less costly (with projected savings equal to 1.3 percent of federal deficits over ten years) would have done nothing to address the medical cost trend. To be sure, CBO has estimated that the House-passed bill (H.R.1628) might reduce private health premiums. But these gains would have been one-off, the result of repealing assorted taxes, penalties and fees. And they might have been nullified by an increase in cost shifting, as more people lost coverage and relied on "free" care in the emergency department. Nothing in the bill would have transformed medicine's business model.

Democrats unified in opposition to this plan, mainly based on CBO's estimate that it might cause as many as 23 million to lose health coverage by 2026. In counterpoint, 16 Democratic senators signed on to "The Medicare For All Act," a single-payer plan sponsored by Senator Bernie Sanders (I-VT), which the The Washington Post Editorial Board has called "astonishingly" expensive. In Talking points on Mr. Sanders' website center on benefits. No mention is made of taming the medical cost trend.

In 2016, candidate Donald Trump had promised to make health coverage cheaper—and garnered his best election returns in counties with the worst population health. Yet apart from an early gaffe—calling the House-passed plan "mean"—President Trump has veered away from the theme that medical costs have harmed America's forgotten.

The evidence is overwhelming that medical costs have crimped living standards directly. They have indirectly weakened economic performance in other ways. Rising medical spending siphons away demand for non-health goods and services, helping to explain the anemia that has gripped much of the economy since 2000. By channeling consumption toward a sector with negative or stagnant productivity, medical inflation has contributed to the slowdown in economy-wide productivity growth. Evidence of the medical industry's backwardness comes from the National Science Foundation, which estimates that health services account for a scant 0.4 percent of research and development. Finally, because two-thirds of household medical expenditures are deducted from cash compensation in order to pay premiums, the effect on wage growth may weaken work effort. Such disincentives would be strongest for workers earning below the median, for whom the same premium increase takes a bigger chunk out of pay.

¹¹⁹ Harper, et al., "Nonmanufacturing Industry Contributions to Multifactor Productivity," Monthly Labor Review, June 2010. (Online.) This analysis found that multifactor productivity in ambulatory health care services averaged a 0.7-percent decline per year from 1987 through 2006 and that hospitals and nursing and residential care facilities averaged a 0.9-percent decline over the same period. Other evidence supports this conclusion: During 2000-2017, for example, the healthcare workforce grew 2.5 times faster than U.S. population—33.3% versus 13.4%—without improving population health. Using a different methodology, CMS actuaries put hospital productivity at a "negligible" 0.4 percent a year.

120 Op Cit. National Science Foundation, Table 33.



¹¹⁵ Congressional Budget Office, analysis of HR 1628, American Health Care Act. May 24, 2017. (Online)

Washington Post Editorial Board, "Single-payer health care would have an astonishingly high price tag," The Washington Post. June 18, 2017. (Online.)
 See Sanders Senate website (Online.)

¹¹⁸ The Economist, "Illness and an Indicator." November 19, 2016. (Online.)

Table 7 illustrates, by presidential term, the impact of past and projected increases in NHE on the non-health consumption of the median family of four (income of \$91,036 in 2016). All increases in NHE are borne by consumers through some combination of taxes, premiums, cost sharing and over-the-counter spending. For simplicity's sake, we use payroll tax equivalency, because these levies apply to all earned income at the median, and are a relatively constant percentage of GDP over time. In 2016, 1 percent of GDP equaled 2.56 percent of payroll. We calculate that the effect of NHE growth during the Bush and Obama presidencies was equivalent to an 11.2 percent increase in payroll taxes. Relative to prices in 2000, this would have amounted to a medical inflation premium of \$10,200 in 2016—slightly less than the real increase in the MMI over this period.

Table 7
The Payroll Tax Equivalency for the Median Family from NHE Growth During the Clinton, Bush, Obama and Trump Presidencies

PAYROLL TAX INCREASE EQUIVALENCY FOR THE MEDIAN FAMILY OF FOUR

	Change in NHE as Pct. of GDP	Percent Increase	Percent of Payroll
Clinton (1993-2000)	0.01%	0.1%	0.0%
Bush (2001-2008)	2.85%	47.6%	7.3%
Obama (2009-2016)	1.74%	29.1%	4.5%
Trump (2017-2024)*	1.86%	31.1%	4.8%

Source: CMS, CBO, authors' calculations. *Projected by CMS

To the extent that payroll deductions for health insurance mimic labor taxes, their increase would reduce economic growth.¹²¹ Thus the burst in premiums in the early 2000s—equal to a 7.3 percent payroll tax hike at the median—would have contributed to the two recessions that bookended the Bush years. NHE growth during the Obama years—equal to a 4.5 percent payroll tax hike—would have hindered the recovery. CMS projections point to similar headwinds during 2017-2024.

B. Mind The Gap: The Chasm Between Public And Private Prices

CMS estimates that during 2010-2018 real costs per enrollee fell 1.1 percent for Medicare, while rising 15.1 percent in the employer sector.¹²² Several recent analyses suggest that the gap between public and private rates is already very large, and likely to continue growing. The CMS Office of the Actuary warns that the continued divergence in public and private provider payment rates may not be tenable.¹²³

Figure 6 plots changes in real Medicare and commercial claims rates (paid amounts) from December 2003 through December 2012. Beginning in 2006, Medicare started holding the prices it pays roughly to the rate of inflation. As the gap in rates grew, so too did the pace of divergence (in part due to compounding).

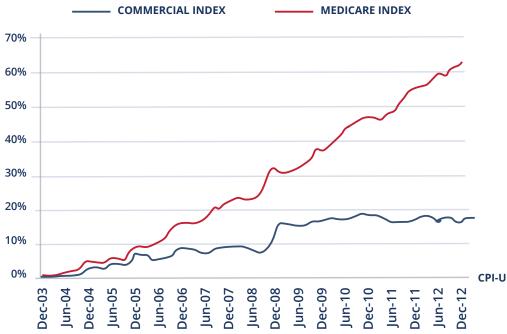
¹²³ John Shatto and M. Kent Clemens, "Projected Medicare Expenditures under an Illustrative Scenario with Alternative Payment Updates to Providers," Office of the Actuary. July 13, 2017. (Online.)



¹²¹ Christina Romer and David Romer, "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks," American Economic Review, Volume 100 No. 3. (Online.) An exogenous tax increase of one percent of GDP lowers real GDP by almost three percent 122 National Health Statistics Projections, 2010-2026, Table 17. (Online.)

Private prices grew by an average of 2.94 percent per year faster than Medicare prices over the entire period, but the gap grew by an average of 4.25 percent a year over the final three years.¹²⁴

Figure 6
Real Changes in the S&P Healthcare Economic Indices, 2003-2013



Source: S&P Healthcare Economic Indices and BLS

One plausible explanation for this trend is that every year hospitals are losing more money treating Medicare patients and the uninsured, and hence are using their excess (unused) monopoly power to shift more losses on to private patients. Two studies by Milliman have attempted to quantify these effects on private premiums. One reckoned that cost shifting from Medicare and Medicaid had accounted for 10.7 percent of the cost of family coverage in 2008. hother estimated that cost shifting from charity patients accounted for an additional 6.5 percent of premiums. Both percentages would have risen subsequently, as the gap grew.

Equally plausible is that hospitals have been bidding up the price of health professionals in national labor markets. Because of consolidation, most hospitals do not compete with one another locally. They do, however, compete nationally for physicians. In this business model, physician specialists pay their way by prescribing aggressively. 127

The Medicare Payment Advisory Commission (MedPAC), which advises Congress on Medicare reimbursement, argues that Medicare rates should reflect the input costs of relatively efficient hospitals. A 2010 staff study found that non-dominant hospitals had lower input costs and hence positive margins on Medicare patients.¹²⁸

¹²⁷ Robert Kocher and Nikhil Sahni, "Rethinking Health Care Labor" New England Journal of Medicine. October 13, 2011. (Online.)



¹²⁴ Standard and Poor's Healthcare Economic Indices, unpublished spreadsheets. Real Medicare prices rose 17.5 percent (about 30 percent faster than real GDP) versus 63.1 percent for private payers. The surge in real public and private prices in 2008 was due to consumer price deflation in the third and fourth quarters. This data series was discontinued in 2013, not long after the above chart was published by in Washington Monthly.

¹²⁵ Milliman, "Hospital and Physician Cost Shift—Payment Level Comparison of Medicare, Medicaid and Commercial Payers," (December 2008).

¹²⁶ Milliman, "Hidden Health Tax: Families Pay a Premium," Families USA (2009). (Online.)

Other research confirms that hospitals in more competitive markets have lower input costs per procedure and thus are more likely to make profits on Medicare patients. These studies suggest that price pressures lead to efficiencies. If Medicare's policy is to induce dominant hospitals to manage costs as frugally as non-dominant ones, MedPAC concluded, then larger reimbursements are counterproductive. (The same logic applies to private rates, which are unregulated. Thus, hospitals with higher shares of private patients face fewer incentives to economize.)

Medicare's Office of the Chief Actuary warns, however, that the growing public-private price gap is unsustainable because over time providers will limit Medicare beneficiaries' access to mainstream health services. ¹³⁰ In March 2017, Mayo Clinic CEO Richard Noseworthy announced a plan to give preference to privately insured patients. ¹³¹ As this practice spreads, it could lead to political pressures to boost Medicare payments at the very time when large increases in the national debt are likely to be testing the tolerance of global financial markets.

In recent years, the actuaries have produced "Alternative Illustrative Projections" for the Medicare Trustees designed to highlight how dependent Medicare has become on price controls that apply only to the rates Medicare and Medicaid pay. The 2017 alternative scenario posits that by 2030 Medicare physician rates would dwindle to about 55 percent of private rates. However, as documented in this paper (see Table 4), CMS appears to have significantly understated the growth in private costs. (This may be due in part to poor data availability. The prices negotiated between providers and insurers are confidential under contract law, making them opaque to consumers and researchers alike.)

Using new comprehensive sources of insurer claims data, researchers have found that hospitals charged private payers substantially more than Medicare in 2011. Stating a general case is difficult because prices for common procedures (e.g. colonoscopies) typically vary across private markets by a factor of eight.¹³⁴ In its April 2017 working paper, CBO found that in 2015 private payers had, on average, paid 89 percent more than Medicare for a sample of common tests and procedures.¹³⁵ If this difference is broadly representative of the discounts received by Medicare, Medicaid and CHIP, it means that federal and state spending would rise by hundreds of billions of dollars a year if Congress were to adopt commercial price structures. (Notably, H.R. 1628 did not seek to repeal Obamacare's most potent fiscal medicine: statutory limits on doctor and hospital payment increases.) Even maintaining the existing disparity, say, by allowing Medicare prices to grow as fast as private ones, could add substantially to the national debt and drive forward the date of insolvency for Medicare's trust funds—currently projected for 2029.

Yet more than that is at stake. The aging of America will create significant new deficit pressures as the beneficiary rolls expand for programs such as Social Security, Medicare and Medicaid (most of which goes toward nursing homes) against the backdrop of sluggish labor force growth. Under a no-policy-change scenario, outlays for major health programs are projected to grow by 1.5 percent of GDP during 2019-2029. Social Security will grow by 1.0 percent of GDP. (Tax expenditures due to higher private health

¹³³ Office of Attorney General Martha Coakley, "Examination of Health Care Cost Trends and Cost Drivers," Report for Annual Public Hearing. March 16, 2010: 3-4, 17-40. Massachusetts Attorney General Martha Coakley subpoenaed claims data (reflecting negotiated prices) and contracts from health plans and providers covering the period covering 2005-2008. Her office found that unit prices had accounted for roughly three-quarters of the growth in statewide private premiums during 2005-2008.



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¹²⁸ Jeffery Stensland, Zachary Gaumer, and Mark Miller, "Private-Payer Profits Can Induce Negative Medicare Margins," Health Affairs (April 1, 2010): 1045-1046. (Online.)

¹²⁹ James Robinson, "Hospitals Respond to Medicare Payment Shortfalls by Both Shifting Costs And Cutting Them, Depending On Market Concentration," Health Affairs (July 2011). (Online.)
130 2012 Annual Report of the Board of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds,

Center for Medicare and Medicaid Services (April 23, 2012): 216-221. (Online.)

 ¹³¹ Jeremy Olsen, "Mayo to give preference to privately insured patients over Medicaid patients," Minneapolis Star-Tribune. March 15, 2017. (Online.)
 132 Shatto and Clemens, Op.Cit. See Figure 1.

deductions could add another 0.3 percent of GDP.) Interest on the national debt will grow fastest of all—by 1.5 percent of GDP—as the national debt balloons from 78 percent of GDP in 2019 to 93 percent in 2029. In 2016, Standard & Poor's, the bond-rating agency, warned that in this event the U.S. could see its sovereign debt rating decline to one step above non-investment grade "junk" status by 2025. In a vicious cycle, interest rates would go up, driving debt service costs ever higher, which then would further worsen bond ratings. For example, when debt is equal to 100 percent of GDP, every 1 percent increase in the interest rate drives up spending for debt service by 1 percent of GDP.

C. Back to The Virtuous Circle

One way to avoid this dystopia might be to put more money back into households' pockets by reducing the price of medical services. Bringing NHE down by 3.5 percent of GDP would still leave the U.S. paying nearly half again more than the developed country average. If these savings were spread among the privately insured, it could cut premiums in half—by roughly \$13,000 a year for the median family of four, at 2017 prices. The knock-on effects would be protean. Demand would increase for goods and services in non-health industries that are more amenable to productivity gains, laying the foundation for future income growth. Higher cash incomes would translate into higher tax revenues and thus lower (though not zero) budget deficits. Households below the median, for whom premiums are a larger percentage of compensation, would see especially big raises. Dependency on means-tested benefits would fall naturally, as would other demands for income redistribution.

Mitigating these positive effects would be the unhappy shrinkage of the health sector. If the rest of the economy were growing, the armies of wastefully deployed nonprofessionals might be quickly absorbed into other occupations. The effect would be less orderly for hospitals locked into burdensome wage contracts with physicians. From an economic and social standpoint, establishing public rescue funds for bankrupt community hospitals and medical centers might be a small price to pay for the renewal of growth and optimism that higher paychecks would bring. (Ironically, hospitals that treat disproportionate shares of Medicare and Medicaid patients would be the least likely to need bail-outs.) Yet physicians, an influential force, would be particularly unsettled. A revival of the backlash-era charges that the medical industry's putative impoverishment harms patients is all but inevitable.

The tools are in place to begin this revolution. Medicare already allows private insurers to pay CMS-administered rates under the fast-growing Medicare Advantage program. Creating a similar upper payment limit for all private health plans would be straightforward and affect all local markets more or less equally. Such limits could be phased in over several years rather than implemented all at once, and be applied only in areas that lack competition, such as in monopoly markets. This creates incentives to grow competition to avoid utility-like rate setting.

To push markets in this direction, Congress should enact the competition agenda included in the Senate HELP Committee's Lower Health Care Costs Act (S. 1895)¹³⁸ that passed the panel this summer by a vote of 20 to 3. Specifically, Section 302 of the bill seeks to end anti-competitive contract clauses that inhibit

¹³⁸ https://www.congress.gov/bill/116th-congress/senate-bill/1895



¹³⁴ Zach Cooper, Stuart Craig, Martin Gaynor and John Van Reen, "The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured," NBER Working Paper No. 21815. December 2015. (Online.) Private prices tended to be higher in markets where Medicare patients were treated more efficiently. The new source is the Health Care Cost Institute, a data consortium funded by insurers covering 25 percent of the privately insured. The records consist of claims data—the amounts paid—for various procedures. But it is de-identified, and cannot be used to single out wasteful providers.

¹³⁵ Jared Lane Maeda, Op Cit.CBO also used the HCCI data.

¹³⁶ Congressional Budget Office, Budget and Economic Data, 10-Year Projections, May 2019. (Online.)

¹³⁷ S&P Global Ratings, "Global Aging 2016: 58 Shades of Grey," Table 5, Standard and Poor's. April 28, 2016. (Online.)

competition, such as "anti-tiering" and "anti-steering" clauses in contracts between providers and health plans that restrict the plan from directing or incentivizing patients to use specific providers and facilities with higher quality and lower prices. It also prevents "all-or-nothing" clauses that require health plans to contract with all providers in a particular system or none of them. The bill also addresses "most-favored-nation" clauses that protect an insurance company's dominant position in a market by requiring that the insurance company be given the most favorable pricing of any health plan in the market.

Less certain is whether the medical industry would shrink in ways that are neutral to population health. Much of the industry's wastefulness is rooted in a tangle of federal and state rules—from EMTALA, to licensure to privacy—that promote cost shifting, hardwire labor practices, and drive up costs, often with little evidence of cost effectiveness. Addressing the sprawling rulemaking apparatus holistically is problematic. One approach would be to impose sunset rules on existing state medical regulations, requiring that each be periodically reviewed in light of best practices. Legal rights might be given to interests challenging feather-bedding or other practices that drive up cost without clear statistical evidence of patient benefit. To facilitate this process, the federal government might task the Institute of Medicine to identify best regulatory practices, such as rules designed to improve the quality of medicine through the application of labor-saving technologies.

Managing the price of patented drugs presents a different challenge. Accounting for 16 percent of U.S. R&D, pharmaceutical manufacturing is the most innovative component of medicine. A stronger emphasis on cost-effectiveness would help to discipline an industry whose business model presumes that any drugs approved by FDA will be widely used. Insurer initiatives to pay out only when expensive therapies have their advertised effect deserve closer examination.

The transformation of American medicine from a profit machine that thrives on hidden taxes at the expense of working families to one that fuels our prosperity, would not result from any of the proposals now before Congress. This is remarkable, not the least because the party that grasps this nettle could cement its grip on governance for a generation or more. Doing anything less courts financial and social catastrophe. The choice, it seems, is between inevitable controversies, one unbearable and the other much worse.



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