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COMPARATIVE EFFECTIVENESS RESEARCH AS CHOICE ARCHITECTURE: THE BEHAVIORAL LAW AND ECONOMICS SOLUTION TO THE HEALTH CARE COST CRISIS

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With the Patient Protection and Affordable Care Act ("ACA") set to dramatically increase access to medical care, the problem of rising costs will move center stage in health law and policy discussions. "Consumer directed health care" proposals, which provide patients with financial incentives to equate marginal costs and benefits of care at the point of treatment, demand more decisionmaking ability from consumers than is plausible due to bounded rationality. Proposals that seek to change the incentives of health care providers threaten to create conflicts of interest between doctors and patients. New approaches are desperately needed.

This Article proposes a government-facilitated but market-based approach to improving efficiency in the private market for medical care that I call "relative value health insurance." This approach focuses on the "choice architecture" necessary to enable even boundedly rational patients to contract for an efficient level of health care services through their health insurance purchase decisions. It uses comparative effectiveness research, which the ACA funds at a significant level for the first time, to rate medical treatments on a scale of one to ten based on their relative value, taking into account expected costs and benefits. These relative value ratings would enable consumers to contract with insurers for different levels of medical care at different prices, reflecting different cost–quality trade-offs.

The Article describes both the benefits of relative value health insurance and the impediments to its implementation. It concludes with a brief discussion of how relative value ratings could also help to rationalize expenditures on public health insurance programs.

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Introduction

Since the 1960s, health care spending in the United States has consistently increased—often by significant amounts—as a percentage of gross domestic product ("GDP").[1] Accounting for 5.2% of GDP in 1960, health care

1. *See* Council of Econ. Advisors, *The Affordable Care Act and Trends in Health Care Spending*, White House, 2 (2013), http://www.whitehouse.gov/sites/default/files/docs/fact_sheet_implementing_the_affordable_care_act_from_the_erp_2013_final1.pdf.

expenditures grew to 7.2% of GDP in 1970, 9.2% in 1980, 12.5% in 1990, 13.8% in 2000, and 17.9% in 2011.[2] In 2013, the Congressional Budget Office predicted that without sharp, systemic change, 22% of domestic economic production will be devoted to health care by 2038.[3]

As total health care spending has increased, so too has the cost of private health insurance. As of 2013, the average cost of insurance coverage for a single adult with an employer-sponsored plan was $5,884, and a standard employer-sponsored policy for a family of four ran $16,351.[4] For American families, increasing private insurance costs have meant that workers who continue to enjoy employer-based health insurance have seen wages stagnate and out-of-pocket health care costs increase rapidly as employers have scrambled to maintain benefits. An estimated 46% of real wage increases went to employees' share of health insurance premiums each year from 2000 to 2009.[5] For the average worker with single coverage, annual contributions to premiums increased by 97% between 2003 and 2013;[6] out-of-pocket deductibles increased from 17% to 138%, depending on the type of plan, from just 2006 to 2013;[7] and the number of people with a deductible of at least $2,000 increased five-fold during the same time period.[8] Public expenditures on medical care have also increased sharply. In fiscal year 2012, Medicare, Medicaid, and the Children's Health Insurance Program ("CHIP") cost the federal government an estimated $732 billion, 21% of its total budget.[9] That

2. *National Health Expenditure Tables*, Centers for Medicare & Medicaid Services, tbl.1, http://www.cms.gov/NationalHealthExpendData/downloads/tables.pdf (last visited Sept. 15, 2013).

3. *The 2013 Long-Term Budget Outlook*, Cong. Budget Office, 43–44 (Sept. 2013), http://www.cbo.gov/sites/default/files/cbofiles/attachments/44521-LTBO2013.pdf; *cf.* Sally T. Burner et al., *National Health Expenditures Projections Through 2030*, Health Care Financing Rev., Fall 1992, at 1, 2 (estimating that health care spending will rise to 32 percent of GDP in 2030); Council of Econ. Advisers, Exec. Office of the President, *The Economic Case for Health Care Reform*, White House, 2 (June 2009), http://www.whitehouse.gov/assets/documents/CEA_Health_Care_Report.pdf (estimating that health care spending will rise to 28 percent of GDP in 2030).

4. The Kaiser Family Found. & Health Research & Educ. Trust, Employer Health Benefits: 2013 Annual Survey, 3, 12 (Aug. 20, 2013) [hereinafter KFF 2013 Annual Survey], *available at* http://kaiserfamilyfoundation.files.wordpress.com/2013/08/8465-employer-health-benefits-20131.pdf.

5. *See* Christina Romer & Mark Duggan, *Exploring the Link Between Rising Health Insurance Premiums and Stagnant Wages*, Council of Economic Advisers (Mar. 12, 2010, 12:17 PM), *available at* http://www.whitehouse.gov/blog/2010/03/12/exploring-link-between-rising-health-insurance-premiums-and-stagnant-wages (indicating that while wages increased by 1.3%, employees saw an increase of only 0.7% because the other 0.6%, representing 46% of the total 1.3% increase, went to employee contributions to health insurance premiums).

6. *See* KFF 2013 Annual Survey, *supra* note 4, at 69.

7. *See id.* at 108.

8. *Id.* at 111.

9. *Policy Basics: Where Do Our Federal Tax Dollars Go?*, Center on Budget & Pol'y Priorities, 1 (last updated Apr. 12, 2013), http://www.cbpp.org/files/4-14-08tax.pdf.

number is up from less than 10% in 1985.[10] Medicaid spending alone now comprises 15% of all state government spending,[11] up from 10% in 1987.[12]

The United States is a wealthy country, so it is not obvious that it should not spend such a large share of its national resources on medical care. But rapidly increasing costs, coupled with the well-known fact that the health and longevity of Americans lag behind those of citizens of other developed nations that spend less of their wealth on medical care,[13] at least suggests that the nation probably allocates an inefficiently large fraction of national resources to health care, compared to competing goods and services. At a bare minimum, the continuing rapid escalation of health care costs will—if unchecked—result in the nation allocating a larger percentage of national wealth to medical care than is efficient at some point in the not-too-distant future.

The primary market-based approach to reining in health care costs is generally referred to in policy discussions as "consumer directed health care" ("CDHC"). The simple idea underlying CDHC is that patients will demand less care if they are burdened with a greater responsibility for paying the actual cost of that care than is common in our current system, in which costs are largely borne by public or private health insurance with little patient cost sharing.[14] CDHC implicitly relies on the "rational choice" assumption of neoclassical economics that, given the proper incentive structure, individual consumers will allocate resources between medical care and other

10. Calculated using data from Christopher Chantrill, *Government Spending Details*, U.S. Gov't Spending, http://www.usgovernmentspending.com/year1985_0.html (last visited Sept. 15, 2013), and Ben Wilcox, *Medicare and Medicaid*, Harv. Pol. Rev. (Sept. 17, 2010, 4:38 PM), http://hpronline.org/arusa/medicare-and-medicaid/.

11. *Policy Basics: Where Do Our State Tax Dollars Go?*, Center on Budget & Pol'y Priorities, 1 (last updated Apr. 12, 2013), http://www.cbpp.org/files/policybasics-statetax dollars.pdf.

12. *Medicaid 101: A Primer for State Legislators*, Council of St. Gov'ts, 2 (Jan. 2009), http://www.csg.org/knowledgecenter/docs/Medicaid_Primer_final_screen.pdf.

13. As of 2013, the United States ranked fifty-first in the world in terms of life expectancy. *Country Comparison: Life Expectancy at Birth*, Centr. Intelligence Agency, https://www.cia.gov/library/publications/the-world-factbook/rankorder/2102rank.html (last visited Sept. 15, 2013). In 2011, the United States ranked fourth in terms of per capita health care expenditures. *See Health Financing: Health Expenditure Per Capita by Country*, World Health Org., http://apps.who.int/gho/data/node.main.78?lang=en (last visited Sept. 15, 2013). Compared to twelve other industrial nations, relative health care spending per capita increased in the United States between 1975 and 2010 while relative life expectancy for middle-aged citizens decreased. Peter A. Muennig & Sherry A. Glied, *What Changes in Survival Rates Tell Us About US Health Care*, 29 Health Aff. 2105, 2111 (2010).

14. Under typical twenty-first century "managed care" insurance plans, coinsurance rates (in the form of deductibles and copayments) are very low. *See, e.g.*, KFF 2013 Annual Survey, *supra* note 4, at 126 (showing rates of 3% for health maintenance organization plans, 15% for preferred provider organization plans, and 4% for point-of-service plans for in-network primary care physician office visits). Patient cost sharing has, in fact, been decreasing as a percentage of total U.S. health care expenditures for fifty years. *See National Health Expenditure Tables*, *supra* note 2, tbl.3. In 2002, less than 14% of U.S. health care spending came directly from patients. Michael F. Cannon & Michael D. Tanner, Healthy Competition: What's Holding Back Health Care and How to Free It 53 fig. 4.1 (2d ed. 2007).

goods and services (and, within the category of medical care, between competing treatment options) in a manner that maximizes their "subjective expected utility" ("SEU").[15] As I explain below, there are compelling reasons to believe, however, that most consumers, as boundedly rational decisionmakers, would be particularly bad at making efficient trade-offs when asked to make point-of-service medical care decisions.

One view within the field of behavioral law and economics is that policymakers should use hard law and softer institutional structures to "nudge" imperfect decisionmakers in the presumably efficient direction, while allowing them the liberty to make other choices should they strongly desire.[16] But a less paternalistic approach, and one that is more practical when public officials are uncertain ex ante which choices would maximize the SEU of most decisionmakers,[17] is for public officials to facilitate private choices in ways that will increase the likelihood that the individuals will be able to make personally utility-maximizing choices. This Article describes a novel, "choice architecture" approach that can help individuals to more optimally allocate their resources between medical care and other goods and services. Under this approach, the government would produce and dispense information concerning the costs and benefits of medical treatments sufficient to enable consumers and health insurers to contract for what I call "relative value health insurance" ("RVHI"), a product that covers medical interventions that meet or exceed a given level of cost-effectiveness.

Having survived Supreme Court review,[18] the landmark 2010 health care reform legislation, the Patient Protection and Affordable Care Act ("ACA" or "the Act") is now set to significantly expand access to medical care.[19] While most commentators agree that the Act is unlikely to have more than a modest effect on stemming the rapidly increasing cost of medical

15. *See* Russell Korobkin, *What Comes After Victory for Behavioral Law and Economics?*, 2011 U. Ill. L. Rev. 1653, 1655 (2011) (discussing the concept of subjective expected utility).

16. *See generally* Richard H. Thaler & Cass R. Sunstein, Nudge: Improving Decisions About Health, Wealth, and Happiness (rev. ed. 2009). Thaler and Sunstein have called this approach "libertarian paternalism." Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron*, 70 U. Chi. L. Rev. 1159 (2003).

17. *See generally* Russell Korobkin, *Libertarian Welfarism*, 97 Calif. L. Rev. 1651, 1666–70 (2009) (raising the "indeterminacy" objection to the concept of libertarian paternalism).

18. Nat'l Fed'n of Indep. Bus. v. Sebelius, 132 S. Ct. 2566 (2012) (plurality opinion in part).

19. Following the Supreme Court's ruling that made the Act's expansion of Medicaid eligibility optional for states, *id.* at 2607–08 (plurality opinion), the Congressional Budget Office ("CBO") estimated that an additional twenty-five million Americans will obtain public or private health insurance coverage by 2023. Jessica Banthin & Sarah Masi, *CBO's Estimate of the Net Budgetary Impact of the Affordable Care Act's Health Insurance Coverage Provisions Has Not Changed Much over Time*, Cong. Budget Off. (May 14, 2013), http://www.cbo.gov/publication/44176.

care,[20] a relatively overlooked provision can serve as the starting point for the promotion of RVHI. The Act provides significant funding for government-sponsored "comparative effectiveness research" ("CER"),[21] designed to evaluate the relative efficacy of different treatment options for a particular condition or ailment.

To facilitate the market for RVHI, government-sponsored CER should be used to evaluate different treatments for various medical conditions and rate them on a scale of "1" (high) to "10" (low) in terms of cost-effectiveness. Health insurance agencies could then use these transparent ratings as the basis for different coverage offerings. For example, an insurance company might offer three plans: (1) a policy that covers only treatments with a rating of "3" or higher at annual premium price $X, (2) a policy that covers only treatments rated "5" or higher at annual premium price $Y, and (3) a policy that covers only treatments rated "7" or higher at annual premium price $Z.

Consumers of health care would then decide at the time they purchase insurance—not at the time of illness—whether they wish to purchase relatively "shallow" insurance that covers only the most cost-effective interventions at a correspondingly modest price, or relatively "deep" insurance that covers increasingly less cost-effective treatments but at a higher price. The simple numerical rating scale would provide boundedly rational consumers with a useful tool for allocating resources between their medical care and other goods and services. If consumers wish to forgo expensive medical treatments that provide limited benefits, health care cost inflation will decrease. If consumers choose to buy high-priced insurance that covers marginally beneficial services, health care cost inflation will continue until marginal costs exceed marginal benefits, but these increases will represent an efficient allocation of national wealth.

Part I of this Article describes how the combination of rapid technological innovation and the fundamental problem of moral hazard in the market for health insurance has driven our country to—or at least toward—the inefficient overallocation of resources to medical care. Part II explains how CDHC proposals target this moral hazard problem but cannot sufficiently rationalize medical care expenditures because boundedly rational consumers cannot make the complex cost–benefit trade-offs at the point of treatment that the theory demands. Part III argues that the problem cannot be solved by proposals that would compensate physicians for more efficient resource utilization.

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20. *See, e.g.*, Michael K. Gusmano, *Do We Really Want to Control Health Care Spending?*, 36 J. Health Pol. Pol'y & L. 495, 495 (2011) (noting that "few analysts accept" the administration's claim "that health care reform will reduce spending"); Richard S. Saver, *Health Care Reform's Wild Card: The Uncertain Effectiveness of Comparative Effectiveness Research*, 159 U. Pa. L. Rev. 2147, 2149 (2011) ("Many health policy experts believe that the [ACA] . . . does not sufficiently address intractable cost and quality problems . . . .").

21. *See* Harold C. Sox, *Comparative Effectiveness Research: A Progress Report*, 152 Annals Internal Med. 469, 470–71 (2010), *available at* http://annals.org/article.aspx?articleid=746204#xref-ref-10-1.

Part IV introduces the concept of RVHI, in which private insurance markets coalesce around publicly provided relative value ratings of medical interventions. It considers the legal and informational barriers to RVHI and shows how CER, viewed expansively, can help to overcome them. Part V describes how RVHI would create the choice architecture that would facilitate efficient market behavior as well as provide the important secondary benefits of controlling costs without creating conflicts of interest between patients and physicians and encouraging more efficient investment in medical innovations. Part VI considers the theoretical drawbacks and practical obstacles associated with RVHI, including the current lack of useful data, the value choices implicit in any rating system, the risk of industry capture of the rating process, the possibility of adverse selection, and potential conflicts with the ACA.

Part VII concludes the Article by discussing how building a public system of relative value ratings could facilitate more rational political discussion about cost control for the major public health insurance programs, Medicare and Medicaid, in addition to helping to rationalize private health care spending.

I. The Problem of Moral Hazard

The economically efficient amount of medical care is provided when its marginal cost equals its marginal benefit. When an individual patient decides whether to obtain treatment, however, he will usually compare its expected benefits only to the marginal cost of that care to him. When marginal costs are borne by a third party, the individual patient has a private incentive to overconsume care, a problem known as "moral hazard."[22]

When a patient has health insurance, the financial costs of care to him are usually low and in some cases zero. The financial costs of the care still exist, of course, but the insurer bears them and then passes them on to all policy holders (or, in the case of public insurance, to the taxpayers). The result is that most patients will choose to consume nearly all medical care that has a private expected benefit that exceeds the nonfinancial costs of the care, such as inconvenience, time away from work, and physical discomfort. To be sure, these nonfinancial costs often are not trivial, so the moral hazard problem associated with health insurance is less severe than would result from, say, ice cream insurance. But there is no doubt that the widespread use of public or private insurance to fund medical care leads to greater consumption of medical care than the efficient amount.[23]

As medical technology improves, the scope of the moral hazard problem increases. Because private or public insurance finances most medical care, producers of new drugs, medical products, diagnostic devices, and the like

22. *See, e.g.*, Katherine Baicker & Dana Goldman, *Patient Cost-Sharing and Healthcare Spending Growth*, J. Econ. Persp., Spring 2011, at 47, 52–53.

23. *See, e.g.*, Cannon & Tanner, *supra* note 14, at 37 ("When individuals perceive health care to be free, the quantity demanded increases.").

know that there will be a market for new treatments that promise to reduce mortality or morbidity, almost without regard to the cost of such innovations. As more medical interventions with such positive expected benefits are developed, inefficient marginal overconsumption of medical care occurs at an increasing rate.[24] This is the case even if the total value of a new medical technology exceeds its total cost,[25] and even if patients sometimes also inefficiently *underconsume* care because they misestimate its value or because they can externalize high costs that arise tomorrow when they fail to take cheaper preventative measures today.[26]

This is not to say that moral hazard is the only cause of the high cost of medical care in the United States. There is extensive evidence that Americans pay higher prices for the same services than do consumers in other developed countries,[27] meaning that laws shifting more bargaining power from providers to payers could probably reduce costs,[28] although perhaps to the detriment of quality in the long term.[29] Improved efficiency in the delivery of medical care might also help to reduce the cost of care,[30] and some provisions enacted as part of the ACA might facilitate incremental improvements

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24. *See, e.g.*, Peter R. Orszag & Philip Ellis, *The Challenge of Rising Health Care Costs—A View from the Congressional Budget Office*, 357 NEW ENG. J. MED. 1793, 1794 (2007) ("The bulk of [health care] spending growth . . . [results] from the development and diffusion of new medical technologies and therapies. . . . [E]vidence strongly suggests that many treatments and services are provided to patients who could do just as well with less expensive care.").

25. *See* David M. Cutler & Mark McClellan, *Is Technological Change in Medicine Worth It?*, HEALTH AFF., Sept.–Oct. 2001, at 11, 18, 21 (claiming that advances in certain technologies return 6 to 7 dollars of benefits for every dollar of cost).

26. *See generally* Ronen Avraham, *Private Regulation*, 34 HARV. J.L. & PUB. POL'Y 543, 556–57 (2011) (discussing the problem of underuse); Amitabh Chandra et al., *Patient Cost-Sharing and Hospitalization Offsets in the Elderly*, 100 AM. ECON. REV. 193, 194 (2010) (finding that increases in copayments for prescription drugs can reduce drug utilization spending but simultaneously increase hospitalization costs).

27. In 2012, the average charge for a day of hospitalization was $4,287 in the United States versus $1,472 in Australia and $853 in France; the average cost of a hip replacement was $40,364 in the United States versus $11,889 in the United Kingdom and $9,574 in Switzerland. *2012 Comparative Price Report: Variation in Medical and Hospital Prices by Country*, INT'L FED'N HEALTH PLANS, 9, 15, http://ww.ifhp.com/documents/2012iFHPPriceReportFINALApril3.pdf (last visited Sept. 15, 2013).

28. For example, the law could make hospital consolidation more difficult, which has been associated with above-average price increases. Cory Capps & David Dranove, *Hospital Consolidation and Negotiated PPO Prices*, HEALTH AFF., Mar.–Apr. 2004, at 175; *see also* Eduardo Porter, *Health Care's Overlooked Cost Factor*, N.Y. TIMES, June 11, 2013, at B1, *available at* http://www.nytimes.com/2013/06/12/business/examinations-of-health-costs-overlook-mergers.html?pagewanted=all&_r=0 (reporting evidence that the purpose of some hospital mergers is to increase bargaining leverage over health insurers).

29. *See, e.g.*, Karen E. Joynt & Ashish K. Jha, *The Relationship Between Cost and Quality: No Free Lunch*, 307 JAMA 1082 (2012).

30. *See, e.g.*, Michael Macdonnell & Ara Darzi, *A Key to Slower Health Spending Growth Worldwide Will Be Unlocking Innovation to Reduce the Labor-Intensity of Care*, 32 HEALTH AFF. 653, 655–57 (2013).

in this regard.[31] Finally, there are certainly medical treatments that could be eliminated solely by providing patients or medical care providers with better information, because the treatments have nonfinancial costs but do not make patients any healthier on average, or even make them less healthy on average.[32] But fundamental and ongoing cost containment requires institutional reforms that discourage the health care delivery system from providing treatments with a positive expected benefit when the costs of producing positive results exceed the value of the benefits.

II. Consumer Directed Health Care

A. *CDHC as an Approach*

In current academic and policy debates, CDHC is the conceptual approach to reducing the costs of medical care that most directly seeks to addresses the problem of moral hazard. Proponents of CDHC propose increasing the marginal financial cost of medical care imposed directly on patients, thus providing patients with a greater incentive to equate marginal cost with marginal benefit.[33] To satisfy this goal, CDHC proponents support policies that subsidize or otherwise encourage health insurance with high annual deductibles or high copayments at the point of service.[34]

The Health Savings Account ("HSA") program, instituted as part of the 2003 Medicare Modernization Act,[35] is a favorite of CDHC advocates.[36] This program permits individuals who purchase qualified health insurance policies with high deductibles to establish tax-advantaged savings accounts.

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31. The ACA's incentives for providers to utilize electronic medical records, *see* Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 3002(b)–(d), 124 Stat. 119, 364–65 (2010) (amending 42 U.S.C. § 1395w-4 (2006)), for example, have the potential to reduce health care spending, as electronic records have been shown to cut hospital costs. Jonathan A. Zlabek et al., *Early Cost and Safety Benefits of an Inpatient Electronic Health Record*, 18 J. Am. Med. Informatics Ass'n 169 (2011).

32. *See, e.g.*, Elliott Fisher, *More Care Is Not Better Care*, Nat'l Inst. for Health Care Mgmt. (Jan. 2005), http://www.nihcm.org/pdf/ExpertV7.pdf.

33. *See, e.g.*, Amelia M. Haviland et al., *Growth of Consumer-Directed Health Plans to One-Half of All Employer-Sponsored Insurance Could Save $57 Billion Annually*, 31 Health Aff. 1009, 1009, 1012–13 (2012).

34. *See, e.g.*, Allison Woo et al., *Consumer-Directed Health Arrangements*, KaiserEDU.org, http://www.kaiseredu.org/Issue-Modules/Consumer-Directed-Health-Arrangements/Background-Brief.aspx?referrer=search (last updated June 2006) ("[The term] 'consumer-directed health care' . . . . applies to a broad range of health plan designs . . . . but is most commonly used to describe the combination of a high-deductible health insurance plan with a tax-preferred savings account used to pay for routine health care expenses.").

35. Medicare Prescription Drug, Improvement, and Modernization Act of 2003 § 1201, 26 U.S.C. §§ 223–24 (2006).

36. *See, e.g.*, Cannon & Tanner, *supra* note 14, at 69 (calling for "enhancing and expanding" HSAs).

These accounts, which have achieved considerable popularity among employer-based health insurance plans,[37] can be used for out-of-pocket medical expenses. Any funds not spent on medical care carry over from year to year and can eventually become part of the account holder's estate.

B. *Bounded Rationality*

The fundamental problem with the CDHC approach is that it assumes a heroically implausible level of decisionmaking ability on the part of patients faced with treatment choices at the time of illness. The theoretical power of CDHC to rationalize medical care decisions requires consumers to make two kinds of judgments with a high degree of skill: First, they must be able to interpret complex, probabilistic information concerning the consequences of various treatment alternatives (including forgoing treatment) in an unbiased manner. Second, given the differences in attributes of different treatment alternatives, they must be able to select the alternative with the combination of attributes, including price, that will provide the most overall utility. Only when these requirements are satisfied, such that we can say that consumers have made "accurate" decisions—those that maximize their expected utility subject to constraints—can we be confident that the efficient amount of social resources will be allocated to medical care.

Notwithstanding the prevalence of rational-choice-based economic models of behavior that assume such capabilities, social scientists now broadly recognize that most decisionmakers, and especially consumers, are boundedly rational: our limited working memory and cognitive capacity causes us to simplify complicated decisionmaking problems and seek mental shortcuts to solving them, economizing on decisionmaking costs but compromising accuracy of outcomes.[38] Put another way, faced with a difficult question, people often answer an easier one instead, often without even recognizing the substitution that is taking place. As Nobel Laureate Daniel Kahneman describes this process, our mind operates a "System 1" function, which automatically assesses and responds to data but is poor at logic and statistical reasoning, and a "System 2" function, which deliberately and laboriously makes more reasoned judgments but requires substantially more effort.[39] Because the mind prefers to conserve effort, it tends to favor System 1. Unconscious reliance on System 1 makes it possible for us to navigate the complexities of daily life reasonably well without being struck by paralysis, but the shortcuts on which it relies will sometimes lead to suboptimal decisions.

Reliance on the mind's System 1 function means that consumers fail to make accurate decisions in many contexts. But what we know about the

37. One estimate finds that these plans made up more than 13 percent of employer-sponsored policies as of 2011. Baicker & Goldman, *supra* note 22, at 48.

38. *See, e.g.*, James R. Bettman et al., *Constructive Consumer Choice Processes*, 25 J. Consumer Res. 187, 187 (1998).

39. *See* Daniel Kahneman, Thinking, Fast and Slow 12, 28 (2011).

decisionmaking process suggests that making medical care decisions at the point of service is particularly problematic. Drawing on established findings from research on decisionmaking, this Section describes several reasons to believe that health care consumers' choices are likely to fall well short of the rational ideal.

1. Complexity

The difficulty of making value-maximizing decisions increases when the relevant factual information is highly complex and alternatives have multiple attributes. To have any hope of selecting the "accurate" treatment option, a patient would need to learn and understand the cost, inconvenience, mortality, and morbidity implications of each choice (along a variety of metrics). This information is almost never reasonably available to patients,[40] but even if we assume that it could be made available,[41] accurate choices by consumers would still remain highly unlikely.

Processing large amounts of complex information is mentally costly, even for individuals with the mental capability and educational background necessary to do so. As the cost of processing information increases, people tend to simplify the decision[42]—in effect, solving an easier problem than the one that they must actually solve to be sure that their expressed preference actually maximizes the expected satisfaction of their underlying values.

One way to simplify complex problems without obvious, easy answers is to selectively consider only a limited amount of information or to adopt noncompensatory decisionmaking strategies when evaluating that information—strategies that do not require the comparison of attributes that are difficult to compare.[43] A "lexicographic" decisionmaking strategy, for example, requires the decisionmaker to select the choice alternative that rates highest on the single most important attribute, ignoring all other attributes. A prostate cancer patient choosing between surgery and "watchful waiting," for example, might favor surgery if his primary concern is life expectancy but might prefer watchful waiting if his primary concern is either quality of

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40. For a thorough, and thoroughly depressing, account of just how unavailable relevant information about both costs and clinical benefits is to patients in the current medical care environment, see Carl E. Schneider & Mark A. Hall, *The Patient Life: Can Consumers Direct Health Care?*, 35 Am. J.L. & Med. 7, 19–31 (2009), and Uwe E. Reinhardt, *Can Efficiency in Health Care Be Left to the Market?*, 26 J. Health Pol. Pol'y & L. 967, 986–87 (2001) ("The prices of health services are jealously guarded proprietary information.").

41. Some progress seems to be occurring, albeit slowly. *See* Tina Rosenberg, *Revealing a Health Care Secret: The Price*, N.Y. Times Opinionator (July 31, 2013, 10:20 AM), http://opinionator.blogs.nytimes.com/2013/07/31/a-new-health-care-approach-dont-hide-the-price/?hp&_r=0.

42. Kahneman, *supra* note 39, at 97–108; John W. Payne et al., *Measuring Constructed Preferences: Towards a Building Code*, 19 J. Risk & Uncertainty 243, 247 (1999) ("[T]he use of simple (heuristic) decision processes increases with task complexity.").

43. *Cf.* Payne et al., *supra* note 42, at 251 ("[P]eople often focus on a single option, a single objective or attribute, or a single assumed state of the world when reasoning about a decision problem.").

life or cost.[44] The System 1 mental process can implement this lexicographic approach, as System 1 is adept at comparing data points on a single metric (i.e., System 1 allows someone to look at two people and immediately know which one is taller) but is unable to compare across attributes or consider multiple issues at one time.[45]

If there are several important attributes at stake and a range of possible outcomes on these attributes for each of the alternatives, this type of simplification can often lead to an inaccurate decision (i.e., one that fails to maximize the expected overall welfare of the decisionmaker). For example, if the prostate cancer patient selects surgery because it is associated with greater average life expectancy (the most important attribute to him), but the advantage in mortality reduction is small and the differences in expected quality of life and cost—also important attributes—strongly favor watchful waiting, it is quite likely that the patient's choice to undergo surgery fails to maximize his expected welfare. In this particular example, the result is an inefficient overspending on medical care, but it is also possible that such strategies will result in inefficient underspending on medical care in some cases.

2. Novelty

While traditional economic theory assumes that people have stable and coherent preference orderings,[46] modern decision scientists believe that many choices and behaviors reflect preferences that are "constructed" in response to the contextual features of the decisionmaking problem rather than revealing the decisionmaker's static values.[47] This is not to say that expressed preferences are randomly determined or even that no preferences are well considered and stable. But expressed preferences should be understood as a function of both the decisionmaker's innate, subjective desires and of the decisionmaking context in which the preference is solicited.[48] The greater the effect of context—that is, the extent to which the preference is constructed (rather than merely uncovered) at the time it is solicited—the less likely that the decision made will achieve the normative goal of accuracy.

The more times an individual has considered a particular decision, the more likely he will be to fully understand and fully account for all relevant

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44. Bettman et al., *supra* note 38, at 190.

45. *See* KAHNEMAN, *supra* note 39, at 36.

46. *See, e.g.*, Matthew Rabin, *Psychology and Economics*, 36 J. ECON. LIT. 11, 11 (1988).

47. *See generally* Robin Gregory et al., *Valuing Environmental Resources: A Constructive Approach*, 7 J. RISK & UNCERTAINTY 177 (1993); Payne et al., *supra* note 42.

48. *See* Payne et al., *supra* note 42, at 246 ("Expressed preferences (measured values for decision objects), in our view, generally reflect *both* a decision maker's basic values for highlighted attributes (e.g., more money is preferred to less) *and* the particular (contingent) heuristics or processing strategies used to combine information selectively in order to construct the required response to a particular situation.").

attributes of the available alternatives, including how he will feel, subjectively, in the different states of the world that he will choose now but experience later. This is why most people have distinct and stable preferences between chocolate and vanilla ice cream. We have tasted both many times; we can identify their different attributes (taste, smell, etc.); we can recall, if imperfectly, how we have felt in the past after finishing bowls of each; and we can recall making this very choice before and what emotions we experienced in the aftermath of making the choice. A chocolate ice cream lover might feel less confident if asked to choose not simply between chocolate and vanilla but between a chocolate ice cream that costs $5 and a vanilla ice cream that costs $2 if he has not had much occasion to place a precise value on the difference between the appeal of the two types. But even when challenged with this unusual comparison, he can at least draw on a wealth of relevant experience with the competing goods.

The mutability of expressed preferences is likely to increase with the novelty of the decisionmaking problem because the decisionmaker has less prior experience on which to draw.[49] And individuals facing marginal medical care decisions of significance often find themselves in a tremendously novel position.[50] An individual forced to decide whether to spend $200 to see his primary care physician when he has a potential upper respiratory infection might be able to draw on past experience making the same choice in similar circumstances and the resulting affective outcomes, but a breast cancer patient forced to choose between a variety of different surgical and medical treatment options, each with a very different price tag, is unlikely to have had any decision-relevant affective experience on which to rely. In this situation, the patient will have a difficult time determining how she will subjectively experience the different attribute-bundles associated with the different treatment choices.

3. Inconsistent Comparative Information

Attributes of decisionmaking alternatives vary in how difficult they are to value. The value of some attributes is clear to most decisionmakers without contextual clues; the value of other attributes is less obvious without points of comparison. Consequently, decisionmakers, who instinctively wish to economize on decisionmaking costs, tend to give attributes more weight in decisionmaking problems if they are easy to compare than if they are not, regardless of whether comparability is correlated with how informative the attribute is.

For example, when asked to choose between a dictionary with a mint-condition cover and 10,000 entries or a dictionary with a torn cover and 20,000 entries, most subjects prefer the latter: 20,000 entries is a lot more

49. *Cf.* Payne et al., *supra* note 42, at 245 ("[T]he assumption of well-articulated preferences is tenable only when people are familiar and experienced with the preference object . . . .").

50. *Cf.* Schneider & Hall, *supra* note 40, at 46 ("[C]hoosing health plans, providers, and medical treatments swamps you in the unfamiliar.").

than 10,000, and the tear in the cover does not significantly affect the dictionary's functionality.[51] But when asked to independently value one of the two dictionaries standing alone, subjects on average place a higher value on the 10,000-entry book.[52] The condition of the cover is more "evaluable" than the number of entries. Clearly, a mint-condition cover is desirable, and a torn cover is undesirable. It is much harder to determine the absolute value of a stated number of entries, so people tend to pay attention to the cover when valuing one of the two options. The value of the number of entries is easier to judge when two dictionaries can be compared on the same attribute, however, so that attribute is given more weight in the decisionmaking process when there is a clear point of comparison.

The "evaluability" problem is likely to be highly relevant in many medical care determinations. For example, nearly all medical procedures present some risks, and it is often difficult for individuals to judge their significance. A CT scan of the head exposes a patient to approximately 150 millirems of radiation.[53] Because few people would have any idea if this amount is low or high, it is likely that most patients would ignore the attribute of "radiation exposure" when deciding whether to undergo a CT scan or forgo the test. An MRI scan provides no radiation exposure, however, which is obviously less than 150 millirems and thus clearly superior to the CT scan on the attribute of radiation exposure. This suggests that radiation exposure is far more likely to be an attribute considered by a patient if she is given the choice between a CT scan, an MRI scan, and no imaging test than if she is merely given the choice between a CT scan and no imaging test.

Closely related to the evaluability problem is that individuals often compare complex alternatives on the basis of the attributes that are easiest to compare. As a result, people tend to favor alternatives that dominate others on one comparable feature (trade-off contrast) or select alternatives that seem to lie in between others on a distribution (extremeness aversion).[54]

The trade-off contrast effect causes decisionmakers to give more weight than is justified to an alternative that clearly dominates a second, as compared to a third, alternative whose comparative value is more ambiguous; the fact that the chosen alternative dominates another is seen as a good reason for choosing it.[55] For example, imagine a condition for which there

51. Christopher K. Hsee, *The Evaluability Hypothesis: An Explanation for Preference Reversals Between Joint and Separate Evaluations of Alternatives*, 67 Organizational Behav. & Hum. Decision Processes 247, 248 (1996).

52. *Id.*

53. *See* P.C. Shrimpton et al., Doses from Computed Tomography (CT) Examinations in the UK—2003 Review 31 (2005), *available at* http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1194947420292.

54. Bettman et al., *supra* note 38, at 207; Amos Tversky & Itamar Simonson, *Context-Dependent Preferences*, 39 Mgmt. Sci. 1179, 1183, 1186–87 (1993).

55. Bettman et al., *supra* note 38, at 207; Joel Huber et al., *Adding Asymmetrically Dominated Alternatives: Violations of Regularity and the Similarity Hypothesis*, 9 J. Consumer Res. 90 (1982). This situation is known as "asymmetric dominance." Bettman et al., *supra* note 38, at 198.

are two possible treatments, one involving surgery and one not, that differ on a variety of attributes (i.e., price, mortality risk, likely quality of life, etc.), making comparison difficult. The likelihood of the patient choosing the surgical option would almost certainly increase if a second surgical option that is inferior to the first on all relevant attributes were added to the choice set. Effectively, at least some decisionmakers faced with the difficult decision—surgical option #1 or the nonsurgical option—would reduce the cost of decisionmaking by solving the easier problem of whether surgical option #1 is preferable to surgical option #2.

The extremeness aversion effect suggests that a decisionmaker is more likely to prefer Choice B to Choice A if he also considers a Choice C that has opposite benefits and costs to Choice A. For example, assume that a patient's choice between two diagnostic tests is difficult because Test A costs $1,000 but identifies a potentially dangerous condition 95% of the time when it exists, whereas Test B identifies the condition only 85% of the time but costs only $250. If Test C, which costs $100 but will only identify the condition 25% of the time, is also considered, the likelihood of the patient choosing Test B will increase.

Decisionmaking strategies such as these lead to what has been called "coherent arbitrariness."[56] The outcomes are locally reasonable given the information that decisionmakers compare, but they can result in inaccurate decisions because logically relevant information is omitted from the decisionmaking analysis.

4. Emotion-Laden Decisions

The more difficult it is to compare attributes, the more likely it is that decisionmakers will adopt choice strategies that are noncompensatory. Trading off one attribute against a different type of attribute can be difficult not only cognitively but also emotionally. This is especially likely to be the case when individuals believe that deeply held values are at stake that are difficult, or even morally improper, to sacrifice.[57] In such situations, in order to avoid negative emotions, individuals often employ simple, noncompensatory decisionmaking strategies that allow them to avoid confronting such fraught trade-offs.[58] For example, research has indicated that certain individuals express a reluctance to consent to any actions that will result in environmental degradation, even if permitting the action could generate enough money to pay for more than a compensating amount of environmental protection.[59]

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56. Dan Ariely et al., *"Coherent Arbitrariness": Stable Demand Curves Without Stable Preferences*, 118 Q. J. Econ. 73 (2003).

57. *See* Bettman et al., *supra* note 38, at 196.

58. *Id.* at 197.

59. Jonathan Baron & Mark Spranca, *Protected Values*, 70 Organizational Behav. & Hum. Decision Processes 1, 13 (1997).

In the health care context, individuals are likely to feel extremely uncomfortable trading off medical interventions against money, even though we all make decisions in our everyday lives that demonstrate that we do not place infinite value on avoiding morbidity or mortality—for example, by purchasing cars that do not have the highest possible safety ratings in order to save money or obtain other desirable features. When faced with illness, however, many patients are likely to employ simple decisionmaking strategies that allow them to avoid confronting such trade-offs, even though doing so might reduce the accuracy of decisions. As insurance law experts Tom Baker and Peter Siegelman write,

> shopping for a health care service on the basis of price strikes so many people as bizarre, even a bit repugnant, and . . . the idea of negotiating over a fee with a physician is, quite literally, unimaginable for many people. . . . [O]ur sense is that many people experience discomfort in thinking about . . . health care in relation to money and, thus, would be willing to pay at least something extra to avoid that.[60]

C. *Empirical Research on Medical Decisionmaking*

It is almost always difficult to determine whether a particular decision is an accurate reflection of an individual's deeply held values, since there is no foolproof way of eliciting what exactly those values are or how they compare to one another. But, consistent with the theoretical account above, the existing empirical research on decisionmaking in the medical care context provides substantial circumstantial evidence that, contrary to the assumption of CDHC proponents, patients are unlikely to do a very good job of making efficient medical care decisions at the point of treatment.

Studies do suggest that patients are more conservative about seeking medical care when they are forced to spend their own dollars on that care.[61] Thus, the fundamental prediction of microeconomic theory that demand falls as price rises is borne out in the medical care context. This indicates, as supporters of CDHC like to argue, that CDHC would probably encourage healthy price competition among providers of medical care.[62] One consistent

60. Tom Baker & Peter Siegelman, *Law and Economics After the Behavioral Turn: Learning from Insurance*, Harv. L. Petrie-Flom Center, 48 (Oct. 10, 2011), http://www.law.harvard.edu/programs/petrie-flom/workshop/pdf/baker.pdf.

61. *See, e.g.*, Paul Fronstin & Sara R. Collins, Findings from the 2007 EBRI/Commonwealth Fund Consumerism in Health Survey 9 (2008), *available at* http://www.commonwealthfund.org/~/media/Files/Publications/Issue%20Brief/2008/Mar/Findings%20From%20the%202007%20EBRI%20Commonwealth%20Fund%20Consumerism%20in%20Health%20Survey/Fronstin_consumerism_survey_2007_issue_brief_FINAL%20pdf.pdf.

62. *See, e.g.*, Cannon & Tanner, *supra* note 14, at 6–11.

finding, dating back to the well-known RAND study,[63] however, is that patients demand less care when faced with increasing marginal costs[64] but do not do well at distinguishing between high- and low-value interventions.[65] For example, studies have found that patients with higher cost-sharing obligations economize by not taking prescription drugs only to have "higher rates of serious adverse events[ ] and . . . emergency department visits," the costs of which offset any prior savings.[66]

Scholars have also found that, when choosing between treatments, patients' revealed preferences are often inconsistent over time.[67] Although it is possible that experience causes patients to change their deeply held and well-considered preferences, these results suggest that medical care preferences can be highly unstable and thus subject to contextual effects.

Research also documents evidence of a high degree of one-reason decisionmaking when patients consider treatment options for serious ailments that would seem to warrant a more careful comparison of multiple attributes. One study of treatment choices made by dialysis patients, for example, concludes that many patients seem to opt for hemodialysis when hearing a dispiriting fact about peritoneal dialysis but choose peritoneal dialysis when hearing about a single undesirable consequence of hemodialysis.[68]

Finally, but importantly, average functional health literacy in the United States is extremely low. A shockingly large percentage of the population is only marginally literate and functionally innumerate,[69] suggesting a likely inability to understand, let alone make a reasoned choice between, treatment options with different risks, likelihoods of success, and morbidity and mortality consequences. Documents often provided for the express purpose of facilitating informed decisionmaking in similar contexts—such as privacy disclosure forms used by academic medical centers—have been evaluated as far too difficult for the average patient to comprehend.[70] And very few patients are familiar with even relatively basic features of their health insurance

63. *See* Willard G. Manning et al., *Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment*, 77 Am. Econ. Rev. 251 (1987).

64. *See id.* at 258; Baicker & Goldman, *supra* note 22, at 55 (calling this finding of the RAND study "remarkably resilient in [similar] studies over time").

65. *See* Manning et al., *supra* note 63, at 265–66; Baicker & Goldman, *supra* note 22, at 65 (concluding that increasing patient cost sharing at the point of service "would reduce use of both low-value and high-value services").

66. Peter J. Neumann et al., *Do Drug Formulary Policies Reflect Evidence of Value?*, 12 Am. J. Managed Care 30, 30 (2006); *see also* John Hsu et al., *Unintended Consequences of Caps on Medicare Drug Benefits*, 354 New Eng. J. Med. 2349, 2356 (2006).

67. *See, e.g.*, Terri R. Fried et al., *Inconsistency over Time in the Preferences of Older Persons with Advanced Illness for Life-Sustaining Treatment*, 55 J. Am. Geriatrics Soc'y 1007 (2007).

68. Carl E. Schneider, The Practice of Autonomy: Patients, Doctors, and Medical Decisions 94–95 (1998).

69. *See* Schneider & Hall, *supra* note 40, at 36–38.

70. Steven Walfish & Keely M. Watkins, *Readability Level of Health Insurance Portability and Accountability Act Notices of Privacy Practices Utilized by Academic Medical Centers*, 28 Evaluation & Health Professions 479 (2005); *see also* Michael K. Paasche-Orlow et al.,

plans,[71] which suggests that they will also likely fail to understand relevant features of alternative medical interventions.

III. Medical Providers as Decisionmaking Agents

Part II argued that there is a strong theoretical and empirical basis for believing that most patients will not be very good at making medical care decisions that equate marginal cost with marginal benefit at the point of service, thus ensuring that resources are efficiently allocated between medical care and competing goods and services. One potential solution to this problem is for patients to rely heavily on, or even completely delegate decisionmaking responsibility to, better informed agents—namely, physicians or other medical care providers.

Evidence strongly suggests that many patients would prefer for their physicians to make treatment decisions for them.[72] One study reports that 78 percent of colorectal patients and 52 percent of breast cancer patients register such a preference.[73] A broader study of medical decisionmaking in hypothetical settings finds that, on a scale of 1 to 100, with "1" indicating no desire to make medical decisions and "100" indicating an intense desire to do so, the average patient registered a score of only "33." The average score is even lower for patients with more severe illnesses.[74]

Even when patients make treatment decisions, as informed consent law requires, a large number of patients employ the simple heuristic of adopting their physician's recommendation.[75] This strategy is particularly attractive to hospitalized patients who face even more serious obstacles to obtaining and processing information than outpatients.[76] This fact suggests that, rather than providing incentives for consumers to make more efficient cost–benefit trade-offs at the point of treatment, perhaps consideration should be paid to giving physicians the incentive to incorporate cost–benefit trade-offs into their treatment recommendations.

Readability Standards for Informed-Consent Forms as Compared with Actual Readability, 348 New Eng. J. Med. 721 (2003).

71. *See* Peter J. Cunningham et al., *Do Consumers Know How Their Health Plan Works?*, Health Aff., Mar.–Apr. 2001, at 159; Deborah W. Garnick et al., *How Well Do Americans Understand Their Health Coverage?*, Health Aff., Fall 1993, at 204.

72. *See* Schneider & Hall, *supra* note 40, at 47 ("The evidence that patients do not long to make medical decisions is compelling.").

73. Kinta Beaver et al., *Decision-Making Role Preferences and Information Needs: A Comparison of Colorectal and Breast Cancer*, 2 Health Expectations 266, 266 (1999).

74. Jack Ende et al., *Measuring Patients' Desire for Autonomy: Decision Making and Information-Seeking Preferences Among Medical Patients*, 4 J. Gen. Internal Med. 23, 26–27 (1989).

75. For a compelling example described by a patient facing a complicated set of options for treating breast cancer, see Ann Kim, *Dr. Me: Cancer Patients Want a Say, but Do We Have to Be the Doctor, Too?*, Zocalo Pub. Square (May 16, 2012), http://zocalopublicsquare.org/thepublicsquare/2012/05/16/dr-me/read/nexus/.

76. *See* Schneider & Hall, *supra* note 40, at 31.

Delegating decisionmaking authority to agents, however, can only rationalize the provision of medical care if the agents are motivated to recommend no more than efficient levels of treatment. It would be difficult to structure the financial incentives of providers appropriately for this task. More importantly, though, if the economically proper incentives can be designed, those incentives would create a conflict of interest between physicians and patients and work at cross-purposes with engrained professional norms of physician culture.

A. *Provider Financial Incentives*

Many scholars believe that a key driver of the inefficient overallocation of resources to medical care is that most providers are compensated on a "piece-work" basis.[77] Specifically, under standard compensation arrangements with public and private insurers, doctors typically earn more money the more diagnostic tests or procedures they perform. This creates a moral hazard similar to the one that affects the incentives faced by patients themselves.[78] In theory, the provider moral hazard problem is even worse than the patient moral hazard problem discussed in Part II. Whereas patients have the private incentive to demand all tests and treatments with a positive expected value net of nonfinancial costs, providers have a profit incentive to recommend even tests and treatments that have a negative expected value to the patient!

The risk of malpractice lawsuits creates another incentive for physicians to recommend more than the efficient amount of medical care, a problem often labeled "defensive medicine."[79] Physicians have an incentive to overtreat—particularly in the form of prescribing diagnostic tests with high costs and low expected benefits—if it will reduce the perceived likelihood that they will later be sued,[80] especially when there is little or no risk that the treatment will affirmatively harm the patient (which could also lead to a lawsuit).

Not all provider compensation mechanisms produce an incentive for the overutilization of care, but those that do not usually create a private incentive for providers to recommend too little care, rather than the efficient amount. Some physicians (usually primary care physicians) who practice in

77. *See, e.g.*, Orszag & Ellis, *supra* note 24, at 1794 ("Fee-for-service reimbursement remains the predominant form of payment in private insurance and Medicare."); Schneider & Hall, *supra* note 40, at 31 ("[W]e got to consumerism because doctors had little reason to control costs and much reason to drive them up. The more services doctors sold and the more they charged for a service, the wealthier they got.").

78. *See* Orszag & Ellis, *supra* note 24, at 1794; *cf.* Atul Gawande, *The Cost Conundrum: What a Texas Town Can Teach Us About Health Care*, New Yorker, June 1, 2009, at 36, 36–37 (providing strong anecdotal evidence of overtreatment of patients in McAllen, Texas).

79. *See* Richard E. Anderson, Commentary, *Billions for Defense: The Pervasive Nature of Defensive Medicine*, 159 Archives Internal Med. 2399, 2399 (1999).

80. *See, e.g.*, Avraham, *supra* note 26, at 558–59 (citing estimates that defensive medicine costs the U.S. health care system between $45 billion and $200 billion a year).

"health maintenance organization" ("HMO") structures receive a capitated monthly payment for each patient they serve regardless of whether that patient utilizes resources.[81] Others who work in staff-model physician networks are paid a flat salary.[82] Still others receive bonus payments for minimizing costly referrals.[83] These arrangements create a financial incentive for providers to offer too little care because each quantum of care is costly to the physician in either time or money and provides no private benefit, no matter how beneficial the intervention may be to the patient.

The incentive problems with standard physician compensation mechanisms have led some scholars to recommend "pay-for-performance" compensation structures, which would compensate physicians based on the outcomes their patients experience.[84] Enormous geographical deviations in care,[85] high rates of avoidable injuries,[86] and physicians' widespread failure to follow evidence-based clinical guidelines[87] make it clear that medical care is often ineffective or dangerous. Outcome-based pay would provide physicians and medical care institutions with an incentive to improve quality of

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81. *See generally* Samuel H. Zuvekas & Steven C. Hill, *Does Capitation Matter? Impacts on Access, Use, and Quality*, 41 INQUIRY 316 (2004).

82. In the most famous of these, Kaiser Permanente, the HMO contracts with multispecialty physician groups, which pay physicians on a salary basis. *See* Ginny McPartland, *Southern California Pediatrician's Career Parallels KP's Quest for Best*, KAISER PERMANENTE (Apr. 18, 2012), http://kaiserpermanentehistory.org/latest/southern-california-pediatrician%E2%80%99s-career-parallels-kp%E2%80%99s-quest-for-best/.

83. *See* Begoña Garcia Mariñoso & Izabela Jelovac, *GPs' Payment Contracts and Their Referral Practice*, 22 J. HEALTH ECON. 617, 619 (2003); *see also* Shea v. Esensten, 107 F.3d 625, 627 (8th Cir. 1997).

84. *See, e.g.*, David A. Hyman & Charles Silver, *You Get What You Pay for: Result-Based Compensation for Health Care*, 58 WASH & LEE L. REV. 1427, 1446–48 (2001). Most proponents of outcome-based payments believe that such payments should be adjusted for patient-specific health indicators, so that physicians will not try to avoid sicker patients who, because they are sick, are likely to experience worse outcomes on average. Hyman and Silver provocatively suggest that physicians should be compensated based on *non*-risk-adjusted outcomes to incentivize them to screen out patients unlikely to benefit from treatment, much the same way that contingent-fee plaintiff lawyers screen out weak cases from litigation. *Id.* at 1466–67. Although the approach could help reduce the provision of inefficient care, the problem is that it will be efficient to provide many treatments ex ante even for patients less likely than others to enjoy good outcomes. By rendering this group of patients less profitable, Hyman's suggestion would likely lead to one of two results: if payments to physicians are low, many unhealthy patients for whom treatment would still be cost-justified would be unable to obtain care; if physician reimbursements were high enough that doctors would still be willing to treat the relatively sick for whom treatment was efficient, doctors who cherry picked the relatively wealthy would be grossly overcompensated, thus encouraging providers to spend more time screening for more profitable patients and less time actually treating.

85. *See, e.g.*, Elliott S. Fisher & John E. Wennberg, *Health Care Quality, Geographic Variations, and the Challenge of Supply-Sensitive Care*, 46 PERSP. BIOLOGY & MED. 69, 77 (2003) (summarizing research on geographic variation of care within the United States).

86. *See, e.g.*, INST. OF MED., TO ERR IS HUMAN: BUILDING A SAFER HEALTH SYSTEM 26 (Linda T. Kohn et al. eds., 2000).

87. *See, e.g.*, Elizabeth A. McGlynn et al., *The Quality of Health Care Delivered to Adults in the United States*, 348 NEW ENG. J. MED. 2635, 2643–44 (2003).

care: to invest more effort in learning what treatments are most effective and in avoiding medical errors and iatrogenic injury. If outcome-based pay would provide an impetus for increased quality, this mechanism would be a step toward more efficient resource allocation. Pay-for-performance compensation would eliminate the financial incentive that providers have to provide completely useless—and even potentially harmful—tests and treatments because such activities would not increase provider compensation. Unnecessary and affirmatively dangerous interventions would fail any cost–benefit test.

Unfortunately, outcome-based compensation would do little to mitigate the physician moral hazard problem unless it adjusted for the cost of achieving particular outcomes. Pay-for-performance compensation would still incentivize physicians to recommend all care with a positive expected value, regardless of its cost, as long as they did not personally bear that cost. Pay-for-performance compensation could produce its desired incentive effect only if a physician who ordered a treatment program internalized *all* related costs: medical support staff, assistance from other medical specialists, tests, prescription drugs, etc. Legislative encouragement for Accountable Care Organizations ("ACOs"), included in the ACA,[88] edges in this direction by creating incentives for the formation of provider groups that would bear all the costs of a patient's care.[89]

B. *The Problems with Even Economically Optimal Physician Incentives*

The successful development of ACOs, or similar institutional structures, would create a different problem. Compensating cost-effective medicine in such a world would incentivize physicians to break trust with their patients.[90] A patient with a contractual right to all "medically necessary" care, as almost all health insurance policies promise,[91] would presumably want his physician to recommend the most effective treatment, whatever its cost.

This conflict of interest would create its own set of secondary incentive problems. Patients would eventually learn which doctors were recommending all efficacious treatments that would be covered by insurance and which doctors were responding to payment incentives to promote only cost-justified interventions. Assuming that patients could distinguish the payment-focused physicians from the patient-focused physicians, the former group would have a difficult time attracting patients in the long run. Pay-for-performance compensation would thus likely create a marketing problem, in addition to an ethical problem, for physicians.

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88. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 3022, 124 Stat. 119, 395 (2010).

89. *See Health Policy Brief: Next Steps for ACOs*, Health Aff., 2 (Jan. 31, 2012), http://healthaffairs.org/healthpolicybriefs/brief_pdfs/healthpolicybrief_61.pdf.

90. *See* M. Gregg Bloche, The Hippocratic Myth 108 (2011) (calling it "betrayal" for doctors to take money for not pursuing pricey treatment options and "toxic to the doctor–patient relationship").

91. *See infra* Section IV.A.1.

Assuming that health insurance policies continue to cover all medically indicated care that is not specifically excluded, physicians who failed to identify the most effective treatment might also run a legal liability risk. Even if the treatment provided did not constitute malpractice, a failure to disclose high-cost but effective treatments could run afoul of informed consent or even fiduciary duty principles.[92] For example, a physician who recommends to a patient a much cheaper but slightly less efficacious treatment would invite a lawsuit for breach of fiduciary duty.[93] Insurers who sold coverage based on a "medically necessary" contractual standard and then incentivized physicians to recommend or provide less care could also be subject to tort and breach of contract claims.[94]

Furthermore, a pay-for-performance structure could only rationalize the allocation of resources to medical care on the assumption that physician utility functions are based solely on their financial self-interest. This proposition would strike all but the most unreconstructed of neoclassical economists devoted to rational choice theory as extremely unlikely on its face.

There is little doubt that physicians, like other members of society, prefer more wealth to less and are motivated to respond to financial incentives. But it has long been recognized that professional culture also matters in treatment decisions.[95] And the professional culture of physicians, beginning with the Hippocratic oath, emphasizes a duty to do everything possible to heal individual patients.[96] In contrast, the professional culture of medicine is notoriously resistant to cost-effectiveness principles[97] or, more generally, to

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92. In *Pegram v. Herdrich*, the U.S. Supreme Court dismissed a breach of fiduciary duty claim against an HMO physician whose patient suffered a burst appendix after the delay of a diagnostic test, on the ground that the cause of action was duplicative of the plaintiff's malpractice claim. 530 U.S. 211, 214–18 (2000). Some judges, however, have recognized the possibility that the self-interested treatment recommendations that physicians provide could run afoul of fiduciary obligations even while falling short of malpractice. *See, e.g.*, Neade v. Portes, 739 N.E.2d 496, 506–08 (Ill. 2000) (Harrison, J., dissenting).

93. *See* Moore v. Regents of the Univ. of Cal., 793 P.2d 479, 483–85 (Cal. 1990) (discussing breach of fiduciary duty claims against physicians based on the physician's undisclosed financial interests). *But see Neade*, 739 N.E.2d at 502–03 (arguing that breach of fiduciary duty claims are duplicative of informed consent and medical malpractice); D.A.B. v. Brown, 570 N.W.2d 168, 171 (Minn. Ct. App. 1997) (holding that lawsuit related to "kickbacks" received by physician sounded in medical malpractice rather than breach of fiduciary duty).

94. *See, e.g.*, Shea v. Esensten, 107 F.3d 625 (8th Cir. 1997) (holding that HMO's failure to disclose financial incentive plan was a breach of fiduciary duty); *see also* Weiss v. CIGNA Healthcare, Inc., 972 F. Supp. 748 (S.D.N.Y. 1997) (holding that HMO's prevention of physicians from advising patients of appropriate treatment plans was a breach of fiduciary duty but that providing financial incentives to physicians in order to ration care did not violate a fiduciary duty and that HMO's fiduciary duty imposed by the Employee Retirement Income Security Act ("ERISA") did not require disclosure of the incentive practice).

95. *See, e.g.*, Kenneth J. Arrow, *Uncertainty and the Welfare Economics of Medical Care*, 53 AM. ECON. REV. 941, 961–62 (1963).

96. *See* Schneider & Hall, *supra* note 40, at 32–33 (discussing the professional norm of "Hippocratic individualism").

97. *See id.* at 33–34 ("[F]oregoing care to conserve costs conflicts with much that is elemental in the training and culture of doctors.").

serving the collective needs of the community as a whole at the expense of identifiable individuals.[98] Inculcation into this professional culture means that a large number of physicians will do everything possible to help individual patients, even if interventions are not cost-effective according to a global standard of efficient resource allocation.[99] This is likely to be true even when doing so would affect physicians' paychecks, at least within limits.[100]

Changing the structure of physician payments can help reduce the cost of medical care, and thus improve efficiency, if it can incentivize physicians to stop recommending completely ineffective or dangerous care. But focusing only on physician financial incentives is not likely to reduce care that has a positive expected benefit but is not cost-effective.

IV. Relative Value Health Insurance

Rather than hoping against evidence that patients will be able to make optimal resource-allocation decisions at the point of service or offering financial incentives to physicians to break trust with their patients, a better approach to rationalizing the amount of resources allocated to medical care would be to facilitate patient contracting for different depths of medical care when purchasing insurance coverage, before treatment is needed. I call insurance coverage fashioned in this way "relative value health insurance" ("RVHI"). Patients who wish to devote relatively fewer resources to medical care and more to competing goods and services could purchase relatively shallow insurance that covers only the most cost-effective medical interventions; patients who wish to devote relatively more resources to medical care could purchase insurance that would cover increasingly less cost-effective interventions.

For this ex ante, contractual approach to succeed, however, careful attention must be paid to the choice architecture of the decisionmaking process. Complex information concerning what medical interventions would and would not be covered by different insurance products must be presented in a way that is tractable enough to enable boundedly rational consumers to make purchasing decisions that reflect their individualized preferences for

98. *See* Bloche, *supra* note 90, at 10.

99. *See* Avraham, *supra* note 26, at 561 (calling overtreatment resulting from a good-faith desire to do everything possible to help patients "[c]ost-apathetic medicine"). Even cost-apathetic physicians are implicitly somewhat sensitive to cost, as extremely expensive tests and treatments with very little benefit will often fail to become a part of customary practice. *Cf.* Bloche, *supra* note 90, at 40 (noting that an expensive breast MRI is considered appropriate only for patients with a high risk of breast cancer, even though, in theory, the test could provide some positive expected value for low-risk patients).

100. The size of the effect would undoubtedly be sensitive to the significance of the personal cost involved. A reasonable hypothesis seems to be that physicians satisfice, emphasizing additional income until they reach a target level but then valuing other goods. *See* Richard G. Frank, *Behavioral Economics and Health Economics*, *in* Behavioral Economics and Its Applications 195, 197–99 (Peter Diamond & Hannu Vartianinen eds., 2007).

allocating their resources between medical care and other goods and services. This function can be satisfied by the government better facilitating private contracting for health insurance by producing and analyzing comparative effectiveness research, using funding already provided by the ACA as a starting point.

A. *The Legal Status of Relative Value Health Insurance*

1. Limitations on Ex Post Utilization Review

An important feature of the "managed care" revolution in the provision of medical care, which reached its high-water mark in the 1990s,[101] was the widespread institution by health insurance companies of "utilization review." With medical care cost exploding and nearly all health insurance contracts written to cover "medically necessary" care,[102] insurance contracts began to require that the insurer pre-approve certain interventions to ensure that the prospective procedures were, in fact, medically necessary. Through utilization review, insurers became willing to deny coverage to policyholders for treatments recommended by their physicians, a practice that was exceedingly rare prior to the rise of managed care.[103]

As part of the public backlash against managed care cost-containment efforts,[104] forty-four states and the District of Columbia enacted "external review" statutes,[105] which give patients the right to challenge an insurer's medical necessity-based denials of care in a quasi-judicial procedure.[106] Prevailing patients are entitled to an order requiring the insurer to provide or pay for the requested treatment.[107] In most jurisdictions, external reviewers determine medical necessity de novo and based on a statutory definition of medical necessity, rather than merely applying an insurer's definition of the term (if the insurer even defines the term, which insurers often do not).[108]

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101. *See* Nan D. Hunter, *Managed Process, Due Care: Structures of Accountability in Health Care*, 6 Yale J. Health Pol'y L. & Ethics 93, 121 (2006) (noting that from 1992 to 1998, enrollment in "managed care" forms of health insurance increased by over 50 percent).

102. *See* E. Haavi Morreim, Holding Health Care Accountable 47 (2001).

103. *See* Bloche, *supra* note 90, at 105.

104. *See* Mark A. Hall, *State Regulation of Medical Necessity: The Case of Weight-Reduction Surgery*, 53 Duke L.J. 653, 664 (2003) (identifying from interviews that "public backlash" is one reason for insurers becoming "'managed care lite'—i.e., scaling back on the list of procedures that require medical necessity review prior to treatment").

105. *An Update on State External Review Programs, 2006*, AHIP Center for Pol'y & Res., app. B at 8 (July 2008), www.ahip.org/PDFs/StateExternalReviewReport.pdf.

106. The breadth of these statutes varies, but all permit patients to challenge treatment requests declined on the basis that they were not medically necessary. Hunter, *supra* note 101, at 129. The U.S. Supreme Court upheld the enforceability of these statutes when they were challenged as preempted by the federal ERISA regime. Rush Prudential HMO, Inc. v. Moran, 536 U.S. 355, 359 (2002).

107. Hunter, *supra* note 101, at 136.

108. *See* Hall, *supra* note 104, at 666 ("[F]or the most part, insurers . . . cannot enforce [individualized medical necessity standards] when a case goes to external review . . . .."). A

According to most statutory definitions, medical necessity depends entirely on whether a treatment has any clinical efficacy, regardless of the magnitude of the benefit. The relevant standards rarely include any hint of cost–benefit balancing or consideration of cost-effectiveness, except to the extent that a treatment is not considered "medically necessary" if there is an equally efficacious treatment available (presumably at a lower price).[109] Consequently, health insurers have little if any legal space to mitigate moral hazard by refusing to cover low value treatments at the point of service.

Consistent with this legal structure, health insurers now generally pay for any treatment recommended by a treating physician that offers the potential for any positive clinical benefit unless explicitly excluded from the contractual scope of coverage.[110] When insurers do deny a physician's treatment proposal and subsequently defend their position to external review boards, the issue is nearly always either whether the disputed treatment is at all effective for treating the patient's condition[111] or whether a requested procedure is cosmetic or lifestyle-related rather than medical in nature.[112] Bariatric surgery, breast reduction surgery, Viagra prescriptions, residential care, and power-operated wheelchairs are frequent subjects of dispute. The available evidence suggests that it is now rare for a private insurer to refuse to cover a physician-recommended treatment with expected clinical benefits

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handful of state statutes instruct the reviewer to apply the insurer's standard. *See* Alaska Stat. § 21.07.050(d)(1) (2012); Ariz. Rev. Stat. Ann. § 20-2537(E) (2013); Kan. Stat. Ann. 40-22a15(c) (Supp. 2012); Or. Rev. Stat. § 743.862(2) (2011); Wis. Stat. Ann. 632.835(3m) (West 2004 & Supp. 2012).

109. California's statute, for example, states that medical necessity must be determined based on the evidence of a service's effectiveness, expert opinion, standards of medical practice, and a treatment's likelihood of providing a benefit to the patient for which other treatments are not clinically effective. Cal. Health & Safety Code § 1374.33(b) (West Supp. 2013). North Carolina appears to be one exception to this trend. *See* N.C. Gen. Stat. § 58-3-200(b) (2011).

110. Hall, *supra* note 104, at 655, 658, 671 ("Insurers have largely abandoned their direct attempts to limit the utilization rate for most medical procedures."); *see also* Peter J. Neumann, Using Cost-Effectiveness Analysis to Improve Health Care 24 (2005).

111. Even denials on this basis are risky in light of external review statutes that impose a relatively low standard of proof on the patient. Gregg Bloche describes a recent HealthNet plan denial of a physician-recommended unusual treatment on the ground that there was insufficient proof of its efficacy. Bloche, *supra* note 90, at 21, 28 (footnote omitted). The denial was subsequently overturned on independent review notwithstanding Bloche's analysis that the scientific basis for the treatment included "flawed studies published in second-line journals . . . . [with] methodological deficiencies [that] left lots of room for quibbling." *Id.*

112. *E.g.*, Hall, *supra* note 104, at 658 ("Medical necessity review is now taking place mainly at the margins, focusing on treatments that might be considered cosmetic, custodial, or lifestyle enhancing rather than medically indicated."). Bariatric surgery, breast reduction surgery, Viagra prescriptions, residential care, and power-operated wheelchairs are frequent subjects of dispute. *See, e.g.*, Carole Roan Gresenz & David M. Studdert, *External Review of Coverage Denials by Managed Care Organizations in California*, 2 J. Empirical Legal Stud. 449, 457 tbl.1 (2005) (breaking down California external review challenges by service type); *see also* Hall, *supra* note 104, at 655–62 (discussing the dispute over bariatric surgery across jurisdictions).

that is not specifically excluded by contractual language on the ground that the treatment is not cost-justified.[113]

There is a strong public policy justification for limiting the ability of insurance companies to deny coverage through utilization review conducted at the point of treatment. Insurance companies that sell mid-quality health care at a mid-range price could plausibly use the utilization review process to deny even mid-quality medical care to their customers. If permitted the discretion to judge "medical necessity" after receiving customers' premium dollars, insurance companies would face a clear conflict of interest: the more treatments they deny, the more dollars would flow to their bottom lines.[114] Put another way, aggressive ex post utilization review could mitigate patient moral hazard but at the cost of creating insurer moral hazard; insurers have an incentive to provide too little medical care because they benefit from cost savings while patients bear much of the cost of not receiving treatments.

This type of moral hazard is typically mitigated in markets by the desire of sellers to please their customers and earn repeat business.[115] For example, an automobile manufacturer's desire for a previous customer to return when it is time to buy his next car limits its incentive to cut costs on the assembly line. A company that advertises high-quality cars and delivers lemons will not win much repeat business. But the market force that limits moral hazard is weaker in health insurance markets. Because the profitability of serving a customer depends on how much medical care he demands in a given year, and because the correlation between the cost of caring for a patient in one year and in future years is positive, an insurance company's bottom line will often benefit if customers who ask for expensive treatments this year decide to take their business elsewhere in the future.[116]

Although understandable, the legal limits placed on utilization review by external review laws have the unfortunate consequence of requiring consumers to purchase "Cadillac"-quality health care at a Cadillac price, even if they would prefer to purchase "Chevrolet"-quality health care at a more modest price.[117] This limitation of options works out well for two groups: wealthy individuals who are able to purchase deep medical care coverage without liquidity constraints forcing them to skimp on other highly valued goods services, and those consumers who place a particularly high subjective value on even marginally beneficial health care compared to the other goods and services that they might have to forgo because medical care consumes so

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113. Neumann, *supra* note 110, at 25.

114. *See* Russell Korobkin, *The Efficiency of Managed Care "Patient Protection" Laws: Incomplete Contracts, Bounded Rationality, and Market Failure*, 85 Cornell L. Rev. 1, 35 (1999).

115. *See, e.g.*, Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. Chi. L. Rev. 1203, 1240 (2003).

116. Korobkin, *supra* note 114, at 40–41.

117. Clark C. Havighurst, Health Care Choices: Private Contracts as Instruments of Health Reform 5 (1995).

much of their income. External review laws have the consequence of requiring consumers who would prefer cheaper and less comprehensive coverage to buy deeper coverage than they wish to purchase or go without any coverage at all. With the new ACA "individual mandate," most people who choose the latter option will now be fined.[118]

2. Ex Ante Exclusions

The legal limitations on point-of-treatment utilization review by insurers contrast starkly with the fact that, in most cases, insurers may legally refuse to pay for interventions that are explicitly excluded by the insurance contract.[119] A patchwork of state "mandated benefits" laws requires insurers to cover specified categories of treatments.[120] Pre-ACA federal law includes a handful of private insurance treatment mandates,[121] and the ACA requires that a set of minimum benefits be included in all insurance policies sold in the individual and small-group markets.[122] Beyond these mandates, however, insurers may legally exclude specified interventions from coverage, and courts routinely uphold their right to do so as a matter of freedom of contract.[123]

Many insurance plans come with pharmaceutical "formularies," for example, whereby drugs in more favored coverage "tiers" require lower patient copayments, and drugs in less favored tiers require higher copayments or are even excluded from coverage altogether.[124] Using an emerging practice known as value-based insurance design ("VBID"),[125] insurance companies

118. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 1501, 124 Stat. 119, 242 (2010) (titled "Requirement to maintain minimal essential coverage").

119. *See* Hall, *supra* note 104, at 669 (noting that the exclusion of specific treatments succeeds by "keep[ing] the issue away from external reviewers").

120. Employer-sponsored self-funded health plans, in which the employer retains the risk rather than purchasing third-party insurance, are exempt from state-level benefits mandates as a consequence of the preemptive effects of ERISA. *See* Russell Korobkin, *The Battle over Self-Insured Health Plans, or "One Good Loophole Deserves Another"*, 5 YALE J. HEALTH POL'Y L. & ETHICS 89, 89 (2005).

121. For example, private insurance policies must cover the cost of new mothers spending forty-eight hours in the hospital postpartum and ninety-six hours following a Cesarean-section delivery. Newborns' and Mothers' Health Protection Act, 29 U.S.C. § 1185(a) (2006).

122. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 1302, 124 Stat. 119, 163 (2010).

123. There are known examples of neutrals hearing appeals of treatment denials under state external review laws ordering an insurer to cover a treatment deemed "medically necessary" even though it is clearly excluded from coverage by the policy. *See* Gresenz & Studdert, *supra* note 112, at 464–65. These decisions, however, are clearly outliers and are not justified by external review statutes themselves. Hall, *supra* note 104, at 667–68.

124. *See* Neumann et al., *supra* note 66, at 30–31 (describing this phenomenon and observing that a Boston health insurance program assigns medications to one of three tiers, with Tier Three drugs either requiring the highest copayment or being excluded from coverage altogether).

125. *See* Michael E. Chernew et al., *Value-Based Insurance Design*, HEALTH AFF., w195 (Jan. 30, 2007), http://content.healthaffairs.org/content/26/2/w195.full.pdftml.

and self-insured employers have experimented with offering reduced or even zero copayments for prescription drugs that, when taken as directed, are particularly likely to reduce future health care costs.[126] And, of course, health insurers can and do limit coverage to care provided by hospitals and physicians within their provider network or require greater cost sharing if a patient chooses to go "out of network" for treatment.[127] By limiting drug formularies and practitioner networks to those drugs and providers offering insurers the greatest discounts, insurers can try to use bargaining leverage to negotiate lower prices for covered services.

Against this background, there is no impediment, in theory, to insurers excluding from coverage treatments that fail to satisfy a cost–benefit test, as long as the exclusions can be adequately specified at the time of contracting. Further, there is no impediment to insurers offering multiple products, priced differently, that exclude from coverage specifically enumerated categories of care.

B. *The Information Problem*

If insurance companies may legally sell health insurance that covers only cost-effective treatments, why does no such product exist in the marketplace? The primary impediment to the sale of health insurance that covers only cost-effective interventions appears to be the difficulty of adequately specifying the relevant coverage exclusions ex ante.[128] There are three related problems:

First, there is very little solid information about even the basic effectiveness of most medical interventions—according to some estimates, there is scientific evidence for the efficacy of less than half the treatments doctors recommend.[129] Even clinical practice guidelines are notoriously based on consensus opinion rather than scientific fact.[130] There is even less information about the comparative effectiveness of alternative plausible interventions.[131] Even when the law requires a treatment, such as a new pharmaceutical, to obtain regulatory approval before being marketed, its

126. *See, e.g.*, Niteesh K. Choudhry et al., *Assessing the Evidence for Value-Based Insurance Design*, 29 HEALTH AFF. 1988, 1990–91 (2010).

127. *See, e.g.*, PETER R. KONGSTVEDT, THE MANAGED HEALTH CARE HANDBOOK 31 (4th ed. 2001).

128. *See* NEUMANN, *supra* note 110, at 145 (noting that "practical limits on the details specified in contracts" impede insurers contracting with patients from considering cost-effectiveness as part of coverage decisions); Baicker & Goldman, *supra* note 22, at 52 ("[I]t is impossible to write down contingent contracts that cover the infinite array of health outcomes.").

129. INST. OF MED., LEARNING WHAT WORKS BEST: THE NATION'S NEED FOR EVIDENCE ON COMPARATIVE EFFECTIVENESS IN HEALTH CARE (2007), *reprinted in* LEIGHANNE OLSEN ET AL., INST. OF MED., LEARNING WHAT WORKS: INFRASTRUCTURE REQUIRED FOR COMPARATIVE EFFECTIVENESS RESEARCH 333, 341 (2011).

130. Saver, *supra* note 20, at 2172; Pierluigi Tricoci et al., *Scientific Evidence Underlying the ACC/AHA Clinical Practice Guidelines*, 301 JAMA 831, 833 (2009).

131. *Cf.* Saver, *supra* note 20, at 2150 & n.7.

producers usually must demonstrate only that it is safe and effective relative to a placebo rather than comparatively effective vis-à-vis other treatment options for the same condition. This dearth of information makes it extremely difficult for any insurer interested in marketing a policy that covers treatments that satisfy a cost-effectiveness standard to identify ex ante which treatments are, in fact, cost-effective.

Scholars have long advocated for insurers to contract to provide care that satisfies a well-specified cost–benefit algorithm, which the insurer would then apply at the point of treatment.[132] This creative idea has fallen on deaf ears in the marketplace, probably because the lack of good data would likely subject any insurer's attempt to apply the algorithm to second-guessing, charges of moral hazard, and lawsuits.

Second, the measures of marginal effectiveness of competing interventions are dynamic; the measures can change quickly when new effectiveness data is produced, when new interventions are developed, or when the market changes (such as when a drug goes off-patent). Even if an insurer could fully specify cost-effective interventions at the time of contracting, the lag time between contracting and use of services would mean that, at the point of treatment, a policy would cover some no-longer-cost-effective interventions and would not cover some now-cost-effective interventions.

Third, a detailed list of covered and excluded interventions would provide far too much information for boundedly rational consumers to take into account at the time of contracting. Consumers have the working memory to take into account only a handful of attributes when making purchasing decisions, and they almost invariably selectively consider only the most salient product attributes when bombarded with information.[133] Except for patients with significant preexisting conditions, there would be an extremely low probability that any potential condition-intervention pair would become relevant during the policy period. This suggests that consumers are likely to ignore most detailed coverage information. If consumers did not incorporate information provided at the time of contracting into their purchase decisions, the same reverse moral hazard problem associated with post-contractual utilization review would exist: insurers would have a profit incentive to claim to provide cost-effective care but actually not provide even cost-effective care.[134]

C. *CER and Relative Value Ratings*

These informational impediments that prevent insurers from marketing insurance policies that cover only cost-effective treatments can only be overcome with a significant investment in "comparative effectiveness research"

132. *See, e.g.*, Havighurst, *supra* note 117, at 93–96; Einer Elhauge, *Allocating Health Care Morally*, 82 Calif. L. Rev. 1449, 1502–04 (1994).

133. Korobkin, *supra* note 115, at 1222–34.

134. *Cf. id.* at 1234–44 (analyzing the market consequence of consumers not considering product attributes in their decisionmaking behavior).

("CER"). The goal of CER is to provide a firmer scientific understanding of the relative clinical benefits of competing medical treatments, services, and interventions.[135] The American Recovery and Reinvestment Act of 2009 (commonly known as the "stimulus bill") provided $1.1 billion to three agencies to conduct CER.[136] The ACA doubled down on this investment, providing $500 million annually beginning in 2013 to 2014.[137]

The stimulus bill created a federal commission called the "Council for Comparative Effectiveness Research" to coordinate CER among federal agencies and tasked the Institute of Medicine ("IOM") with recommending research priorities.[138] The IOM quickly provided a list of 100 "top priority" topics for CER, including many studies that would explicitly compare alternative treatments for common medical conditions.[139] The ACA then changed the administrative structure, replacing the Council with a private nonprofit organization called the Patient-Centered Outcomes Research Institute ("PCORI").[140] PCORI is now charged with setting CER priorities.[141] Its governing board includes government officials and representatives of various stakeholder groups, such as patients, physicians, insurers, and manufacturers of drugs and medical devices, but it is required to ensure peer review of the research it funds and may appoint expert advisory panels.[142]

How the information generated by CER is used is critical to its potential to help rationalize health care spending. One way CER can reduce health care costs is by supplying providers with better information about which treatments either do not work at all or provide no marginal benefits relative to cheaper interventions. As President Obama put the point in 2009, "[I]f there's a blue pill and a red pill, and the blue pill is half the price of the red pill and works just as well, why not pay half price for the thing that's going to make you well?"[143]

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135. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 6301, 124 Stat. 119, 727 (2010).

136. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 804, 123 Stat. 115; *see also Comparative Effectiveness Research Funding*, HHS.gov/Recovery, http://www.hhs.gov/recovery/programs/cer/ (last visited Sept. 15, 2013).

137. Patient Protection and Affordable Care Act §§ 6301(d)–(e) (2010).

138. *See* Patrick H. Conway, *How the Recovery Act's Federal Coordinating Council Paved the Way for the Patient-Centered Outcomes Research Institute*, 29 Health Aff. 2091, 2091 (2010).

139. Comm. on Comparative Effectiveness Research Prioritization, Inst. of Med., Initial National Priorities for Comparative Effectiveness Research 97–138 (2009).

140. Patient Protection and Affordable Care Act § 1181(b)(1) (2010).

141. *Id.* § 1181(d)(1).

142. *Id.* §§ 1181(d)(4), 1181(d)(7), 1181(f).

143. *Transcript: President Obama's News Conference on Health Reform*, Kaiser Health News (July 22, 2009), http://www.kaiserhealthnews.org/Stories/2009/July/22/ObamaTranscript.aspx (providing the transcript of President Obama's news conference).

As impeccable as the logic of this point may be, however, eliminating treatments that have absolutely no marginal benefit is unlikely to significantly "bend the curve" of health care costs (that is, reduce the rate of health care inflation). But CER also has the potential to help reduce the provision of care that has a positive expected benefit but is not justified by its cost. By facilitating understanding not just of the absolute effectiveness of treatments but also of their *cost-effectiveness*, CER can provide the informational basis necessary for private insurers to sell RVHI.

For CER to facilitate RVHI, its findings should be used to assign scores to potential medical interventions for different conditions based on marginal costs and marginal benefits. I call such scores "relative value ratings," and I propose that they range from a high score of "1" (extremely cost-effective) to a low of "10" (not at all cost-effective), although other scales would be plausible as well. As an illustration of how the ratings scale would work, consider the following three examples:

* Standard treatment regimens for cardiovascular disease are understood as one of the great success stories of improved medical technology in the second half of the twentieth century. In 2004, health economist David Cutler estimated that the expected lifespan of an average forty-five-year-old would increase by 4.5 years as a result of this technology, at a total cost of about $30,000.[144] This intervention—or set of interventions—would likely earn the highest possible relative value rating of "1" for patients with relevant symptoms.

* At the other end of the relative value spectrum, consider an intervention that harkens to President Obama's example of the two different colored pills with identical effectiveness and radically different prices. According to an executive of a health insurance company, the brand-name acne medication, Minocin PAC, retails for $668 per month, which is $618 more than the generic equivalent. The brand-name product is distinguished only by the inclusion of an ingredient designed to have a soothing effect on the user's skin.[145] This medication, which offers a minimal marginal benefit and comes at a very high cost compared to the alternative, would presumably earn a relative value rating of "10."

* In between these examples is lumbar discectomy, a common surgical procedure for patients with herniated spinal discs.[146] In a recent study, 1,191 surgery-eligible patients with herniated discs were randomly assigned to receive either surgery or nonsurgical medical management. The researchers measured the benefits (i.e., reduced pain, increased physical mobility) and costs (direct and indirect, including lost labor productivity) for each group

144. David M. Cutler, Your Money or Your Life: Strong Medicine for America's Health Care System 48–56 (2004).

145. *This American Life: Someone Else's Money: One Pill Two Pill, Red Pill Blue Pill* (radio broadcast Oct. 16, 2009), *available at* http://www.thisamericanlife.org/radio-archives/episode/392/someone-elses-money?act=1#play.

146. Anna N.A. Tosteson et al., *The Cost Effectiveness of Surgical* Versus *Nonoperative Treatment for Lumbar Disc Herniation over Two Years*, 33 Spine 2108, 2108 (2008).

for a two-year period.[147] The analysis revealed a slight marginal benefit of surgery, on average, but at a much higher cost. Consequently, the researchers calculated that the cost of surgery per marginal "quality-adjusted life year" ("QALY") is slightly more than $69,000 for patients younger than age sixty-five.[148] Based on this data, lumbar discectomy for a herniated disc would likely receive a middling relative value rating—perhaps a "5."

In a perfect world, all relative value ratings would be based on the results of randomized, double-blind experiments—the "gold standard" of medical research.[149] Realistically, however, the rating authority would usually have to rely on less definitive sources of scientific evidence, including retrospective analyses of clinical data. Many relative value ratings would apply to all patients with a particular condition, but different subgroups could receive different ratings when justified by the best available evidence. For example, a particular treatment with a score of "5" for an average patient might be awarded a score of "3" for patients who have a comorbidity that makes the treatment more likely to benefit them.

With an established set of relative value ratings issued by an expert group, whose members would not profit from higher or lower health care expenditures, insurance companies would be able to contract with patients for health insurance that pays for care rated at or above a specified relative value score. A Level 8 policy—i.e., one that covers all interventions rated "8" or better—would cover a deeper array of treatments than would a Level 3 policy. A Level 8 policy would also cost more, of course. The market would set the precise difference in price, determined by each health insurer's projections of the difference in its cost of covering the relevant array of interventions for a subscriber population.

With relative value ratings available to enable insurers to specify different depth of care levels at the time customers make insurance purchasing decisions, a variety of slightly different products could flourish, depending on consumer preferences. For example, rather than marketing policies that provide no coverage for treatments that fall below a specified relative value level threshold, insurers might choose to sell policies that offer some coverage for all rating levels but vary cost-sharing arrangements based on the rating level of treatments. Interventions rated a "1" might qualify for 100 percent payment, for example, whereas interventions rated a "10" might require a 50 percent copayment.

147. *Id.*

148. *Id.*

149. M. Gregg Bloche, *The Invention of Health Law*, 91 Calif. L. Rev. 247, 268–69 (2003).

D. *Relative Value Ratings and the ACA*

The subject of CER traditionally raises fears that the results will be used to "ration" medical care,[150] a term that has a history in the United States of striking a political death knell for any health care proposal.[151] Past attempts by the Health Care Financing Administration to explicitly consider cost-effectiveness as part of Medicare coverage decisions met with fierce political opposition and never became government policy, and even the suggestion that it would consider cost when two treatments offered equivalent benefits drew so much opposition that it failed to become law.[152] Oregon's highly publicized attempt to determine what services would and would not be covered by Medicaid based on cost-effectiveness criteria is largely viewed as a political disaster; it was quickly abandoned by Oregon itself and not imitated by any other state.[153] The 2003 Medicare Prescription Drug, Improvement, and Modernization Act forbids the government from using CER to withhold coverage of new drugs.[154]

Reflecting this aversion to rationing, the ACA also includes provisions designed to prohibit the use of CER as a basis for government determinations as to what medical interventions will be provided to either the privately or publicly insured populations.[155] The law explicitly provides that results of CER cannot be used to mandate coverage or reimbursement for private or public health insurance,[156] and it also prohibits the use of CER as the "sole[ ] . . . basis" of Medicare coverage denials.[157]

The fact that relative value ratings would empower individuals to make their own cost–benefit trade-offs, rather than aiding government officials in the rationing of care, should guarantee its legality under the ACA. The Act prohibits PCORI from using dollars-per-QALY statistics "as a threshold to

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150. *See, e.g.*, Michael F. Cannon, A Better Way to Generate and Use Comparative-Effectiveness Research 8 (2009), *available at* http://object.cato.org/sites/cato.org/files/pubs/pdf/pa632.pdf.

151. *See generally* Neumann, *supra* note 110, at 138–40 ("For the most part, U.S. policy makers haven't attempted to use [cost-effectiveness analysis in health care] for political reasons.").

152. *Id.* at 20–23, 149.

153. For an analysis of the Oregon Health Plan's experiment with using cost-effectiveness criteria in the 1990s, see *id.* at 58–70.

154. Medicare Prescription Drug, Improvement, and Modernization Act of 2003 § 622, 42 U.S.C. § 1395*l*(t)(6)(F) (2006) (barring regulations that apply a functional equivalence standard for innovative medical treatments). *See generally* Peter J. Neumann et al., *Medicare and Cost-Effectiveness Analysis*, 353 New Eng. J. Med. 1516, 1517 (2005) (noting that "a standard of functional equivalence applies a cost-effectiveness principle").

155. *See* Alan M. Garber & Harold C. Sox, *The Role of Costs in Comparative Effectiveness Research*, 29 Health Aff. 1805, 1806 (2010) (observing that critics of CER in the health care reform debate "raised the specter of rationing and government interference in patient care").

156. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 1182(c)(1), 124 Stat. 119, 740 (2010).

157. *Id.* § 1182(b).

establish what type of health care is cost effective or recommended,"[158] suggesting that there is no legal bar to using cost information for other, less directive purposes. And the Act explicitly authorizes the development of guidelines that permit insurers to "utilize value-based insurance designs."[159]

Unlike cost-effective analyses of medical treatments conducted under government auspices in other countries—the most well known being the United Kingdom's National Institute for Clinical Excellence ("NICE")[160]—relative value ratings would carry no recommendation as to whether health insurers should or should not provide the treatment. The rating would merely indicate that the relative value of the treatment is greater than interventions with worse ratings and less than interventions with better ratings. Patients would indicate whether they wish to expend resources on treatments that have a given cost–benefit profile through their health insurance purchasing decision. The end result is that the government, through CER, would provide the public good of information, while enabling individuals acting in markets to maximize their overall expected welfare through their purchasing decisions.

V. Advantages of Relative Value Health Insurance

The fundamental benefit of RVHI, enabled by relative value ratings, is its ability to help boundedly rational consumers to more rationally allocate their resources between medical care and other desirable goods and services. Secondary benefits of RVHI include aligning the interests of patients and physicians and providing incentives for the efficient innovation and pricing of medical care advances.

A. *Better "Choice Architecture" for Consumers Than CDHC*

In a world of hyper-rational individuals, people can be expected to make choices and express preferences that maximize their SEU and, assuming limited externalities, maximize social efficiency in so doing. The role for policymakers is to facilitate access to information. If individuals are incompetent decisionmakers, paternalistic intervention with substituted decisionmaking becomes appropriate.[161] When individuals are boundedly rational

158. *Id.* § 1182(e).

159. *Id.* § 2713(c).

160. Established in 1999, NICE provides recommendations to the UK's National Health Service as to whether it should cover the cost of new technologies, based in large part—but not entirely—on evidence of clinical effectiveness and cost-effectiveness. Neumann, *supra* note 110, at 99–100. In about half the cases, NICE reports the cost-per-QALY as part of the basis for its recommendation. *Id.* at 102. The government has the power to reject NICE's recommendations, but it has never done so. Steven D. Pearson & Michael D. Rawlins, *Quality, Innovation, and Value for Money: NICE and the British National Health Service*, 294 JAMA 2618, 2619 (2005).

161. If basic values and stable preferences are so heterogeneous that decisions that maximize SEU for one maximize SEU for all, substituted decisionmaking might be justified as a way to minimize transaction costs.

decisionmakers, the best policy response is often to structure choices in a way that helps decisionmakers to maximize accuracy at a realistic level of cost and effort.[162] This policy focus has been called "choice architecture,"[163] which reflects the fact that preferences are constructed (as an architect constructs buildings) rather than simply uncovered (as an archaeologist uncovers objects through excavation), and that it is possible for constructed choices to be more accurate or less accurate depending on how they are presented.[164] Creating the rating information that would facilitate RVHI can be understood as choice architecture that assists boundedly rational consumers in acting through private markets to register their preferences for allocating resources between medical care and other goods and services.

1. Complexity

Most obviously, RVHI would reduce the complexity individuals must navigate when making trade-offs between medical care and competing goods and services compared to point-of-treatment decisionmaking required under CDHC proposals. Rather than being asked to understand pros and cons of numerous treatment options, with difficult-to-compare attributes (such as mortality and various measures of morbidity) and a range of probabilistic outcome possibilities, consumers would need only to understand a single depth-of-coverage rating. They would then make resource-allocation decisions by trading off price against depth of coverage (i.e., a Level 4 policy for $4,000 per year, a Level 5 policy for $4,900 per year, or a Level 6 policy for $6,200 per year).

The extent to which consumers could accurately make the trade-off between the cost of insurance and depth of coverage depends not only on collapsing the virtues and vices of various medical interventions into a single metric but also on the ability of consumers to achieve a qualitative understanding of the different rating levels—that is, the difference in medical care they could expect by purchasing a Level 6 policy rather than a Level 5 policy. An important virtue of relative value ratings is that their qualitative nature can be communicated to consumers relatively readily. At the time of insurance enrollment, consumers could consult the current list of relative value ratings for all treatments, organized by condition, which would provide concrete examples of what interventions would be covered by policies set at different rating levels. Consumers would not need to understand the nuances of each intervention on the list; they would need only to skim the list to obtain a qualitative sense of the distinctions between rating levels. Whatever cost–coverage trade-off a consumer made, he would know that his premium dollars would cover the most relatively valuable medical interventions and would not cover those of relatively lesser value. Paying a higher

162. *See* Gregory et al., *supra* note 47, at 178–79.

163. *See generally* Thaler & Sunstein, *supra* note 16.

164. *See* Gregory et al., *supra* note 47, at 179.

price for deeper coverage would buy access to increasingly more marginally beneficial care.

2. Novelty

The novelty of the decisionmaking process required of consumers would also be significantly reduced under an RVHI regime compared to the CDHC model. With the exception of individuals with chronic illnesses, most medical treatment decisions are highly novel for patients; this novelty increases the difficulty that patients face in making accurate resource-allocation decisions.[165] In contrast, ex ante insurance purchasing decisions that require consumers to allocate resources between categories of consumption are far less novel. Furthermore, consumers would obtain experience each year in making this type of decision and would receive feedback on the consequences of that decision that would be useful in future years.

3. Points of Comparison

By collapsing the various attributes that together comprise the benefits of medical care into a single scaled rating, RVHI would reduce the likelihood that medical care choices will vary based on the vagaries of how information is presented. If patients are asked to make point-of-treatment purchase decisions, there is little hope of controlling or standardizing the presentation of information. If a physician or hospital provides many alternatives, or describes many attributes of alternatives, a patient is likely to selectively use only pieces of that information, and perhaps not the pieces most highly correlated with accurate decisionmaking.[166] If cost information is straightforward but treatment information is not, cost information might be salient, causing patients to favor the lower cost intervention; if cost information is complicated or uncertain and mortality information is straightforward, on the other hand, patients might be inclined to favor the choice that dominates on that attribute. RVHI, in contrast, enables the straightforward comparison of two numbers: a rating level, representing the depth of coverage, and a price.

4. Emotion-Laden Choices

When purchasing RVHI, some individuals might find it emotionally costly to trade off future access to medical care for themselves or their dependents against money, and thus might seek to adopt noncompensatory strategies for making the decision: for example, purchasing the most extensive coverage available (i.e., a Level 10 policy) regardless of price. But the emotional nature of cost–health trade-offs is likely to be less severe when the decisions are made ex ante, before services are required, rather than at the

165. *See supra* Section II.B.2.

166. *See supra* Section II.B.3.

point of treatment, when the potential costs of forgoing the most comprehensive treatment are highly salient and the potential costs of overinvesting in medical care at the cost of forgoing other goods and services are easier to overlook.

If a car buyer were to adopt a truly noncompensatory decisionmaking strategy, refusing to trade off health and safety against other attributes, he would purchase the safest possible car, whatever its cost. But few people actually behave in this way, regardless of their professed concern for safety. The RVHI-purchasing decision would probably resemble the car-purchasing decision to most consumers. It would be nice to have the promise of infinite and unlimited medical care, just as it would be nice to have the safest car that technology can produce. The reality, however, that resources are scarce and dollars spent on medical care cannot be spent on other things would likely encourage even boundedly rational decisionmakers to employ a consciously compensatory decisionmaking approach, leading to more efficient resource-allocation decisions.

B. *Aligning the Interests of Physicians and Patients*

A second important benefit of RVHI is that it can rationalize the amount of resources allocated to medical care without driving a wedge between the interests of physicians and patients. Unlike proposals to pay physicians based on the efficient use of resources, which would encourage them to compromise their fiduciary duties and undermine professional norms,[167] RVHI can reduce the inefficient overuse of medical care without causing doctors to stray from their sole focus on patient health.

Against the backdrop of RVHI, physicians could recommend whatever interventions they believe have the greatest expected clinical benefits. Such recommendations will then be mediated by patient preferences for allocating resources to medical care as opposed to other goods and services, as the level of insurance that they purchased ex ante reflects. In some cases, a physician will convey to a patient his belief that Treatment A is the most clinically desirable option, even though it is not covered by the patient's health insurance policy (or it is covered at a much higher level of cost sharing) because of its low relative value ranking.

C. *Efficient Incentives for Innovation and Pricing*

The moral hazard problem in health insurance creates incentives for inefficient investment in the development of new medical technologies. Since virtually all interventions with positive expected clinical benefits are covered by insurance, drug and device manufacturers profit handsomely by investing in marginal improvements over currently available technology.

167. *See supra* Section III.B.

Large numbers of patients and physicians will then demand this new technology, even if it is priced far above the value of those marginal improvements. Even worse, manufacturers have an incentive to invest in drugs and devices that are no better than what is currently available, so long as they believe that they can use advertising and marketing to convince physicians to recommend them or patients to demand them.[168]

In a world of RVHI, the market potential will be much larger for drugs and devices with a high marginal value compared to existing technology, either because they are significantly more effective or because they are equally effective but cost less. Although it is unclear what level of relative value coverage most Americans would purchase, it is certain that many more people would be insured for interventions rated "2" than for interventions rated "8." With market potential determined by relative value, manufacturers would have the incentive to focus their efforts in areas with the greatest potential for significant technological improvements, rather than, for example, spending to create "me too" drugs that are only mildly differentiated from currently available options.

RVHI would also create the conditions for the development of better information about the effectiveness of interventions, even beyond research that is publicly funded. Since drug and device manufacturers would need to demonstrate the relative value of their products to obtain a relative value rating, they would have an incentive to conduct research. But the advantages go beyond this. Researchers currently have difficulty enrolling subjects in clinical trials to test the efficacy of unproven treatments because patients can often obtain the treatments even without a scientific basis for their use.[169]

The best-known example is the case of autologous bone marrow transplants as a treatment for breast cancer. The treatment was eventually proven completely ineffective, but it took nearly two decades for researchers to conduct valid clinical trials because of the widespread availability of the treatment outside the trials.[170] Understandably, but unfortunately, few patients were willing to participate in a clinical trial, in which they might receive a placebo, when their insurance company would pay to provide the treatment.[171] A relative value rating system could increase the number of patients

168. *Cf.* Dominick L. Frosch et al., *Creating Demand for Prescription Drugs: A Content Analysis of Television Direct-to-Consumer Advertising*, 5 Annals Fam. Med. 6, 6 (2007) (finding that advertisements of prescription drugs to patients have "limited educational value" and can be harmful to population health).

169. When patients can easily obtain an active treatment, they will be reluctant to sign up for a controlled trial in which they may receive inert ingredients. *Cf.* Terrence F. Ackerman, *Therapeutic Beneficence and Placebo Controls*, Am. J. Bioethics, Jan.–Feb. 2007, at 21, 21–22 (discussing the thorny ethical as well as practical issues that placebo-controlled trials present and concluding that the risk of harm to subjects in the placebo condition results from the denial of best available therapy).

170. *See* H. Gilbert Welch & Juliana Mogielnicki, *Presumed Benefit: Lessons from the American Experience with Marrow Transplantation for Breast Cancer*, 324 BMJ 1088 (2002).

171. With insurance companies fearful of liability for nonpayment of bone marrow transplants to treat breast cancer, patients eschewed placebo trials studying the effectiveness of

willing to participate in clinical trials by granting new and unproven treatments administered within a clinical trial setting a provisional rating of "1" but refusing to assign a rating outside that setting.

Finally, RVHI would provide innovators with an incentive to keep prices low, even for patented innovations, because lower prices would translate into a higher relative value rating and, thus, a larger pool of potential customers. Take, for example, the patented drug Xolair, which is extremely effective at preventing asthma attacks when injected.[172] At a price of up to $30,000 per year for large doses, Xolair would earn a modest relative value score, since cheap, generic inhaled steroids can provide most of the same benefits if used every day.[173] At a lower price point, however, it could earn a much higher relative value rating, enabling its sale to patients with shallower health insurance coverage.[174]

VI. Obstacles

RVHI is conceptually superior to CDHC, pay-for-performance proposals, and current cost-control efforts that do not address the problem of moral hazard in health insurance. It promotes the efficient allocation of resources to medical care by relying on private individuals' market choices, rather than governmental fiat, but it does so by using governmental ratings to facilitate private decisions that it is reasonable to expect boundedly rational consumers to make with a high degree of accuracy. Notwithstanding the advantages, RVHI represents an imperfect, second-best structure for the allocation of social resources between medical care and other goods and services, and there are substantial challenges to implementing the basic concept. Although the details of creating an institutional structure to facilitate RVHI are beyond the scope of this Article, this Part briefly identifies some of the major implementation challenges and contends that, while significant, none render the approach impossible to implement.

A. *Creating the Ratings*

1. Getting from Here to There

Perhaps the most obvious practical problem with moving to a relative value system is the paucity of data with which to make relative value judgments. Even assuming that ratings could be based on data less definitive than double-blind, randomized, controlled studies of a broad cross-section

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bone marrow transplants, convinced that the active treatment would save their lives. *PBS NewsHour: A Questionable Cure: Bone Marrow Transplants* (PBS radio broadcast May 13, 1999), *available at* http://www.pbs.org/newshour/bb/health/jan-june99/bonemarrow_5-13.html.

172. Bloche, *supra* note 90, at 89–90.

173. *See id.*

174. In Australia, new, so-called "me-too" drugs can be listed on the national drug formulary but only at the price point of the equivalent item. Neumann, *supra* note 110, at 97–98.

of patients, there is currently insufficient information on which to base reasonably informed ratings for the vast majority of medical interventions.[175] This same problem helped doom Oregon's effort to employ a cost-effectiveness standard for determining Medicaid coverage in the 1990s.[176] It would take years of significant funding of the CER endeavor, plus a more efficient institutional structure for conducting CER, before we could hope to have good information for most treatments.[177]

While discouraging, this reality need not undermine the move to relative value ratings. The present lack of data might require that all commonly accepted treatments for which there is no good comparative effectiveness data be grandfathered into the system with a rating of "1." For new interventions to obtain a rating—necessary for reimbursement under relative value insurance policies—PCORI could require drug or device manufacturers to submit comparative effectiveness data. In the meantime, congressionally allocated funds for CER could fund relative value research on common conditions or treatments for which large sums of money are spent without the support of scientific evidence.

Launching a ratings system by giving the highest possible rating to interventions that we simply do not know enough about and thus cannot reasonably rate on a relative value scale will mean that, in the early years of RVHI, the moral hazard problem endemic in the medical system will still be severe. As time progresses and more new interventions come on line that are not grandfathered in at high ratings levels, the moral hazard problem will gradually recede. Although a delay in phasing relative value ratings into the health insurance system is not optimal, it is important to remember that, in the current state of the world, every intervention recommended by a doctor is essentially granted a relative score of "1" by health insurance plans, and the current system offers no hope of this ever changing. A phased-in system of relative value ratings offers the promise of bending the curve of health care costs over time, even if improvements would be gradual.

Other countries that have instituted some form of cost-effectiveness analysis into their health care systems have used this type of grandfathering. Australia, for example, began requiring cost-effectiveness data in 1992 for all *new* pharmaceuticals before the country's national drug formulary would consider providing them. It then added similar requirements for services, procedures, and diagnostics some years later.[178]

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175. *E.g.*, Schneider & Hall, *supra* note 40, at 22–23 ("'Evidence-based medicine' is today's watchword, but there is decent evidence for only a fraction (albeit a large fraction) of medicine. . . . [T]reatments' cost-effectiveness. . . . is even less available than information about efficacy.").

176. Neumann, *supra* note 110, at 64–65.

177. For a thoughtful essay on how to provide institutional support for large-scale CER, see Robert B. Giffin & Janet Woodcock, *Comparative Effectiveness Research: Who Will Do the Studies?*, 29 Health Aff. 2075 (2010).

178. Neumann, *supra* note 110, at 97.

2. Implicit Value Choices

Building a relative value rating system requires reducing disparate interventions for disparate conditions to a single scale of expected marginal benefits divided by marginal costs. There is no way around the fact that measuring the benefits side of the equation requires value judgments, and no basis for assigning a rating of "6" to one intervention and "7" to another will mirror the values of all concerned.

It might be noncontroversial to say that an intervention expected to extend life by an average of four years provides a greater benefit than one expected to extend life by only three years. But what if the latter intervention usually results in a higher quality of life during the shorter time period? And how, for example, should we compare the value of an intervention that tends to result in better cognitive functioning but less physical mobility to one with the opposite likely outcome? What methodology should we use to compare two interventions with similar average effects on mortality where one is subject to greater variation—such that some patients live much longer and some experience no benefit at all—and the other provides more predictable, intermediate benefits for all patients? Should we give more weight to an intervention expected to increase a patient's lifespan from one year to two years than one expected to increase a patient's lifespan from eight years to nine years? Should we give more weight to an intervention that is the only one available for a certain condition than one with several alternatives, on the ground that the former provides patients with the psychological benefit of hope that they otherwise would not have? The list of difficult value tradeoffs could go on.[179]

It is a partial answer to say that health services researchers routinely compare the benefits of incommensurable interventions by converting them to a metric of QALYs, which take into account mortality and quality-of-life indicia such as pain, illness, and disability.[180] But this is only a partial response. First, different elicitation measures will yield different results in QALY calculations, and social scientists have yet to reach consensus on a single methodology.[181] Even more significantly, though, any methodology for determining the expected value of an intervention in terms of QALYs would necessarily compromise one of the supposed virtues of RVHI: that whatever level of coverage an individual might purchase, he would know that he was entitled to all care that was *more* cost-effective. By choosing a

179. *See generally id.* at 55 (noting that "researchers have long struggled" with how to reconcile preference variations within a population when measuring the cost-effectiveness of medical treatments).

180. *See* Garber & Sox, *supra* note 155, at 1806 ("Health benefits are typically measured by the additional quality-adjusted life-years (QALYs) produced by an intervention."); Peter J. Neumann & Milton C. Weinstein, *Legislating Against Use of Cost-Effectiveness Information*, 363 New Eng. J. Med. 1495, 1495 (2010) ("QALYs provide a convenient yardstick for measuring and comparing health effects of varied interventions across diverse diseases and conditions.").

181. Neumann, *supra* note 110, at 31–34 (describing methodological differences).

low-cost policy, that customer would understand that very expensive treatments that reduce mortality or morbidity only modestly, or that have only a very small chance of reducing mortality or morbidity, would not be covered, but he would believe that treatments with the greatest bang for the buck would be covered. Since individuals often value different types of benefits differently,[182] however, it is possible that a given patient might find himself covered for an intervention that (to him) offers modest cost-adjusted expected value and not covered for an intervention that (to him) has much greater cost-adjusted expected value.

The justification for this result is the need to balance between optimizing the theoretical potential for maximal efficiency and creating decision-making environments that are manageable for boundedly rational actors. Creating a system in which individuals could fully optimize their allocation of resources between medical care and competing goods and services would require providing detailed and nuanced information about the distinct benefits of various interventions.[183] Introducing this type of information, however, would make it more costly and difficult for those same individuals to trade off benefit levels against price. Attempting to get the macro decision "right"—that is, providing the architecture that enables consumers to make informed and stable choices about the allocation of their resources to medical care—requires simplifying information on the benefits side of the equation, even though it is clear that this strategy will fail to account for heterogeneous preferences.

3. Industry Capture

Because value choices will necessarily affect how consumers measure benefits, it would be impossible to keep politics out of relative value ratings entirely. But it would greatly compromise the ability of relative value ratings to help rationalize medical care expenditures if the ratings were set to conform with the profit interests of drug and device manufacturers and other innovators who stand to earn more money if their interventions are awarded higher ratings and are thus reimbursable under more insurance policies.

Two dangers of capture of the ratings process by industries with a financial incentive lurk. First, the value choices that underlie the measurement of benefits could be designed to advantage, on average, those with a profit incentive. For this reason, the PCORI board, as provided by the ACA, which includes representatives of the drug and device manufacturing community, is probably suboptimal for the task.[184]

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182. *See, e.g.*, *id.* at 122 (concluding from studies that there are "[w]ide individual-to-individual variations" in the values people place on different health statuses).

183. *See* Bloche, *supra* note 149, at 266.

184. Bloche, *supra* note 90, at 51 (stating that the makeup of PCORI's governing board "seems almost designed to enable stakeholders to block studies that threaten their interests"). *See generally* Pearson & Rawlins, *supra* note 160, at 2621–22 (making recommendations concerning how to best insulate cost-effectiveness research from political pressure).

Second, the process of evaluating CER and assigning relative value ratings could be unduly influenced by industries with a financial interest in the outcomes to the extent that the research is funded and provided primarily by entities seeking ratings for their interventions. Undoubtedly, the developers of new technologies would attempt to design their data-collection practices in ways that would place their products and services in the best possible light.[185]

It would be a mistake to underestimate the risks of industry capture and manipulation posed by a system in which hundreds of millions of dollars of profits to companies in the pharmaceutical, medical supply, and health care industries could turn on ratings assigned to their products and services.[186] But creating an administrative structure for CER that is shielded from political pressure could, to a significant degree, counter this threat.

In addition, one important advantage of the relative ratings process, as compared with current FDA approval processes for drugs and devices, is that any lobbying efforts or research biased in favor of one company or interest group would often invoke counterefforts by others. For example, when a pharmaceutical manufacturer seeks FDA approval of a new drug, it must demonstrate only safety and efficacy relative to a placebo,[187] a subject about which its competitors have little to say. To support a high relative value rating, in contrast, the manufacturer would have to demonstrate its cost-adjusted superiority to existing drugs, and the CER process could and should be designed to permit the manufacturers of those competing drugs to submit their own data concerning that comparison.

B. *Operating a Ratings-Based Market*

Once relative value ratings were assigned to various medical interventions and insurance companies began to use ratings levels as the basis for contracting, would the market operate acceptably?

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185. *See generally* NEUMANN, *supra* note 110, at 38–43 (describing criticisms of cost-effectiveness analysis on the ground that interested parties often sponsor the research).

186. A related risk is that if the effected economic interests are unable to control CER, they might attempt to kill it. In 1995, a group representing back surgeons fought, ultimately unsuccessfully, to eliminate the Agency for Health Care Policy and Research ("AHCPR") after that agency issued a report that found no evidence to support the effectiveness of spinal fusion surgery. Bradford H. Gray et al., *AHCPR and the Changing Politics of Health Services Research*, HEALTH AFF., W3-297–98 (June 25, 2003), http://content.healthaffairs.org/content/early/2003/06/25/hlthaff.w3.283.full.pdftml.

187. Gail R. Wilensky, *Developing a Center for Comparative Effectiveness Information*, HEALTH AFF., w574 (Nov. 7, 2006), http://content.healthaffairs.org/content/25/6/w572.full.pdf+html.

1. Adverse Selection

A significant fear in any insurance market in which customers can select different levels of coverage is adverse selection and an accompanying unraveling of the market in what is sometimes called a "death spiral."[188] The specific concern here is that patient preferences concerning depth of insurance coverage, as indicated by relative value ratings, might be based primarily on a patient's likelihood of becoming ill rather than on uncorrelated heterogeneity of preferences for consuming medical care relative to other goods and services. If, for example, the relatively sick purchased Level 7 coverage and the relatively healthy purchased Level 3 coverage, the actual cost to the insurer of providing Level 7 insurance would be higher than if it were providing Level 7 insurance for patients of average health. This, in turn, would drive up the price of that coverage and drive away the healthiest of Level 7 customers, who were willing to pay the extra price for the deeper menu of benefits that policy would provide but who were not willing to subsidize the sicker patients with whom they find themselves pooled in the Level 7 group.

Assuming that sicker consumers cannot be charged more than others as a result of their health status—a rule that has been applied to group health insurance since the Health Insurance Portability and Accountability Act was enacted in 1996[189] and that was extended to the small-group and individual markets as part of the ACA[190]—severe adverse selection can cause a cycle that eventually leads to all customers purchasing less extensive coverage than they actually would like to buy to avoid joining a risk pool with sicker (and thus more expensive) customers. The market could conceivably unravel to the point where only insurance products that provide the minimal coverage level permitted would be financially viable.

Although the possibility of severe adverse selection cannot be ruled out entirely, there is a reason to be optimistic that the market would reach a stable equilibrium in which the relatively unhealthy would be spread out across the distribution of relative-value products. On the one hand, for the relatively sick, medical needs are likely to be more salient, increasing the likelihood that they will seek a more comprehensive coverage package. On the other hand, the relatively wealthy are likely to demonstrate similar preferences since the marginal value of the dollars necessary to purchase more comprehensive coverage is less as wealth increases. Since income is positively correlated with good health,[191] the pool of people electing more comprehensive coverage is likely to contain both a less-healthy-than-average slice of the population and a healthier-than-average slice of the population.

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188. *See, e.g.*, David M. Cutler & Richard J. Zeckhauser, *Adverse Selection in Health Insurance*, *in* 1 Frontiers in Health Policy Research 1 (Alan M. Garber ed., 1998).

189. Health Insurance Portability and Accountability Act of 1996 § 101(a), 29 U.S.C. § 1182(b)(1) (2006).

190. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 1201, 124 Stat. 119, 155 (2010) (amending 42 U.S.C. § 300gg (2006)).

191. *See, e.g.*, Jonathan Meer et al., *Exploring the Health–Wealth Nexus*, 22 J. Health Econ. 713 (2003).

An RVHI system would have to include features that prevent individuals from gaming the system by buying shallow policies when they are healthy and then switching to deeper policies after becoming ill, thus effectively paying for more extensive coverage only after they know that they will need it. The most likely method of discouraging this behavior would be to allow insurers to cover individuals who switch to deeper policies only to the level of their prior policy for any preexisting conditions, for a specified period of time. For example, if a customer purchased a Level 3 policy and then switched to a more generous Level 7 policy, he would be covered for Level 7 interventions for any new conditions he might develop, but he would only be covered for Level 3 interventions for preexisting conditions.[192]

2. Subsidies and Health Exchanges

For Americans with employment-based, large-group health insurance (for companies with more than 100 employees), the process of insurance selection in light of RVHI would be no different than it is today.[193] Employers would continue to act as intermediaries, providing one or many insurance options for their employees. The only difference would be that the options might differ in the depth of coverage offered, rather than just in the breadth of services, identities of providers, or cost-sharing arrangements, as is largely the case today. Self-insured employer groups—groups that directly bear the cost of medical claims for members rather than purchasing third-party insurance policies[194]—might choose to provide coverage for their employees to a specified relative value rating level as well, regardless of the group's size.

The ACA requires that, beginning in 2014 (with exceptions for grandfathered plans), small-group and individual health insurance policies, whether offered through a system of state health insurance exchanges or outside the exchange system, must provide a minimum set of "essential

192. The ACA provides that insurers may not deny coverage of or charge differentially for preexisting conditions. Patient Protection and Affordable Care Act § 1101. Because the ACA assumes that coverage depth will not differ across policies, this provision allows customers to change insurers without losing benefits that they would have effectively been paying for under a prior policy. The general policy is not undermined if, in a world in which customers contract for different benefit depths, they are not permitted to shift into deeper coverage after becoming ill, as long as they are free initially to choose which rating-level risk pool to enter and are covered for preexisting conditions up to that rating level if they later choose to shift into a different rating-level risk pool.

193. As of 2006, 55 percent of Americans had employment-based insurance. Sara R. Collins et al., *Whither Employer-Based Health Insurance? The Current and Future Role of U.S. Companies in the Provision and Financing of Health Insurance*, The Commonwealth Fund, 7 fig.1 (Sept. 17, 2007), http://www.commonwealthfund.org/usr_doc/Collins_whitheremployerbasedhltins_1059.pdf.

194. *See Definitions of Health Insurance Terms*, Bureau Lab. Stat., 6 http://www.bls.gov/ncs/ebs/sp/healthterms.pdf (last visited Sept. 15, 2013) (explaining the nature of self-insured plans).

health benefits."[195] The Act provides that, to meet this requirement, benefits must be at least equal in "scope" to benefits provided by a typical employer plan and must cover ten benefit categories, ranging from hospitalization to laboratory services to pediatric oral and vision care.[196] Within these parameters, the Act grants the secretary of Health and Human Services ("HHS") the authority to specify what will and will not comply with the essential health benefits requirement.[197] Under this authority, HHS promulgated a rule providing that approved policies must be "substantially equal" to relevant benchmark plans and that plans which differ substantively in their provision of benefits must have benefits "actuarially equivalent" to the benefits they replace.[198]

Under this regulation, it seems unlikely that an RVHI policy for individuals or small groups would pass muster. The range of employer-provided plans that could serve as benchmark plans cover all medically necessary treatments within coverage categories, so an RVHI policy that covered the same breadth of categories but only to a depth of Level 5, for example, would not be actuarially equivalent to the benchmark. Since the ACA statutory requirements speak only to breadth of coverage, not to depth, however, it would probably be within the authority of HHS to, in the future, set a floor concerning the depth of coverage that small-group and individual insurance policies must provide (i.e., Level 3 or Level 5) in addition to a minimum breadth of benefits. This would enable RVHI products to flourish, to the extent that the market favors them, within the ACA framework.

To make health insurance more affordable, the ACA also establishes a system of tax credits that will subsidize the purchase of insurance on the health insurance exchanges by low- and moderate-income individuals and families without employer-sponsored coverage. The size of the tax credit is a complicated function of both the purchaser's income and the cost of insurance policies on the exchange that cover 80 percent of the actuarial value of the benchmark plan.[199] An RVHI system could provide much-needed flexibility for the federal government as the ACA's health insurance exchanges become established and the actual costs of the subsidies specified by the Act, now only projections, become clear.[200] Rather than setting subsidy levels

195. Patient Protection and Affordable Care Act § 1302 (2010). For the provision establishing the health care exchanges, see *id.* § 1311(b).

196. *Id.* § 1302.

197. *Id.*

198. 45 C.F.R. 156.135.

199. Patient Protection and Affordable Care Act §§ 1401–02 (2010).

200. As of May 2013, the CBO estimates that the ACA's subsidies will cost $1.075 trillion from 2014 to 2023. *Effects on Health Insurance and the Federal Budget for the Insurance Coverage Provisions in the Affordable Care Act—May 2013 Baseline*, Cong. Budget Off., tbl.3 (May 14, 2013), http://www.cbo.gov/sites/default/files/cbofiles/attachments/44190_EffectsAffordableCareActHealthInsuranceCoverage_2.pdf.

based on the costs lawmakers believe make a benchmark policy (that essentially covers all treatments to Level 10) affordable,[201] subsidy levels could potentially be reduced if lawmakers were to determine that a shallower level of coverage represents an appropriate entitlement. For example, future lawmakers might choose to subsidize exchange customers only to the extent that they could then reasonably afford to purchase, say, a Level 7 policy, rather than a Level 10 policy.

The fact that regulators would need to choose a rating level on which to base health insurance exchange subsidy levels might appear to undermine the claim that RVHI has the benefit of avoiding governmental rationing. After all, public choices concerning subsidies would impact the affordability of different levels of relative value insurance. But whatever relative value rating level the government uses as the basis for subsidy determinations, subsidy recipients should still be permitted to purchase insurance at whatever rating level they wish, thus making their own ex ante rationing decisions. In other words, if an individual receives a $1,000 subsidy because the government decides that this amount is necessary to make a Level 5 policy affordable for a person of his income level, he should be permitted to purchase a Level 4 policy and effectively put part of the subsidy toward noninsurance goods and services if he so chooses, or to purchase a Level 6 policy by skimping in other areas in order to afford a higher premium.

It is fair to say that the government's selection of a rating level on which to base subsidy calculations would have an indirect effect on private rationing decisions in the following sense: the larger the subsidy the government provides, the deeper the policies the insurance recipients will purchase, at least on average. Larger subsidies would increase the income of lower-income Americans, and wealthier individuals would likely spend more money on medical care (as well as other goods), everything else being equal. But any effect of governmental policy on the depth of health insurance purchased would be due to the subsidies, not due to the relative value rating system.

3. Individual and Subgroup Variation

The medical community has traditionally been suspicious of clinical practice guidelines and similar attempts to use general algorithms to specify the type of care that it should provide to an individual patient.[202] This is sometimes attributed to a self-interested desire of physicians to protect their

201. Affordability is in the eye of the beholder, of course. Subsidy levels established by the ACA might or might not make health insurance "affordable" for Americans with various levels of income. But the subsidy levels are implicitly based on the ideology that the government should make it possible for all Americans to afford insurance that covers all "medically necessary" treatments within covered categories of care.

202. *See, e.g.*, Terrence M. Shaneyfelt & Robert M. Centor, *Reassessment of Clinical Practice Guidelines: Go Gently into That Good Night*, 301 JAMA 868 (2009).

realm of autonomy, regardless of the effects on patient health.[203] The more charitable explanation, however, is that the best treatment for a particular patient sometimes depends on that patient's unique health characteristics—such as personal illness history, comorbidities, family history, genetics, and so on—that are simply too subtle and individualistic to be captured by algorithms that specify the best care on average for a large population.[204]

The problem of individual variation presents a similar problem for relative value ratings. Drug A might be costlier and no more effective than Drug B for most people, earning a relative value rating of "10." But for a minority of patients with a stomach sensitivity or allergy to Drug B, Drug A might provide a substantial marginal benefit.[205] Watchful waiting might be the most cost-effective treatment by far for the average prostate cancer sufferer diagnosed at age seventy, but a particular comorbidity might make the benefits of surgery much greater for a particular patient. To generalize the problem, a patient who has purchased a Level 5 policy might find that he is ineligible for a treatment that has earned a relative value rating of "7" because of its low average cost-effectiveness for the population in general but that would be as cost-effective *for him* as other interventions rated "2."

As briefly mentioned above,[206] relative value ratings should be contingent and flexible enough to incorporate all relevant variations between subgroups.[207] Thus, in an ideal world, a particular intervention would not be rated "5" for all purchasers but instead might have different ratings for different population subgroups based on characteristics of each group that are correlated with the benefits the intervention provides, the benefits alternative interventions provide, or the costs of either.

One implication of subgroup-contingent relative value ratings is that, in some cases, relatively less healthy individuals would be entitled to greater care than healthier individuals who purchased insurance of the same depth, because the former would sometimes obtain greater relative benefits from a treatment than would the latter. This is consistent, however, with the basic nature of health insurance, according to which people who are healthier

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203. *See* Stefan Timmermans & Aaron Mauck, *The Promises and Pitfalls of Evidence-Based Medicine*, 24 HEALTH AFF. 18, 23 (2005) ("[The assumption that] good clinicians would automatically follow [scientifically-based treatment recommendations] . . . . ignores a key characteristic of professionalism: autonomy and discretion in professional work.").

204. *See, e.g.*, Robert S.A. Hayward et al., *Canadian Physicians' Attitudes About and Preferences Regarding Clinical Practice Guidelines*, 156 CAN. MED. ASS'N J. 1715, 1720 (1997) ("A sizeable minority felt that guidelines are too rigid to apply to individual patients, challenge physician autonomy and are oversimplified.").

205. *See, e.g.*, Carolanne Dai et al., *National Trends in Cyclooxygenase-2 Inhibitor Use Since Market Release: Nonselective Diffusion of a Selectively Cost-Effective Innovation*, 165 ARCHIVES INTERNAL MED. 171, 171 (2005) (discussing clinical choice between classes of drugs with similar efficacy but differential risk of gastrointestinal side effects predicted by risk factors).

206. *See supra* Section IV.C.

207. *Cf.* Garber & Sox, *supra* note 155, at 1807 (CER should take into account "patient-specific characteristics that account for differences in the way individuals respond to therapy").

generally fail to see the same direct return on their premium dollars as do people who are sicker.

Another implication, however—and one that might be more controversial[208]—is that those who stand to obtain greater benefit from an intervention because they are healthier would sometimes qualify for treatment that sicker patients would not. For example, a kidney transplant for a patient with end-stage renal disease might be rated a "3" for an otherwise healthy person expected to tolerate the transplant well but be rated a "7" for a patient with a compromised immune system or other comorbidities that indicate that he would be a less successful transplant recipient.[209]

The more significant problem with subgroup variation in ratings, though, is the practical obstacles to generating the CER necessary to derive nuanced and contingent relative value ratings, even assuming high levels of funding. Some subgroup differentiation would be possible but the amount of differentiation would undoubtedly fall short of the ideal overall.[210] Consumers who would be willing to accept health insurance that would only provide them with relatively cost-effective treatments in return for a lower price might balk if the ratings are not well tailored, such that they might one day be denied an intervention that is highly cost-effective given their unique circumstances but that carries a relative value rating based on its low average value for the population as a whole.

C. *The Inevitability of Context Effects*

Relative value ratings would make allocating resources between medical care and other goods and services into a relatively tractable decisionmaking problem by combining all information about depth of coverage into a single

208. *See* Rob Stein, *New Kidney Transplant Rules Would Favor Younger Patients*, Wash. Post, Feb. 24, 2011, at A01, *available at* http://www.washingtonpost.com/wp-dyn/content/article/2011/02/23/AR2011022306875.html (quoting University of Chicago bioethicist and physician Lainie Friedman Ross as calling a kidney-allocation proposal that would favor younger transplant patients for health and longevity reasons "age discrimination"); *see also* Neumann & Weinstein, *supra* note 180, at 1496 (observing that opposition to cost-per-QALY analysis can reflect the concern "that the metric unfairly favors younger and healthier populations that have more potential QALYs to gain").

209. Under current rules, kidneys are primarily allocated based on how long a candidate has been waiting (although certain extreme comorbidities can make a patient categorically ineligible). *See Policy 3.5: Allocation of Deceased Kidneys*, Organ Procurement & Transplantation Network (July 25, 2013), http://optn.transplant.hrsa.gov/PoliciesandBylaws2/policies/pdfs/policy_7.pdf. In 2011, the Organ Procurement and Transplantation Network proposed a new metric that would allocate 20 percent of kidneys based on survival matching and 80 percent of kidneys by age matching to better maximize health and longevity of transplant recipients. *Concepts for Kidney Allocation*, Organ Procurement & Transplantation Network, 7–8 (Feb. 16, 2011), http://optn.transplant.hrsa.gov/SharedContentDocuments/KidneyConceptDocument.pdf.

210. *Cf.* Bloche, *supra* note 90, at 53 ("There's a fractal geometry of clinical differences—an endless variation in patients' responses to pathogens, pills, and procedures. So it's just about always possible to argue, 'Our patients are different'—different enough to benefit from a therapy that's been proven inferior for the population as a whole.").

rating. Still, the decisionmaking problem faced by consumers purchasing RVHI would be far from simple or straightforward. A recent study demonstrates that a majority of consumers failed to identify the best hypothetical insurance option from a set of four choices when the *single dimension of the choice was cost*, even when their expected medical care needs were clearly specified, and when the cost variable was divided between insurance premiums, copayments, and annual deductibles.[211] Many individuals would undoubtedly search for heuristics that could help make the choice between RVHI options easier ex ante and easier to justify ex post.

Empirical evidence in the prospect theory tradition indicates that losses loom larger than gains for many people, which leads to a general bias in favor of the status quo state of the world.[212] Changes from the status quo imply a combination of losses and gains, but the affective value of the losses is greater, thus promoting conservatism. It seems quite likely that individuals offered a variety of RVHI policies who are unsure how to trade off cost against depth of coverage will search for evidence of what price–coverage combination constitutes the status quo and then choose to purchase that option. These consumers might view the status quo as insurance that covers all clinically effective treatments because that is what is covered today under the "medical necessity" standard, framing any type of cost–benefit limitations in health insurance as a "loss" to be avoided at almost any cost.

Other consumers will undoubtedly employ other heuristics. The principle of extremeness aversion[213] suggests that many consumers might gravitate toward Level 5 policies: the central location of the number 5 on a 10-point scale would likely imbue it with a patina of moderation. Others might see the rating level assumed by the government for purposes of determining subsidy levels for low-income individuals as a coordination point and might simply purchase a policy that provides that level of coverage. A general tendency toward myopia might cause still other consumers to discount future benefits too steeply, thus purchasing inefficiently shallow insurance coverage compared to what percentage of income their more carefully considered selves would allocate to health care.[214]

This analysis suggests that this Article's criticism of CDHC as a method of rationalizing health care expenditures can also be leveled against RVHI. That is, the difficulty of constructing preferences will, to some extent, undermine the accuracy of consumer choices even if RVHI policies become

211. Eric. J. Johnson et al., *Can Consumers Make Affordable Care Affordable? The Value of Choice Architecture*, Soc. Sci. Res. Network (July 9, 2013), http://ssrn.com/abstract=2291598.

212. Russell Korobkin, *The Endowment Effect and Legal Analysis*, 97 Nw. U. L. Rev. 1227, 1250 (2003).

213. Tversky & Simonson, *supra* note 54, at 1183 ("[O]ptions with extreme values within an offered set will be relatively less attractive than options with intermediate values.").

214. *See generally* Mark V. Pauly & Frederic E. Blavin, *Moral Hazard in Insurance, Value-Based Cost Sharing, and the Benefits of Blissful Ignorance*, 27 J. Health Econ. 1407, 1411–12 (2008) (considering the welfare consequences of health care consumers undervaluing the actual benefits of medical treatments).

available in the marketplace. The difference in the degree of the problem, however, is substantial. By assimilating the most complex nonprice attributes of health insurance into a single, scaled rating, RVHI would make critical decisions about medical care far more manageable than they would be in a world dominated by CDHC, even though it would not always result in the best allocations of resources between medical care and other goods and services.

Conclusion

This Article has argued that using CER to create relative value ratings of medical interventions could form the basis for a market approach to rationalizing medical care utilization in a way that takes consumer bounded rationality seriously. As such, it has focused on the portion of the U.S. population that has private health insurance or is expected to purchase private health insurance once the ACA is fully implemented. The power of relative value ratings can also be used to help rationalize expenditures of public insurance programs, however. Although a thorough consideration of the public insurance implications requires a separate article, a few brief observations can be made here.

Medicare and, to a lesser extent, Medicaid suffer from the same moral hazard problem as private health insurance: in some cases, categories of treatments are excluded from coverage, but within categories of covered care, insurance covers patients for most medically indicated care consistent with professional standards without regard to cost-effectiveness.[215] If CER were harnessed to create relative value ratings, individuals *qua* citizens (working through their elected officials) could choose between allocating public funds to health insurance programs and allocating public funds to competing goods and services by comparing the cost of covering the insured populations at different ratings levels.

For example, at the time of budgeting, governmental actuaries could project the total cost of covering the Medicare population during the next fiscal year at a variety of relative value levels. By looking at the current relative value rankings, lawmakers could see quite clearly which interventions would be covered and which would not be covered, depending on the final

215. *See* Saver, *supra* note 20, at 2167. By statute, Medicare covers care that is "reasonable and necessary." 42 U.S.C. § 1395y(a)(1) (2006). The administrative process is complex, but it is fair to say that Medicare's approval process is extremely liberal, much like those of private insurance providers. *See* Neumann et al., *supra* note 154, at 1516 ("Medicare's policy of paying for any medical advance that has positive benefits, regardless of its cost, is unsustainable."); Peter J. Neumann et al., *Therapies for Advanced Cancers Pose a Special Challenge for Health Technology Assessment Organizations in Many Countries*, 31 Health Aff. 700, 703–04 (2012) (finding that all fifty-nine cancer drugs approved by the FDA between 2004 and 2008 were covered by Medicare, whereas the United Kingdom's National Health System covers fewer than half the cancer drugs that receive regulatory approval in Europe); Sean R. Tunis, *Why Medicare Has Not Established Criteria for Coverage Decisions*, 350 New Eng. J. Med. 2196, 2197 (2004) ("Health care services are generally covered when there is adequate evidence that they improve health outcomes, irrespective of the unit or aggregate cost.").

budget allocation, mirroring the decisionmaking process that relative value ratings would allow individuals to enter into when purchasing private insurance. Legislators (and voters) would be able to see, for example, that if they wished for Medicare to cover brand-name drugs where equivalent generics exist, they would have to fund Medicare at Level 8; or that if they wanted to provide extraordinary interventions to maintain life in its final days for that population, they would have to fund Medicare at least at Level 5; or that if they wanted to enable otherwise healthy, Medicare-eligible citizens to receive costly organ transplants, they would have to fund that program at Level 7.

Because the payers and the beneficiaries of Medicare and Medicaid are different groups, RVHI would not necessarily mimic economic efficiency or reduce moral hazard in the public insurance context in the way that it would in the private insurance context. But relative value ratings would help clarify and elucidate the trade-offs between funding public medical care on the one hand and funding other public priorities, reducing taxes, or paying down the national debt on the other.

Relative value ratings would also be extremely valuable if Medicare were to be changed from a fixed entitlement to a voucher program, as the most recent congressional budget, drafted by current House Budget Committee chairman and former vice presidential candidate Paul Ryan proposed[216] and some conservative health economists support.[217] If health care inflation continues to exceed the general rate of inflation, as the CBO predicts that it will, Medicare premium support payments will lose purchasing power over time.[218] RVHI would enable beneficiaries to control out-of-pocket coinsurance costs by choosing to purchase shallower coverage. As in the private insurance context, relative value ratings would ensure that, at whatever level of coinsurance payments were chosen, insurance plans would provide the more cost-effective interventions and would not provide the less cost-effective interventions.

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216. H.R. Rep. No. 113–17, at 85 (2013), *available at* http://www.gpo.gov/fdsys/pkg/CRPT-113hrpt17/pdf/CRPT-113hrpt17.pdf. Turning Medicare into a voucher system was also a feature of Republican budgets in the 1990s. *See* Paul Starr, Remedy and Reaction: The Peculiar American Struggle over Health Care Reform 130 (2011).

217. *See, e.g.*, Joseph R. Antos et al., *Bending the Cost Curve Through Market-Based Incentives*, 367 New Eng. J. Med. 954 (2012) (favoring "premium-support model" for Medicare).

218. *Long-Term Analysis of a Budget Proposal by Chairman Ryan*, Congressional Budget Office, 23 (Apr. 5, 2011), http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/121xx/doc12128/04-05-ryan_letter.pdf.