Still in Mortal Peril? Recent Research Suggests a New Agenda for Health Care Reform

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ABSTRACT

The Affordable Care Act expanded funding for health insurance and regulated health insurance markets. These actions followed from two premises. First, nearly 50 million people lacked health insurance in 2010 and were unable to obtain critical medical care. Second, the primary threat to health insurance markets is adverse selection: because healthy individuals are reluctant to join insurance pools, they must be mandated to purchase insurance. Research on those premises yields inconsistent conclusions. I review this research and offer an alternative framework for understanding health-related risk and health care financing in the United States. Three implications follow. First, the best way to tackle health-related risk is to encourage innovation and eliminate inefficiencies that inflate health care prices. Second, insurance markets should be stabilized by allowing experience rating and long-term contracts instead of requiring community rating and imposing insurance mandates. Third, redistribution is better accomplished via targeted premium subsidies than insurance-pricing regulations.

1. INTRODUCTION

The central argument of *Mortal Peril,* Richard Epstein's first book on the health care sector, was that public health insurance is bad policy. Written on the heels of President Bill Clinton's effort to expand and reform health insurance, Epstein's work takes aim at Clinton's plan to use insurance mandates—requirements that individuals buy insurance or that employers provide employees insurance—to stabilize insurance pools, a policy that rankled the famed libertarian's sensibilities. Epstein (1997)

also warns that federal health insurance programs such as Medicaid and Medicare would lead to the government takeover of not just health insurance but health care and therefore must be resisted. Epstein argues that politics ultimately unraveled the Clinton reforms.

Yet many of the proposed reforms were ultimately adopted in the Affordable Care Act (ACA), because the ACA shared the same beliefs as the Clinton reforms about what ailed American health care. First among them was that Americans without health insurance lacked access to critical medical care and, as a result, suffered from poor health. Second, health insurance requires that all members of a pool pay similar premiums, a form of price regulation called community rating. A side effect of community rating is that healthy individuals with lower anticipated health care costs end up paying premiums that are greater than their anticipated health care costs, so they want to exit the pool, which leaves sick people with higher premiums. To prevent this adverse selection, the government should either mandate that people carry insurance or subsidize the purchase of insurance or both (see, for example, Obama 2009). In the extreme, the government can simply provide insurance itself.

These premises led the ACA to two basic reforms. First, it expanded eligibility for Medicaid, the public health insurance plan for the poor, and provided subsidies to encourage the purchase of insurance by individuals who lacked employer-sponsored coverage. Second, the ACA required health insurance companies to use community rating and mandated that all individuals buy health insurance (see, for example, *National Federation of Independent Business v. Sebelius,* 132 S. Ct. 2566, 2585 [2012]).

Unsurprisingly, Epstein has been critical of the ACA. He has criticized the individual mandate, along with other insurance regulations, such as minimums on medical loss ratios and preapproval of insurance premiums (Epstein 2012, 2017; Epstein and Hyman 2013). In his view, these rules limit voluntary transactions in insurance markets, which renders those markets unstable and unprofitable for consumers and firms alike. He has also renewed his warning that expanding public insurance will lead to the substitution of bad government decision-making for reasonable market allocations, recently with a focus also on Senator Bernie Sanders's Medicare for All plan (Epstein 2019).

In the main, Epstein relies on case studies or a deep faith in markets to explain his criticism. Here I take a different approach to critiquing the ACA. I begin by using recent empirical research from health economics to cast doubt on the two premises of the ACA.

Then I offer a basic theoretical framework (Lakdawalla, Malani, and Reif 2017) that focuses on risk from sickness rather than medical bills to propose a set of health care reforms. In my framework, the first line of defense against health risk is technology, including medical care. Without medical care, health insurance is useless, as there is nothing for which to pay. Medical care has two roles. First, it converts the physical risk from sickness into a financial risk—a medical bill—for which one can buy financial insurance. Second, if medical care is priced below a patient's willingness to pay for that care, it also reduces the magnitude of risk from sickness. Empirical evidence suggests that the amount of risk amelioration provided by medical care is much larger than the amount of risk remaining for individuals to manage with insurance (Lakdawalla, Malani, and Reif 2013).

Combined, recent empirical research and this framework suggest an alternative, more sustainable set of health care reforms. First, the government ought to encourage innovation to reduce medical risk. To the extent possible, it should also enable market structures that eliminate transaction costs and rent extraction in health care transactions. Second, health care reform ought to deregulate insurance pricing and encourage long-term health insurance contracts to address the twin problems of adverse selection and reclassification risk.

The remainder of this paper is organized as follows. Section 2 reviews the basic premises of the ACA, the impact health insurance empirically has on health, and why that impact is not as large as expected. Section 3 offers an alternative framework for thinking about health-related risks that puts medical technology, rather than insurance, at the forefront. Section 4 compares insurance and borrowing as two different ways of financing medical care, explaining the basic trade-offs in those two contracts. It also examines health insurance pricing, highlighting the role it plays in adverse selection. Section 5 concludes by offering a different path forward for health care reform.

2. RECONSIDERING THE PREMISES OF THE AFFORDABLE CARE ACT

The ACA dramatically reduced the number of Americans without formal health insurance by expanding Medicaid eligibility, offering subsidies for individuals below 400 percent of the federal poverty line, requiring that insurance sold to individuals and small groups be community rated, and

requiring that all individuals carry health insurance. As many as 16.4 million additional Americans may have received health insurance as a result of the ACA (Tolbert et al. 2017). The reforms were based on two premises, one of which is that health insurance improves health. Here I examine the empirical evidence for that claim.

2.1. Health Insurance Does Not Consistently Impact Health

Measuring the impact of health insurance is difficult because of selection effects: individuals who buy insurance are different from individuals who do not, and this may affect the observed differences between them. Most obviously, sick individuals are more likely to purchase insurance. This adverse selection will make the insured appear less healthy than the uninsured. Conversely, advantageous selection means that individuals who are risk averse will tend to demand more insurance. Because such individuals may also take greater care of their health, the insured may appear healthier than the uninsured.

To obtain an unbiased estimate of the causal impact of insurance on health, one needs a study design that either corrects for selection or avoids it altogether. Randomized controlled trials (RCTs) are the gold-standard design because they do the latter. Three major RCTs have examined the impact of health insurance in the United States: the RAND Health Insurance Experiment, the Oregon Health Insurance Experiment, and a recent working paper that uses randomized letters from the Internal Revenue Service (IRS) to encourage people to obtain insurance. I examine each in turn.

The RAND experiment, conducted in the late 1970s and early 1980s, randomized populations to health insurance with different designs, for example, to varying deductibles and to health maintenance organizations. All populations used more health care (though this declined as copayments increased), but the experiment found insignificant health impacts from insurance. Only the very poorest enrollees showed a significant health response (reduced hypertension) after obtaining insurance (Newhouse 1993). This is likely because the poor have difficulty affording care without free insurance, though I revisit that topic below.

In 2008, Oregon expanded Medicaid, the public health insurance program for the poor. However, it lacked funds to cover everyone, so it randomized access to Medicaid. The Oregon Health Insurance Experiment studied individuals who applied for Medicaid and compared those who won the lottery and got access to Medicaid with those who did not. Re-

searchers find a short-term reduction in screenings for depression, though this was attributed to a peace-of-mind effect from not having to worry about medical bills rather than from treatment made possible by health insurance. More significantly, they do not find economically significant impacts on objectively measured non-mental-health outcomes, including hypertension (Finkelstein et al. 2012; Baicker et al. 2013). This contrasts with the RAND results for the poor.

In 2017, the IRS wanted to send letters to taxpayers who had not complied with the ACA's individual mandate in the prior year encouraging them to comply in the current year. The IRS did not have the budget to send letters to all 4.5 million noncompliant taxpayers, so they sent them to a random subsample of 3.9 million. The letters encouraged recipients to obtain insurance. Connecting taxpayers' identities to administrative data on mortality, researchers used the receipt of letters as an instrumental variable for insurance enrollment and estimate that an additional month of insurance significantly lowered the probability of death by .17 percent per month (Goldin, Lurie, and McCubbin 2019). One concern with this estimate is that it is too large: given that the base mortality rate is 1 percent, multiplying the estimate by 12 would lower mortality rates below 0. The researchers conclude that a more realistic estimate is closer to .03 percent, the bottom of their confidence intervals.

Observational studies have also failed to consistently find significant health effects of insurance (Levy and Meltzer 2008; Dor and Umapathi 2014). Looking at Medicare, Card, Dobkin, and Maestas (2009) find that, conditional on being hospitalized, insurance reduces 7-day mortality by 1 percentage point. However, prior papers looking at the impact on a broader population find few positive effects. Finkelstein and McKnight (2008) examine the impact of Medicare during its first 10 years—when its impact was arguably biggest—and find no impact on elderly mortality. An earlier study, Card, Dobkin, and Maestas (2004), finds no impact on mortality for all Medicare patients—as opposed to ones who were hospitalized.

With regard to Medicaid, Sommers (2017) examines the impact of expansions in three states and finds a 6 percent reduction in all-cause mortality. But 20 percent of that was driven by the introduction of new antiretroviral treatments for AIDs (highly active antiretroviral therapy, or HAART) (Goldman et al. 2001). I explain below that part of that gain should be attributed to innovation rather than insurance. That said, Currie and Gruber (1996a, 1996b) find that Medicaid coverage of pregnant

women and children decreased infant and child mortality. More recently, Miller et al. (2019) find a 9.4 percent reduction in mortality from Medicaid expansions. But these findings were not borne out in the Oregon Health Insurance Experiment, which also examined Medicaid. Moreover, it could be that even national studies of Medicaid expansions lack the power to study mortality effects (Black et al. 2019).

When weighing these studies, it is important to account for publication bias. I suspect it is harder to publish a study that finds no effect of insurance on health. How large is this effect? Andrews and Kasy (2017) estimate that studies showing significant results at the 5 percent level are 30 times more likely to be published than ones not showing such significance. Ioannidis, Stanley, and Doucouliagos (2017) survey a large range of economics literature and show that estimated effect sizes fall dramatically in well-powered studies (for a thorough review of such findings, see Christensen and Miguel 2016). This literature does not prove that insurance does not improve health, but it does suggest caution in inferring these effects.

2.2. Why Does Health Insurance Not Impact Health?

The most compelling reason why insurance does not shows consistent impacts on health is that people have other federal safety nets.[1] The most direct evidence of this can be found in Figure 1, a graph from Mahoney (2015), which uses 1996–2005 pooled data from the Medical Expenditure Panel Survey.[2] For individuals with insurance, providers receive about $2 for every $3 they bill. Uninsured individuals appear to never pay more than $5,000 for medical bills. In other words, individuals without explicit insurance appear nonetheless to have an implicit insurance policy with a $5,000 cap on their out-of-pocket payments.

There is also indirect evidence for this. In one study, over 70 percent of participants were not even willing to pay half their expected health care costs, given their risk profile, for insurance on the Massachusetts health exchange (Finkelstein, Hendren, and Shepard 2019). Since any risk-averse individual should accept this trade, it could be because they

1. The other reasons are that health insurance has an impact only in the long run and that studies lack the power to detect effects. The evidence on long-run effects are mixed (Black et al. 2017). Moreover, long-run effects also imply larger costs, as one has to buy insurance for many years. Lack of power is certainly an issue, but even large studies are subject to publication bias.

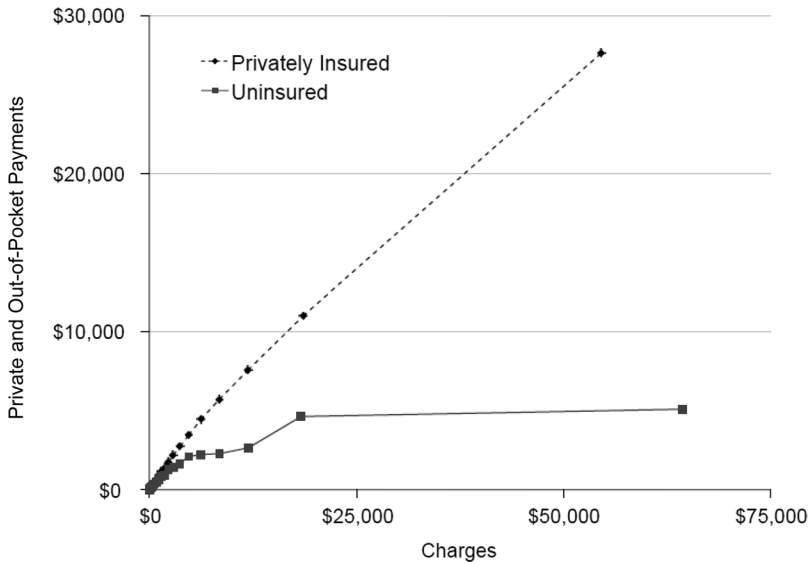2. US Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey (https://meps.ahrq.gov/mepsweb).

Figure 1. Payments by insurance type (Mahoney 2015, figure 1*A*)

are irrational, predictably uninformed about what care to get, or already have some implicit insurance.[3] It seems implausible that 70 percent of the population falls into these first two categories, and if they somehow did, then we could not be sure they would use insurance properly. Moreover, it is hard to know whether it is the researcher or policy maker who is un-informed about facts or beneficiaries' preferences. So I focus on the alternative, implicit-insurance explanation.

The most important implicit insurance that individuals have is the Emergency Medical Training and Active Labor Act (EMTALA), which guarantees that they can buy hospital care on credit.[4] Eligible hospitals

3. It is also possible that individuals are liquidity constrained and cannot afford insurance or that they simply value health care less than the price of care. However, it is unlikely that cash-flow problems are a significant explanation, as the individuals in Mass-care are those without Medicaid, that is, not the ones who are most liquidity constrained. In addition, liquidity is less of a concern, as premiums are typically paid monthly, not annually (Finkelstein, Hendren, and Shepard 2019). Lower value for health care is also unlikely to be a major explanation. While there may be debates about whether the value of marginal care is below cost, most accept that the average value of health care is cost-effective, where value of life estimates come from market behavior (Murphy and Topel 2006; Cutler, Rosen, and Vijan 2006).

4. Technically, the Emergency Medical Training and Active Labor Act started out re-quiring that individuals show up in the emergency department and that hospitals only sta-bilize rather than treat patients. Via regulation, the requirement was expanded to require

are those that accept Medicare and have an emergency room (Lee 2004), which means nearly all hospitals participate. Therefore, EMTALA casts a rather wide safety net.

Although EMTALA helps patients obtain only hospital care, not out-of-hospital physician care and drugs, those kinds of care are much less expensive. Doctor's office bills are usually under $500, while bills from hospital care are often one to two orders of magnitude greater (see, for example, Blue Cross Blue Shield of Massachusetts 2009). Some drugs are very expensive, but 75 percent of individuals spend less than $300 on drugs, and 95 percent spend less than $4,200 on drugs (data from the 2014 Medical Expenditure Panel Survey). It is easier to finance this cheaper care with other resources, including credit. Access to credit has expanded dramatically over the last few decades. Whereas 2 percent of people in the lowest income quintile had credit cards in 1970, 29 percent of them had cards by 2000, and 46 percent had them by 2017 (Durkin 2000; see also Resendiz 2018).

Another objection to EMTALA as a safety net is that it generates substantial medical debt. But according to Figure 1, hospitals do not collect on more than $5,000 of that debt, likely because various laws limit the amount of collection nonprofit hospitals can do (McMahon 2014), limit the ability of creditors to garnish debtors' future wages, allow for property exemptions, and permit bankruptcy, which lets debtors discharge (Chapter 7) or restructure (Chapter 13) debts. Although bankruptcy receives the most policy attention, it is a second or even third line of defense and leans heavily on state protections such as exemptions.

There are also informal protections, such as the high transaction costs of debt collection, which include the statutory regulation of client contacts (such as the Fair Debt Collection Practices Act) and the cost of debt collection agencies (Zywicki 2015). Collection agencies charge 25–50 percent of the amount of a debt, which increases the debtor's leverage in negotiations.

A remaining concern is that bankruptcy imposes substantial social stigma and reduces later access to credit (Dobbie, Keys, and Mahoney 2017). But it is not in the hospital's interest to push patients into bankruptcy. The cost of attorney time will often outweigh the additional return a hospital would obtain in the bankruptcy process. Therefore, most debt collection does not reach the point of a legal suit, and whatever

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care regardless of where in the hospital a patient reported. As for stabilization, in many cases that is very nearly treatment (Hall et al. 2018).

debt-related suits that do arise likely settle at the roughly 70 percent or higher rate that contract cases typically settle (Eisenberg and Lanvers 2009).

While some scholars suggest that a large number of bankruptcies—perhaps 60 percent—are due to medical debt (Himmelstein et al. 2009; Gross and Notowidigdo 2011), others question those estimates (Dranove and Millenson 2006). Morrison et al. (2014) examine exogenous shocks such as car crashes and find no significant association with bankruptcies.[5] Dobkin et al. (2018) look at hospitalizations and estimate that only 4 percent of bankruptcies are due to hospitalizations, arguably the largest of health expenditure shocks.

The truly relevant statistic is the fraction of medical debt that results in bankruptcy. In the sample used by Dobkin et al. (2018), hospitalization increases bankruptcy filings by the uninsured by only 1 percentage point (relative to those insured) off a base of 3.4 percent (the fraction of uninsured who file without hospitalization). This is consistent with a simple comparison of the number of bankruptcies (750,000 in 2017) (US Courts 2018) attributable to medical debt (4–62 percent) with the number of hospitalizations (roughly 35 million in 2016)[6] attributable to the uninsured (roughly 15 percent of the population). Therefore, between .5 percent and 8 percent of uninsured hospitalizations result in bankruptcy.

In short, it is likely that, in most cases, hospitals simply negotiate down debt to a level below the amount they would have collected in bankruptcy, as the theory of settlement suggests. Indeed, there is a whole industry of consultants who help patients do exactly this (Rox 2015). Garthwaite, Gross, and Notowidigdo (2018) show that this process leaves hospitals with bad debt from uncompensated care. This may not be good for hospitals, but it lessens the load on patients.

2.3. Caveats

To be clear, I am not arguing that there are no health benefits to health insurance, just that the evidence is mixed. Moreover, insurance certainly has financial benefits (Finkelstein et al. 2012), may encourage innovation

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5. By contrast, Gupta et al. (2017) find that cancer diagnoses are associated with greater bankruptcy filings. However, this effect is smaller among those who have other buffers to protect against health care bills, such as home equity. Moreover, they find that formal insurance does not provide much protection against bankruptcy for individuals with homes that are highly leveraged.

6. See American Hospital Association, Fast Facts on U.S. Hospitals (https://www.aha .org/statistics/fast-facts-us-hospitals).

(Finkelstein 2004; Acemoglu and Linn 2004),[7] and may reduce dead-weight loss from patents (Lakdawalla and Sood 2009). These are real and important. It is also likely the case that health insurance would have an effect on health if other safety nets—for example, EMTALA—were eliminated. But at a macro level, insurance may or may not have a first-order health benefit and thereby justify a large expansion in public health insurance. The money saved could, instead, be used for medical innovation (a topic I discuss below) or unconditional cash transfers and other welfare programs that are more valuable in the aggregate.

3. A FRAMEWORK FOR UNDERSTANDING MEDICAL RISK

Before addressing the second basic premise behind the ACA, I want to present a framework for health and related financial risks. Throughout, I assume that individuals are risk averse.

3.1. The Primary Health-Related Risk to Health Is Physical, Not Financial

Much of the literature on health insurance treats medical bills as the primary source of risk in the health domain, which is why health insurance is proposed as the remedy. While medical bills are surely a source of risk, they are not the primary source of risk. Indeed, they are better viewed as a reduction and transformation in risk rather than an independent source of risk.

The primary source of risk in the health domain is sickness, which ranges from cuts and bruises to heart disease and diabetes. To see why sickness is the primary source of risk, ask oneself how often a person dons a Band-Aid or takes antibiotics or undergoes surgery without sickness. The answer is rarely.[8] While medical bills may be a proximate source of risk, the root cause is sickness.

Sickness is a physical risk to health rather than a financial risk to one's budget. In the absence of medical treatment for sickness, insurance can-

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7. But see Acemoglu et al. (2006), which finds no effect of Medicare on innovation, and Malani and Philipson (2019), which finds that insurance increases the cost of innovation because it makes it harder to recruit patients for clinical trials.

8. There are certainly elective or cosmetic procedures, such as teeth whitening, braces, or plastic surgery, that do not require sickness, colloquially defined. But that is a small fraction of expenditures. There are also preventative actions that patients appear to take before falling ill. But they take them in anticipation of the risk of sickness.

not ameliorate the risk. Consider the plight of someone with human immunodeficiency virus (HIV) before the introduction of HAART in 1996. There was no treatment—even zidovudine (better known as AZT) did not work.[9] Therefore, there was nothing insurance could pay for that would eliminate HIV or AIDS.

3.2. Technology Converts a Physical Risk into a Financial Risk and May Reduce That Financial Risk

Medical technology is the first line of defense against physical risk. It helps ameliorate physical risk in two ways.

First, it converts the physical risk (illness) into a financial risk to one's budget (a medical bill) (Philipson and Zanjani 2013; Lakdawalla, Malani, and Reif 2013). This is important because it enables a person to write a financial contract to further mitigate that risk; that is, it ensures that the risk does not introduce variability into one's consumption over time. Although the discussion has focused on one particular financial contract, insurance, there are others, such as savings and loans, that spread bills across time.

Second, medical care—depending on how it is priced—can decrease the magnitude of the risk posed by sickness. If medical care is priced at exactly a consumer's willingness to pay, it yields the first benefit in my framework; that is, it converts a physical risk to a financial one equal in magnitude to the physical risk. However, if care is priced below willingness to pay, it reduces the magnitude of risk from the person's willingness to pay for care to the actual price of care.

This is the point at which financial contracts like insurance play a role. They take whatever financial risk remains after medical technology has done its part and help ameliorate its impact on consumption.[10]

To clarify how this works in practice, consider a person who is presently healthy but faces a risk of getting HIV/AIDS. To simplify, suppose that HIV immediately progresses to AIDS and kills a person, that there is

9. Indeed, trying ineffective treatments for a disease only increases risk. On top of a physical risk, one adds the financial risk from the cost of ineffective treatments.

10. In the set of cases in which medical care remains too expensive without insurance because it exceeds what the patient can pay with her lifetime consumption, insurance plays more than a consumption-smoothing role (Nyman 1999). This is likely to be a narrow set of cases. First, health insurance can cause care to be priced higher than it would be without insurance because it subsidizes prices at the margin. Second, individuals finance items such as homes that are more expensive than medical care, which suggests that lifetime income is not the obstacle to gaining access to care.

no other risk to health, that the value of a statistical life-year is $100,000, and that death is akin to having no utility, so a person is willing to pay $0 to be dead.[11] Prior to the advent of HAART, a person at risk for HIV/AIDS faced a gamble in which she lost $100,000 per year for the rest of her life if she got AIDS and lost $0 otherwise. After HAART, the person faced a gamble in which she lost the price of HAART per year for the rest of her life if she got AIDS and lost $0 otherwise.

If the price of HAART was set to $100,000 per year, the individual would purchase HAART but would still be better off than before being treated.[12] She could buy insurance to spread the cost of HAART out over states of the world. This is the first way in which medical treatment helps address the physical risk from illness.

However, if the price of HAART were less than $100,000 per year, the person would get the second benefit: it would lower the worst-case outcome from $100,000 to the lower price of HAART. In reality, HAART was priced around $12,000–$15,000 by 2000 (Steinbrook 2001). This means that HAART reduces the worst-case outcome by roughly 85 percent in my example.

The financial cost of HAART is the risk that financial contracts tackle. In this example, the risk is about $15,000 if a person gets HIV/AIDS. Individuals can pay for this by buying insurance. Comparing the size of the original risk—$100,000—with the transformed risk—$15,000—gives one a sense of the relative importance of HAART and insurance for ameliorating health-related risks.

The twin benefits from new treatments are not unique to HAART. While new medications are initially covered by patents, most patients receive at least the first benefit from new treatments. Given that drug sales do not increase when drugs lose patent protection and generics enter (Lakdawalla and Philipson 2012), it is likely that very few consumers are unable to get needed drugs because of monopoly pricing under a patent. That means that most consumers are able to convert the physical risk of illnesses treated by new technologies into financial risks.

Moreover, most consumers are able to obtain a substantial amount of the second benefit from new treatments within a decade of regulatory ap-

11. These assumptions are surely baked but not entirely unrealistic: average time from human immunodeficiency virus infection to AIDS and death was about 5 years prior to highly active antiretroviral therapy. I revisit the assumption about death below.

12. Indeed, given the ability to buy financial insurance to further smooth consumption, a person may be willing to commit to paying more than the ex post willingness to pay for treatment.

proval. New drugs go generic 20 years after patent filing. But this is typically just 12 years after regulatory approval from the US Food and Drug Administration because patents are typically filed before clinical trials. Once drugs are generic, their prices fall to marginal cost, that is, below far more consumers's willingness to pay.

3.3. Framework for Health Loss and Risk

It is important not to forget that sickness exacts a toll greater than uncertainty. Sickness also reduces the expected value of our lives. It helps to think about sickness as a gamble: with some probability, one will get sick and suffer a loss in the quality of life. Sickness certainly increases the variance in our quality of life, but it also reduces the mean quality of life by an amount equal to the probability of sickness times the loss of quality of life due to sickness.

Likewise, technology not only reduces variance in the quality of life but also increases the mean quality of life. Technology converts the risk from sickness to financial risk and maybe reduces the magnitude of the financial risk. The latter effect reduces risk as measured by the variance of outcomes. But it comes with a concomitant increase in the expected or mean quality of life. I can fit that into my framework by separating the effects of technology and insurance into two dimensions: mean quality of life and variance in quality of life. The latter is more important the more risk averse people are, while the former is important regardless of risk aversion.

Table 1 presents the simple framework. The table indicates that sickness is associated with an expected loss and with the variance of loss. Loss of utility from health and loss of earnings fall in this row. The table also indicates that medical technology has three effects: converting a physical risk to a financial one, reducing financial risk through pricing, and reducing the expected loss from sickness. Importantly, the latter captures estimates of the cost-effectiveness of technology. The table also presents the benefits of financial contracts, such as insurance. It operates only on the risk side of the ledger, helping to reduce the impact of any remaining financial risk on consumption.

There are certainly items that are left out of this framework. Most are not of first-order importance, but one item that may be is that sickness can substantially reduce an individual's earning capacity. My rough correlations using Medical Expenditure Panel Survey data from 1996 to 2014 suggest that this expense could be as large as 20 percent of total

Table 1. Framework for Understanding Risks and Benefits

	Mean of Effect	Variance of Effect
Sickness	Mean health loss	Variance of health loss
Medical technology	Pricing below willingness to pay reduces expected loss	1. Converts physical loss into financial loss 2. Pricing below willingness to pay reduces the variance of financial loss
Financial contract		Helps spread out financial loss across time (borrowing and saving) and persons (insurance)

hospital expenses. Dobkin et al. (2018) suggest that wage loss is as much as 20 percent of preadmissions earnings. Health insurance contracts cannot help with this risk, but unemployment or disability insurance may be able to do so.

3.4. Empirical Evidence on the Relative Value of Risk Reduction from Medical Technology

To gain some traction on the value of physical risk reduction obtained from existing technologies, colleagues and I examined 1,797 interventions in the Tufts Cost Effectiveness Registry that improved patients' quality of life (Lakdawalla, Malani, and Reif 2017). We derived formulas for and estimated conventional measures of the value of new technologies—that is, their value to sick patients ignoring their risk-amelioration benefit—their value as a method of reducing the size of physical risks, and the value of financial contracts such as health insurance. The results are reported in Table 2.

The first takeaway is that the value of physical risk reduction from medical technology is roughly equal to the value of the expected improvement in the quality of life from that technology. For example, for midrange estimates of risk aversion ($\sigma = 3$), the average value of the risk reduction due to medical care being priced below willingness to pay is $883.06, whereas the conventional value of medical care is $768.69. Obviously, the value of risk reduction relative to expected value rises or falls as a person becomes more or less risk averse. Much of the risk-reduction value is driven by a few treatments, such as HAART, that are valuable and priced well below willingness to pay.

Table 2. Conventional and Insurance Values of Technologies in the Tufts Cost Effectiveness Registry

σ (R^c)	Conventional Value			Physical Insurance Value			Financial Spending Risk		
	Median	90th Percentile	Mean	Median	90th Percentile	Mean	Median	90th Percentile	Mean
.5 (.85)	213.14	2,324.56	768.69	−4.43	47.24	7.23	−1.17	−.06	−1.54
1 (1)	213.14	2,324.56	768.69	3.73	338.89	133.50	.01	1.47	5.53
3 (1.6)	213.14	2,324.56	768.69	84.43	2,497.94	883.06	6.42	99.02	45.22
5 (2.2)	213.14	2,324.56	768.69	187.57	5,442.03	1,893.65	15.49	232.45	104.57
8 (3.1)	213.14	2,324.56	768.69	403.66	11,533.12	3,495.98	32.99	545.51	224.46

Source. Lakdawalla, Malani, and Reif (2013, table 7).
Note. Units are 2011 dollars. Estimates are weighted by the prevalence of disease. The parameter σ affects the curvature of the utility function; R^c is the implied coefficient of relative risk aversion over consumption. $N = 1,797$ interventions.

The second takeaway is that the value of physical risk reduction from medical technologies is many times greater than the value of risk spreading from insurance. For midrange estimates of risk aversion, the average treatment offers $883.06 worth of risk reduction, while the average value of insurance for these treatments is worth just $45.22. Even this may be an overestimate because it assumes that insurance spreads all risk. The value of health insurance would be less if there were 20 percent copays or large deductibles. Again, this is driven by some technologies with particularly high value and low price. However, even when medians are compared, it seems that risk control from technology is an order of magnitude more valuable than risk control from insurance.

An important caveat to this second takeaway is that it applies mainly to innovations that improve quality of life. Innovations that prevent illness or increase longevity may not have as big a benefit to risk-averse populations if expected utility is linear in the probabilities of landing in sick states (Bauer, Lakdawalla, and Reif 2018). Yet, even with these technologies, some of the credit attributed to insurance should be shared with innovations, as insurance would be useless unless there were innovations to support.

4. THE ECONOMICS OF HEALTH INSURANCE

After medical treatment has transformed and reduced the magnitude of a health risk, an individual can use financial contracts to mitigate any remaining financial risk. In this section, I consider the basic trade-offs between different financial contracts and then discuss the relationship between insurance pricing and adverse selection.

4.1. Loans or Health Insurance?

To understand the role of financing in medical care, it helps to think about the price of medical care as having three parts. The first is the price that the medical provider charges. The second is the cost of financing payment of that price (for example, the interest rate on a loan). In theory, consumers' price elasticity to medical care, roughly in the range of $-.2$, should be the same for the price from the provider and the cost of financing. The third is lost earnings due to sickness.

Banking and insurance can both fund medical care. Banking includes savings and borrowing. Insurance includes both health insurance and car

or property insurance when sickness is caused by accidents. Safety nets such as bankruptcy are a mix: an individual borrows money to pay medical bills, which is the banking route, but if another economic shock hits, the person can default on the medical bills, which is the insurance component.

The consumer should look not for just the best quality-adjusted price from providers but also for the lowest cost of financing. Hence, it is helpful to compare the costs of each method of financing. The discussion that follows relies heavily on Jaffe and Malani (2018).

Banking is a less efficient form of raising capital than insurance is. The social cost of medical expenses is the marginal utility of the consumption one forgoes by repurposing capital for those expenses. Banking and insurance differ in which consumption they sacrifice to raise capital. Banking raises capital either from earlier periods in a person's life (when savings are used) or from later periods in a person's life (when borrowing is used). By contrast, insurance raises capital from other people in a person's insurance pool. Since there are likely more life-years in an insurance pool than in a person's full lifetime, the probability of taking away consumption in a life-year when a person's marginal utility is high is lower with insurance than with banking. As a result, insurance is a less costly form of raising capital.

The main problem with insurance is that it lowers the price of care at the margin. For example, if a person has cleared her deductible and faces a 10 percent copay, she pays a price of $p/10 < p$ for care. This will cause a person to overconsume care. The amount depends on the price elasticity of demand for medical care. At $-.2$, a 10 percent copay yields 18 percent additional consumption. If price reflects marginal cost, then this is all overconsumption; if the price of care is supracompetitive, the overconsumption is lower. Any overconsumption due to moral hazard increases the cost of capital from insurance, because overconsumption is compounded into insurance premiums. The premium is a fee that one pays for access to capital.

This model of health care financing yields some useful lessons. First, the basic trade-off between banking and insurance depends on the size of the insurance pool and the degree of moral hazard. The larger the pool and the smaller the moral hazard, the lower the relative cost of capital through insurance. This suggests that elective treatments, which have high moral hazard, have higher cost of capital via insurance.

Second, individuals with chronic diseases are better off with

community-rated insurance than loans and worse off with risk-rated insurance than loans. With community rating, individuals will pay insurance premiums equal to the average person in the pool, far below the cost of care of a person with chronic illness. So total lifetime payments will be much smaller than with loans, which do not offload any costs onto other parties. Individuals with chronic diseases are, however, worse off with risk-rated insurance because of moral hazard: they will overconsume care under insurance, and this will push up the price of their personalized premiums.

The findings change when debtor protections like bankruptcy are available. In that case, a good portion of a person's loan may be forgiven (even if some of it is clawed back via high cost of borrowing in the future). Forgiveness lowers the amount of consumption a person must sacrifice when relying on loans. It will tend to equalize the cost of capital under loans and insurance because loans come with a form of insurance.

A natural question is whether that is a better or worse way to finance medical care than health insurance expansions. The current answer is that we do not know. The premium for default insurances are paid for by fellow borrowers: everyone pays a higher interest rate to cover the loss when a person defaults on a loan. It is unclear if the marginal utility of consumption from the set of borrowers is higher or lower than the marginal utility of consumption from the set of people in an insurance pool. In many ways, the two groups are very similar, and it is not clear which group is larger.

4.2. Pricing Insurance

A common confusion in health care policy debates—and the second premise of the ACA—is that everyone in an insurance pool must be offered the same price, otherwise they are not being insured. One implication of this confusion is that people often think a fundamental problem with markets for insurance is adverse selection, so policy makers often call for policies to encourage or force low-risk individuals to join insurance pools (for example, insurance mandates). Because the underlying assumption about insurance pricing is incorrect, the implications for policy may also be incorrect.

4.2.1. Insurance Does Not Require Community Rating. Contrary to the second premise of the ACA, health insurance does not require everyone to pay the same price. Insurance is a financial arrangement in which, in

return for paying a premium, individuals join a pool; when an individual has an expense, the pool pays for it. Not everyone in a pool, however, has an expense. Since those individuals still pay their premiums, they help pay for the expenses of those individuals who have them. Observe that nothing in this definition constrains the premium.

Insurance plans have two pricing options in the limit. Under community rating, everyone is charged the same price. Under experience or risk rating, individuals with higher expected expenditures are charged a higher premium that covers those additional expenditures.

Even with experience rating, individuals can obtain insurance: just because individuals are high risk does not mean they will suffer an illness. When they do not, their premiums help pay for care for others. Even when they suffer illness, if it is low severity, a part of their premium may be paying for someone else's care. Only when severe sickness is certain does experience rating imply that no insurance is provided. In that case, everyone is paying a premium equal to the cost of treating severe sickness, and there is no ex post cost sharing.

4.2.2. Adverse Selection.

In theory, adverse selection is a risk whenever the consumer has more information about her own risk than the insurance company does, regardless of how insurance is priced. Individuals who know they are low risk exit pools, leaving only the high-risk individuals in the pool; to compensate, insurance companies rationally raise prices. In the extreme, there can be a so-called death spiral, wherein only the very riskiest individuals remain in a pool. This effect is limited to some extent because insurance companies create different insurance contracts that attract different risk types (Rothschild and Stiglitz 1976).

Adverse selection is made more severe, however, under community rating. Even if all consumers and insurers know everyone's risk, so there is no information asymmetry, low-risk individuals still do not want to remain in pools with high-risk individuals. Doing so means that they will pay a premium above their expected costs, implicitly subsidizing the high-risk individuals.

Experience rating does not eliminate adverse selection due to information asymmetries, but it does eliminate adverse selection due to community rating. The reason is that this method of pricing charges low-risk individuals less than high-risk individuals. This, in turn, keeps them in insurance pools.

That said, there are other factors that mitigate adverse selection. One

is advantageous selection. Risk-averse individuals will pay more than an actuarially fair price for insurance. If they are sufficiently risk averse, they will be willing to pay a premium for a pool that includes higher-risk individuals. Moreover, risk-averse individuals may take greater care of their health, so they also lower the expected costs of a pool. Both reduce the degree of adverse selection (de Meza and Webb 2001).

Moreover, empirical evidence suggests that the welfare loss from adverse selection may be minor. For example, Einav, Finkelstein, and Cullen (2010) examine insurance plans at a large private company and find that the welfare loss from adverse selection is only 3 percent of total surplus from insurance. Their findings are in line with other papers in the literature (Hackmann, Kolstad, and Kowalski 2015; Handel, Hendel, and Whinston 2015).

It is insightful here to take a detour to examine the individual mandate. A common response to adverse selection is to require all individuals in the population to obtain insurance. Individuals whose demand curve is above their marginal cost curve would buy insurance, an efficiency gain. But if the demand curve dips below the marginal cost curve, a mandate would make some people who do not value insurance more than its cost to buy it. Einav, Finkelstein, and Cullen (2010) estimate that the welfare loss from excessive consumption is greater than the cost of adverse selection in their data from a large employer. That said, Hackmann, Kolstad, and Kowalski (2015) estimate that complete coverage is optimal in their data from the Massachusetts insurance exchange.

4.2.3. Redistribution. If insurance does not require community rating, why do reformers advocate for it? I suspect the answer is that it is a subtle way to redistribute income. Community rating can be reframed as experience rating plus a transfer from low-risk individuals to high-risk individuals. Of course, some low-risk individuals leave the pool to avoid the negative transfers, that is, adverse selection. But that increases the average cost for the remaining pool members only slightly.

The problem is that transferring money from low-risk to high-risk individuals is not very progressive. High-risk individuals tend to be older, and older individuals tend to be wealthier. To illustrate, I took data from the 1996–2014 Medical Expenditure Panel Survey, dropped all individuals on Medicaid or Medicare, and sorted people ages 16–64 into age bins (Figure 2). It is apparent that income is positively correlated with risk, at least to age 50. If I had data on wealth, I conjecture the correlation be-
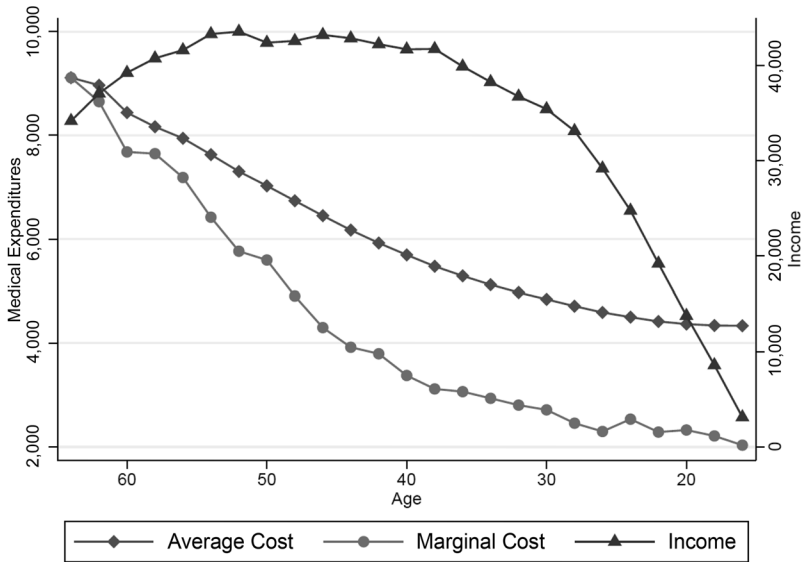
Figure 2. Medical costs and income by age in the Medical Expenditure Panel Survey, 1996–2014.

tween age and wealth—and this marginal cost—would be positive for the whole range. The implication is that community rating seems to subsidize the relatively wealthy.

4.2.4. Reclassification Risk. However, experience rating itself has costs, including reclassification or repricing risk. When one files a claim, the insurance company will reclassify the individual as a higher risk and increase her premiums the following year. Many of us have experienced this via our auto insurance policies. After a car accident, the auto insurance company invariably increases your premiums the following year.

Evidence on the size of reclassification risk is mixed. Handel, Hendel, and Whinston (2015) use data from 11,000 employees at a large US firm and a structural model to compare adverse selection with community rating to reclassification risk with experience rating and find that the welfare loss with reclassification risk is five times larger than that with adverse selection. But Bundorf, Levin, and Mahoney (2012) examine data on small employers and find that reclassification risk is 10 percent of the welfare loss from adverse selection.

There is a solution to reclassification risk: long-term contracts (Cochrane 1995). Individuals apply for insurance at time *t* and are sorted into risk

groups by the insurance company. Each group forms a subpool and is charged the same price, a risk-rated premium that reflects the subpool's risk level. In future years, the premium for each subpool can change, but all individuals in a given subpool are charged the same price for insurance. This is a solution to reclassification risk because any given individual's medical expenses in a given year will not affect her premium the following year, as long as there are enough other members of her subpool.

Long-term contracts are a mixture of experience rating and community rating in the way that debtor protections merge elements of loans and insurance. Introducing a degree of community rating for subpools in future years of a long-term contract, however, means that there is a risk of adverse selection. Those who turn out to be healthier than their pool mates will want to leave the subpool. The solution is contractual damages: individuals who leave a subpool have to pay expectation damages equal to the amount of cross subsidy they would have provided the remaining members of the subpool for the remainder of the contract.

This seems not much different than a mandate, but long-term contracts are better because they are voluntary. They screen for individuals for whom demand is above marginal cost. If an individual thought that in future years demand would be below marginal cost often enough that the contract was not net beneficial, she would not enter the long-term contract.

5. POLICY IMPLICATIONS

The analysis above suggests a number of policy reforms. These are a mix of old and new ideas but do not recommend public health insurance as a primary reform. None are a panacea, but each may help move the outcome a little closer to the first best.

5.1. Innovation

Health policy should focus on encouraging innovation. Innovation can curb the harm from sickness, and it enables insurance to do its job. It includes new drugs, devices, and operations but also nutritional, sanitation, environmental quality, and behavioral innovations. The main challenge is how to encourage innovation in all its manifestations.

5.1.1. Intellectual Property. Intellectual property (IP) is certainly important for incentivizing innovation (Budish, Roin, and Williams 2015),
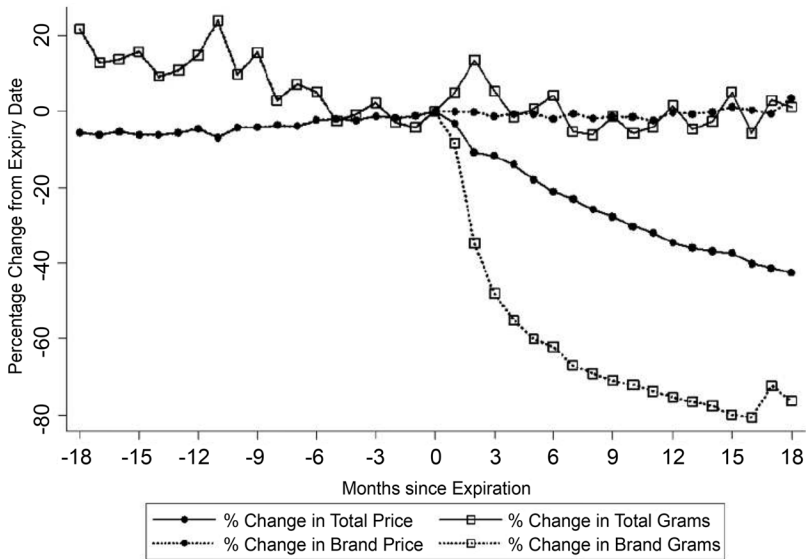
Figure 3. Mean trends in price and quantity for drugs not fully advertised (Lakdawalla and Philipson 2012, figure 2).

but it is not clear much can or should be done with this tool. Some people object that patents cause inefficiently high investment because of races (Loury 1979), though that cost may be offset by the fact that patents provide insufficient incentives because innovators cannot appropriate consumer surplus (Shavell and van Ypersele 2001), which can be substantial in the case of medical care (Philipson and Jena 2006).

Others worry about deadweight loss from monopoly pricing by patent holders. Indeed, this is the concern driving the effort to end reverse-payment settlements in patent cases (Hemphill 2006). However, that reform may be misguided. I highlighted a critical fact in an amicus brief filed in *Federal Trade Commission v. Actavis* (133 S. Ct. 2223 [2013]): patent expiration does not notably affect the quantity of drug sales (Lakdawalla and Philipson 2012) (see Figure 3). One reason is that health insurance is a two-part contract that ensures that drug consumers pay close to marginal costs (Lakdawalla and Sood 2013). Another is that patent owners use advertising to overcome the negative effects of price on consumption (Lakdawalla and Philipson 2012). As a result, it is unlikely that there are significant static efficiency losses from patents.

Instead, patent duration is mainly a choice about whether producers

or consumers enjoy the surplus from medical innovations. However, this does not have critical distributional implications because producer surplus is a proxy for future consumer surplus. Producer surplus encourages innovation, which benefits future consumers.[13] While the progressive in us may care about distribution across income, it is hard to make strident arguments for present consumers over future ones.

The trade-off between consumer surplus and producer surplus connects back to the framework in Table 1. The efficiency gain from greater consumer surplus from shorter patents is that consumers face lower risks from disease as technology prices fall. The efficiency gain from shorter patents is less innovation. More research is required to determine the optimal balance. The main takeaway is that one should slow any headlong rush to curb patent length by barring reverse-payment settlements.

5.1.2. Drug Approval. How else could policy increase the amount of medical innovation? One alternative is to reduce the regulatory costs of introducing new drugs (Malani and Philipson 2012), a reform close to Epstein's heart. The question is how to do this without sacrificing their quality. One is by allowing adaptive trial designs, though the returns to those statistical innovations may be limited (Chow 2014). Another is by using data from existing trials to more efficiently probe heterogeneous treatment effects (Malani, Bembom, and van der Laan 2012).

5.1.3. Government Subsidies. Beyond IP, the government may want to support research and development by expanding the National Institutes of Health budget. Publicly funded innovation may encourage more follow-on research because it does not create IP rights that can obstruct subsequent innovations, a problem commonly called the tragedy of the anticommons (Williams 2013).

5.2. The Cost of Medical Care

The big concern with promoting innovation is whether the returns to innovation are declining (Bloom et al. 2017). Returns decline either because the costs are rising (Malani and Philipson 2019) or the low-hanging fruit have all been picked.

13. One objection may be that reverse-payment settlements protect invalid patents, which do not protect and thus encourage true innovations. However, even invalid patents serve a purpose. First, consumers may want to know if a drug works regardless of whether its patent is valid. Market exclusivity provides rents that pay for requisite clinical testing. Second, it is unclear that patent law's standards for nonobviousness are aligned with health value from innovations (Malani and Masur 2012).

One area in which there are surely major gains to be had is the price of care. The United States spends nearly double (18 percent of gross domestic product) the amount that the United Kingdom (UK) does (9 percent) on health care but consumes roughly the same quantity of health care as the UK does on a per capita basis (Anderson et al. 2003). Lowering the price for care will increase the expected value of care and reduce the risk from sickness.

5.2.1. Price Regulation. The question is how to achieve price reductions. One must be careful not to simply lower health care prices by, for example, using Medicare or Medicaid's bargaining power, as the UK does with the National Health Service's budget. Indiscriminate reductions in price could reduce the returns to innovation. Short-term gains from lower prices may be offset by long-term losses from less technology.

One might be tempted, then, to at least demand better value from innovations. A bad way to do this is to use cost-effectiveness analysis (CEA) to make insurance coverage decisions because it functions as price regulation (Jena and Philipson 2015). If an insurance company says it will only cover treatments that cost $100,000 per life-year saved, then medical providers will simply set prices at $100,000 per life-year saved. If CEA thresholds are set too high, they may forgo gains from competition when physicians make treatment decisions without regard to price. Insurance, in any case, compresses any price difference that consumers face. If CEA thresholds are set too low, they will discourage innovation. Value-based insurance design faces similar problems. This criticism is part of the broader concern that price regulation is subject to capture and some stupidity in design (Duggan and Scott Morton 2006).

5.2.2. Vertical Integration. A more promising approach may be to tackle market structure. A growing body of literature suggests that a combination of market fragmentation (Elhauge 2010) and market power (Dafny and Lee 2016) may raise US prices.

Fragmentation (for example, billing and distributing drugs, physician care, and hospital capital independently) is ubiquitous in the health care system. It creates wasteful administrative costs. The standard recommendation is vertical integration. Integrated systems with strong information technology—think Amazon for health care—have transformed other sectors like aviation and retail. The main argument against integration has been physician-induced demand: if a physician owns a stake in a diagnostic lab, she will prescribe more tests than are required. This concern led

to antikickback laws (Hall et al. 2018). But this concern has given way to concerns about inefficient health care delivery, as even the ACA embraced integration with its provisions for the creation of accountable care organizations (ACOs).

Unfortunately, the ACA's implementation leaves something to be desired. It imposed hundreds of pages of regulations on ACOs, which limited innovation and spawned a new transaction cost: a cottage industry of experts to help hospitals navigate ACO regulations. A better approach is to relax kickback laws and regulations on vertical integration.

It remains to be seen how much vertical integration can lower costs. The inability of integrated systems like Kaiser Permanente to export its successful model from northern California to other parts of the country is a warning flag. Yet Amazon and Costco offer hope. The degree to which these companies reformed fragmented retail markets is remarkable. The potential gains suggest that lowering regulatory obstacles to vertical integration is worth trying.

5.2.3. Horizontal Integration.   The other explanation for high prices is local market concentration—horizontal integration—in the hospital and insurance industries. For example, in Chicago, where I live, two hospital chains (Northwestern and Advocate) and one insurer (Blue Cross Blue Shield of Illinois) are dominant. Recent research has shown that this concentration raises both health care and health insurance prices (Dafny, Duggan, and Ramanarayanan 2012). While lowering concentration in the hospital market will partly be offset by increasing insurance prices and vice versa (Lakdawalla and Yin 2010), market concentration in both causes double marginalization, which is worse than monopoly in just one.

The solution is stronger antitrust scrutiny of local hospital mergers—a Democrat-favored reform—and interstate competition among health insurers—a Republican-favored reform.[14] But the two work together as they tackle concentration in each of the two problematic markets.

As with policies to encourage innovation, one must temper one's expectations for policies designed to replace horizontal integration with vertical integration. First, vertical integration may lead to horizontal integration. If Amazon enters a local market, it may cause financial distress at a number of local hospitals and have the leverage to acquire them. Second, if one were to judge health care markets by total factor produc-

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14. This solution may be hampered by the McCarran Ferguson Act, which exempts insurance from antitrust scrutiny.

tivity (TFP), it is unclear there are substantial inefficiencies to eliminate in health care markets. For example, Chandra et al. (2013) find that TFP dispersion in health care—specifically facilities that treat heart attacks—is no different than TFP dispersion in the concrete industry.

5.2.4. Health Insurance. Another cause of inefficiently high prices is health insurance. Insurance may cause levels of expenditure to be about 18 percent higher than without insurance. I obtain that estimate by multiplying the median estimate of demand elasticity for health care (−.2) with the share of spending that was not out of pocket in 2016 (.9). Some of this excessive consumption is manifest in higher quantity, including unnecessary diagnostics, though that is unlikely to be the only mechanism as the United States does not consume much more total services than the UK per capita (Anderson et al. 2003). In addition, health insurance may cause higher price growth because people are less sensitive to price inflation for services when insured and because health insurance causes technological innovation that the system does not screen out when cost ineffective (Weisbrod 1991).

Of course, rational consumers understand that insurance causes moral hazard and incorporate that into their estimate of the cost of capital under insurance (Jaffe and Malani 2018). But the health care system encourages inefficient overconsumption of insurance. Health insurance can be purchased with pretax dollars, which discounts it by one's average tax rates relative to other goods. The solution is to eliminate the tax preference for health insurance, but I would not hold my breath that politicians will take such a benefit away from consumers.

5.3. Insurance

I turn now from reforms that target innovation and the cost of care to those that target financial contracts. These can address the residual risks left over after technology does its part.

5.3.1. Wage Insurance. One contract with substantial promise is wage insurance. Whereas health insurance covers medical bills, wage insurance covers the loss of earnings from aspects of sickness that cannot be treated with available technology.

The market already offers some wage insurance contracts. For example, disability insurance offers assistance to individuals with sicknesses who cannot return to work. However, such policies do not always cover tem-

porary absences from work. Moreover, disability insurance is not widely purchased.

5.3.2. Health Insurance. My review of the literature suggests reforms to the pricing and structure of health-insurance policies. One is to permit a greater degree of experience rating. Currently, the ACA allows just a 3:1 ratio between the highest priced group and the lowest priced group in the pool for plans sold on its insurance exchanges. The now-aborted Republican American Healthcare Act would have increased that to a 5:1 ratio. Perhaps federal and state regulations should be relaxed to allow even more risk rating. This would lower regulatory adverse selection. The main risks are twofold: reclassification and redistribution.

To address reclassification risk, governments should encourage long-term contracts. Nothing technically bars these contracts, but short-term contracts undermine them. Just as less generous insurance plans attract lower-risk individuals in the presence of asymmetric information, shorter-term plans attract even individuals who turn out to be lower-than-average risk in their subpool. Damages for breach of long-term contracts could help, but they are difficult to enforce for the same reason it is hard to collect hospital bills under EMTALA: there are high transactions costs from collection, and consumers are shielded by debtor-protection laws.

Governments can fix this problem by holding insurance companies that accept new consumers liable for any damages those consumers owe on prior long-term contracts. This would deter breach in the first place. Because an insurance company that suffers a breach of a long-term contract could obtain relief from another insurance company that covers the breaching party, the latter insurance company would have to raise the rate it charges the breaching party to recover those damages. That higher cost for alternative insurance contracts would then reduce the attractiveness of breach to those consumers.

Even if the government did not help, insurers could protect themselves against breach by requiring consumers to pay higher amounts in the first few years of a long-term contract to reduce their price and thus low-risk consumers' incentive to leave in the contract's later years in case they turn out to be healthier than average. Handel, Hendel, and Whinston (2017) find that such contracts reduce the welfare loss from reclassification risk by nearly 90 percent. Moreover, they find that these contracts are preferable to 1-year contracts with community rating for individuals who can

afford the higher premium, that is, those who have relatively flat lifetime income profiles, holding income constant.

The second problem with experience rating is that community rating implements a redistribution from the relatively healthy to the relatively sick. Unfortunately, that redistribution is regressive, as the sick tend to be wealthier. A better solution than community rating is to use premium subsidies for the poor and for the sick. Bhattacharya et al. (2013) propose a sample premium-subsidy schedule that, under a scheme with experience rating, would produce results that are more progressive than the ACA by simply eliminating implicit transfers under community rating from poor healthy households to rich households that happen also to be sick.

6. CONCLUSION

Health economics, and thus health policy, focuses substantially on financial risks from medical care. That is the wrong framework with which to evaluate welfare. We need to start with the deeper problem—sickness—and think through its implications. It may turn out that innovation and wage insurance are more important targets of reform. Moreover, even when we address health insurance, we need to consider its value and measure its value relative to substitutes, such as mandatory credit and debtor protections.

This approach—starting with root causes, applying first principles, and questioning received wisdom—is common to much of Richard Epstein's writing. It is one that would serve us well as we learn more about the operations of the American health care system and work to improve it.

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