

# The costs of poor health (plan choices) & prescriptions for reform

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## abstract

Evidence suggests that when confronted with a large menu of health plan choices, consumers may not select the most efficient (that is, the most cost-effective) option. In anticipation of such problems, the exchanges set up by the Affordable Care Act (ACA) were designed to help consumers navigate the complexity of plan choices. Yet little is known about the actual efficiency with which ACA enrollees select plans. We present an analysis of projected health spending and a series of hypothetical plan choice experiments to explore the financial consequences of inefficient choices among potential ACA enrollees, the likelihood of such inefficient choices, and the potential for improving efficiency with a more behaviorally informed choice architecture. Our findings indicate that choosing a plan incommensurate with one's expected health care needs would lead to significant overspending relative to the most cost-effective plan and that, despite attempts to design the exchanges so that they facilitate decision-making, a significant share of ACA enrollees may have made inefficient decisions. More promisingly, we find that although the metal labels used in the exchanges to organize plans (for example, *Bronze* and *Silver*) encourage choices that are no more efficient than those associated with generic plan labels (such as *Plan A* and *Plan B*), labels that more sensibly reflect the factors consumers ought to consider—for instance, labels that emphasize gradations in the need for health care—do lead to significant improvements in the efficiency of plan choices.

## Core Findings

### What is the issue?

Choosing the correct health insurance policy remains a complicated task for many Americans. While the Affordable Care Act has dramatically expanded insurance coverage and created a standardized interface from which consumers can shop for plans, research suggests that it is likely that many consumers are not selecting financially efficient plans, and that the consequences of these mistakes are significant.

### How can you act?

Selected recommendations include:

- 1) Replacing the metal labels of the ACA exchanges with labels that emphasize considerations crucial for efficient plan choice (e.g., anticipated medical use)
- 2) Offering customized plan recommendations or defaults informed by an individual's prior utilization

### Who should take the lead?

Policymakers, consumer and policy advocates, health policy journalists

The Affordable Care Act (ACA)—otherwise known as Obamacare—has been the subject of debate from its inception to the furious recent attempts at its repeal. Although considerable attention has been devoted to the legislation's impact on expanding coverage and curbing health care costs, less has been paid to understanding whether the millions of new enrollees on the exchanges signed up for plans befitting their health needs. Indeed, many new enrollees likely had no experience choosing health plans from large menus of options, and the typical ACA enrollee in the first year chose from 47 plans differing in coverage, cost, and insurance provider.<sup>1</sup> Providing such a wide range of health plan features was the idea—according to economic theory, more choice should not only increase the likelihood that consumers enroll in a plan that meets their needs, but should also compel insurers to compete more intensively to lower costs and improve plan quality. However, if the dividends from greater choice and increased competition rely on consumers being able to accurately discriminate between plans, existing evidence on the insurance decisions that consumers make is cause for concern.

## Insights From Prior Studies of Health Insurance Choices

Most existing research on the financial efficiency of consumers' health insurance choices falls into three categories: analyses of seniors enrolling in supplementary prescription drug plans through Medicare Part D, experiments involving hypothetical choices from stylized plan menus, and analyses of plan choices and health spending of employees choosing from employer-sponsored menus.

Several studies have documented examples of seniors overspending on prescription drug coverage obtained from the complicated exchanges for Medicare Part D, even after adjusting for factors such as health and tolerance for financial risk.<sup>2-8</sup> In one influential study, Jason Abaluck and Jonathan Gruber found that a majority of consumers made inefficient plan choices and that such inefficiency was due, at least in part, to consumers relying too heavily

on plan premiums, rather than expectations of total out-of-pocket expenses, in their plan evaluations.<sup>2</sup> Another study found that simplifying plan choice by sending enrollees a letter with personalized information on plan costs—information that was already available at no cost to all consumers—led 28% of recipients to switch plans and reduce their health spending; 17% switched in a comparison group whose members did not receive the letter.<sup>4</sup>

A second set of studies demonstrated that the problem of inefficient choice extends beyond the elderly and Medicare by analyzing the hypothetical plan choices of experimental subjects.<sup>9-11</sup> The research showed that people frequently choose plans that are not optimal given their expected health needs and appetite for financial risk, even when incentivized to make efficient decisions. In one study, Eric J. Johnson and his colleagues presented experimental subjects with a scenario in which they were asked to choose a family health plan from a small menu of options after being provided with detailed information about the family's anticipated medical needs.<sup>9</sup> A majority selected financially suboptimal plans unless aided by health-cost calculators or personalized default plans.

Skeptics might argue that working-age consumers making real-life decisions about their health care and finances would choose more efficiently than their elderly or experimental counterparts. At the very least, one would expect that such consumers would adjust their choices over time as they gained clarity about their need for health care and the costs of such care. A final set of studies examined these claims by analyzing the insurance decisions of employees who selected their plans from employer-sponsored menus.<sup>12-15</sup>

One such study examined the health plan choices of employees at a large U.S. firm, who selected plans from an unusually large and standardized menu.<sup>12</sup> (Hereinafter, we refer to this study as BLS, after the article's authors.) The firm afforded its employees an unusual degree of discretion by providing them a number of options for each of the four cost-sharing elements common to health insurance plans

# “several of the plans were unambiguously more costly to consumers”

and then letting them choose any combination across these options.

This included four choices of deductibles (the amount the consumer must pay before plan coverage kicks in, excluding office visits), two for office copayments (the flat rate paid by a consumer for primary care and specialist visits), two for coinsurance rates (the share of costs, excluding those for office visits, covered by the plan after the deductible is met), and three for out-of-pocket spending limits (the maximum amount that a consumer might pay for the year, beyond the deductible). Other than these differences in cost sharing and each plan’s premium, the 48 available plans (that is,  $4 \times 2 \times 2 \times 3$ ) were identical—they were offered by the same insurer and covered the same network of doctors.

Beyond providing employees a large menu from which to choose, the firm provided an ideal setting from which to evaluate the quality of decisionmaking because of how the plans were priced. Several of the plans were unambiguously more costly to consumers than other plans, despite providing access to the same care. When two plans are equivalent in coverage and convenience but one guarantees higher total spending than the other, regardless of how much medical care the consumer seeks, the unfavorable plan is said to be *financially dominated*. Because of the way these plans were priced, nearly all of the 36 plans with deductibles lower than the highest available deductible of \$1,000 would lead consumers to spend more than they would dole out for an otherwise identical plan with the high deductible. For example, employees had to pay \$528 to reduce their deductible from \$1,000 to \$750—a maximum potential savings of just \$250. A menu with a large share of dominated options provided the researchers with a rare litmus test that they could use to evaluate the ability of employees to choose cost-minimizing plans without the researchers having to know the employees’ preferences for specific doctors, their medical needs, or their willingness to take on financial risk.

So how did the employees at this firm do? More than half of them wound up selecting financially dominated plans, spending more than they needed to by an amount equal to, on average, 24% of their annual premium. Lower income employees were especially likely to enroll in dominated plans, and employees who chose such plans in one year were unlikely to switch into alternative plans in the following year.<sup>12</sup>

Through a series of follow-up experiments, the authors investigated three possible explanations for this behavior. One was that employees who failed to select a cheaper plan did so because they were reluctant to search through a large plan menu due to the economic or psychological toll of the search. A second was that employees simply preferred plans with low deductibles, despite their considerable expense, because of distaste for the unpredictability and the inconvenience of out-of-pocket spending. The third was that employees were simply confused about how to compare the overall economic value of plans because they lacked understanding of how insurance programs worked. The experiments implicated this third explanation and suggested that the inefficient plan choices emerged largely from poor understanding of how to translate cost-sharing features, such as a deductible, into estimates of total health spending. Indeed, when subjects were presented with a simple menu consisting of four plans varying only in their deductible and price, and where three of the plans were dominated by the fourth, a majority of subjects chose the dominated plan. But when the financial trade-offs between plans were made explicit, subjects opted for one of the nondominated plans.

## The Present Research: Plan Choice in the ACA

Because it was anticipated that consumers might have trouble navigating health plan choices, the ACA instituted a number of measures to help enrollees. These included a thoughtfully designed website, instructional

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55%

share of employees choosing financially dominated plans at one large firm

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24%

average overspending as share of plan premiums for those in dominated plans

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11m

Americans enrolled in an ACA exchange plan as of March 2016

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videos, online help, and a customer service phone line. The ACA also organized plans into cost-sharing tiers, tagged with metal labels: *bronze*, *silver*, *gold*, and *platinum*. On average, plans within each tier were required to cover, for a typical population, a predetermined share of health expenses, ranging from approximately 60% for the lowest tier (bronze) to 90% for the highest (platinum).

Our objective in the present research was to investigate whether these provisions of the ACA led to cost-efficient health insurance decisions by consumers, and to estimate the consequences of potentially inefficient decisions. To this end, in a first study, we estimated the financial consequences of inefficient plan choice for enrollees. Using data on prices and plan features for the thousands of plans from the initial year of the federal exchanges, we constructed a set of composite plans to represent each cost-sharing tier. We then estimated how much consumers of various ages and from various locations would spend under each of these composite plans, assuming a particular level of medical need. Finally, to understand the financial impact of the choices, we compared, for each type of consumer, the overspending associated with each composite plan choice relative to the plan that minimized expected health spending.

In a second study, we tested whether consumers were likely to choose efficiently when confronted with a health plan menu resembling those used in the ACA exchanges. Specifically, we presented survey respondents with a menu of composite health plans, constructed from those used in Study 1, featuring the metal labels used in the exchanges. To assess the efficiency of likely choices in the ACA exchanges and to identify alternative and potentially superior labeling strategies, we compared the pattern of plan selection from menus with metal labels with the pattern of plan selection from menus featuring less and then more informative plan labels.

### **Study 1: The Financial Consequences of Plan Choice in the Exchanges**

**Data Sources.** We generated our sample from 78,522 plans listed on one of the 34 federal

exchange platforms during the ACA's first year, after excluding data from catastrophic plans, plans for which we were unable to determine premiums, and plans from counties that failed to offer at least one plan in each of the four tiers of interest—bronze, silver, gold, and platinum. (See note A.) We then recorded plan prices and cost-sharing features for the remaining 39,885 plans across 220 insurance-rating areas—geographic regions within which insurance firms must price plans equivalently for consumers of similar age and smoking status—for four age categories (30, 40, 50, and 60 years). For simplicity, we restricted our estimates to couples with no children and did not attend to other differences across plans that might shape choice, such as insurer reputation or network configurations. Finally, to estimate projected health spending, we relied on age-specific utilization rates of employees reported in the BLS article.<sup>12</sup>

**Research Design.** To estimate the financial consequences of plan tier choice, we first constructed a set of composite plans to reflect the price and cost-sharing features of actual plans available within a plan tier for every age and region combination in our data (that is, 4 age categories × 220 insurance pricing regions). We generated these plans by calculating the unweighted average premium (assuming no tobacco surcharge), out-of-pocket maximum, and deductible for a married couple without children for every age and region combination for each cost-sharing tier. For analytic tractability, we assumed that each composite plan featured the modal copayment and coinsurance for all plans within that tier.

Having constructed a set of composite plan features corresponding to each tier for different types of consumers, we then projected the expected total health care spending for each of three categories of assumed medical need (low, middle, and high levels of care). For the low level of care, we assumed that the enrolled couple required no medical visits. For the medium level of care, we assumed that each enrollee required the same amount of care as the typical employee analyzed in the BLS article.<sup>12</sup> (See note B.) For this middle category, we further assumed a service cost of \$200 for each primary care

visit and \$350 for each specialist visit, in rough accordance with national averages. Finally, for the scenario involving a high level of medical care, we assumed each enrollee's medical costs exceeded the out-of-pocket maximum for each of the composite plans.

Next, we calculated the consequences of inefficient plan choice by identifying the plan associated with the least health spending for a typical enrollee of a given age, region, and level of medical need and calculating the excess spending of consumers choosing one of the alternative plans. Figure 1 reports these spending differentials for couples, averaged across age and region, relative to the cheapest composite plan for each level of medical need. The figure presents average overspending in dollars and as a percentage of the average premium of the most cost-effective plan.

**Results.** Our data indicate that a typical couple who required little medical care and opted for the plan from the tier associated with the second lowest total health spending would pay \$1,662 (95% confidence interval [CI] range of \$1,494 to \$1,831) in excess of what they would have paid for the plan in the most financially advantageous (best) tier for them. The variation in these estimates is largely driven by pricing differences across age and region. If the couple had instead chosen the plan in the most expensive tier, their low level of actual medical service use would have resulted in their paying an excess of \$4,706 (95% CI [\$4,125, \$5,291])—equivalent to 61% of the premium of the cost-efficient plan. For a couple requiring a high level of care, the plan in the most efficient of the four tiers would lead to excess spending equivalent to 59% of the annual premium of the plan in the least efficient tier. These estimates of potential overspending are highly stable across age groups.

An important feature of plan choice in the early years of the ACA was the premium tax credit available to enrollees with household incomes between 100% and 400% of the federal family poverty level. The presence of such refundable credits does not influence our estimates of overspending, because these subsidies can be applied to any plan. (See note C.)

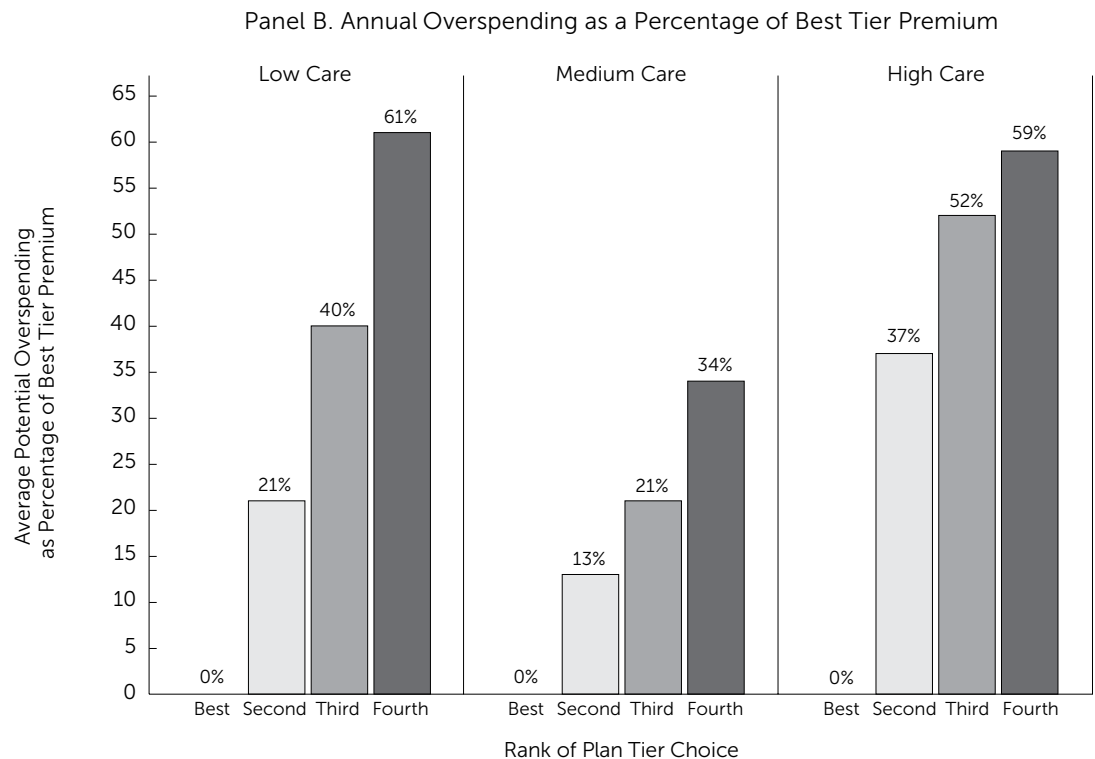
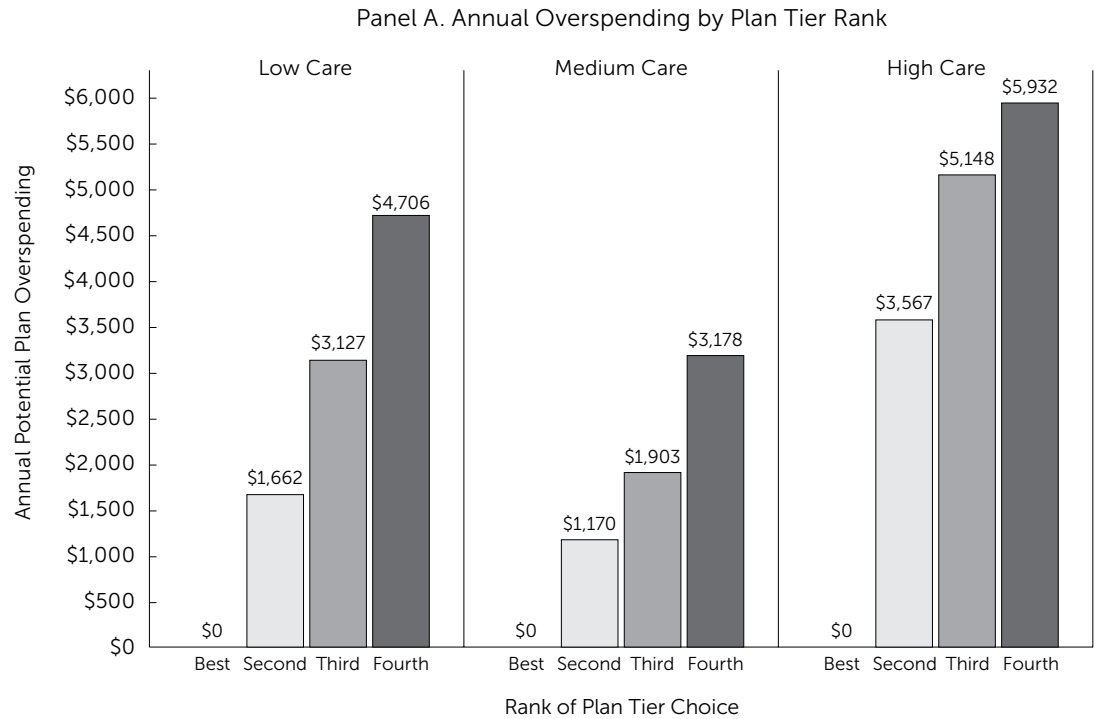
## “the variation in these estimates is largely driven by pricing differences across age and region”

### Study 2: Plan Choice in an Exchange-Like Environment

Given the severe financial consequences of choosing a plan not aligned with one's medical needs, our second study assessed whether the plan labels used by the ACA were likely to lead to efficient plan choices and, if not, whether such efficiency might be achieved by using menus with alternative labels. To investigate these issues, we ran an experiment in which subjects were asked to make choices from a hypothetical menu intended to resemble the design of the ACA exchanges. We graded the efficiency of plan choice by (a) assessing whether individuals chose the plan that minimized their expected health spending, based on projections of self-reported medical need, and (b) evaluating how choices varied when subjects were presented with menus with plan labels encouraging considerations of medical use.

**Research Design.** Our experimental subjects were 304 U.S. adults over the age of 25 years, recruited from the Qualtrics Survey Panel, a commercial survey panel commonly used by researchers. The subjects were given a survey lasting approximately 10 minutes. (See note D.) They were first asked about their demographic and financial background. Then we inquired about their health and how often they expected to seek care in the coming year. (See note E.) Finally, we directed subjects to choose a hypothetical insurance plan to cover themselves for the next year from a menu of composite plans constructed in the earlier study. For simplicity, we restricted menus to the three plans representing the bronze, silver, and platinum tiers; personalized plan prices only by age (rather than by age and geography); and included national averages of plan deductibles and out-of-pocket spending limits (which themselves were rounded

**Figure 1. Potential health overspending for couples due to inefficient plan choices**



This figure indicates the estimated overspending, averaged across age and region, associated with inefficient plan choice for childless couples given varying levels of presumed medical need. Panel A reports absolute differences in annual spending for each of the four available composite plans, ranked by their expected costliness relative to the cost-minimizing plan (that is, second, third, fourth). For example, for the typical couple requiring a high level of medical care, the choice of the second-cheapest composite plan would have led to \$3,567 in additional spending relative to the cheapest available plan. Panel B reports overspending expressed as a share of average plan premiums. Please see the text for details on the construction of composite plans and estimates of health spending.

**Table 1. Premium & cost-sharing features for composite plans (Study 2)**

Composite plan by tier	Deductible	Monthly premium by enrollee age (in years)				Out-of-pocket spending limit	Office copayment or coinsurance rate (after deductible) by service		
		25 to 35	36 to 45	46 to 55	56 to 65		Physician	Specialist	Hospital
Bronze Plan	\$5,094	\$238	\$267	\$374	\$567	\$6,300	0%	0%	0%
Silver Plan	\$2,911	\$276	\$311	\$434	\$659	\$5,750	\$30/visit	\$50/visit	0%
Platinum Plan	\$344	\$345	\$389	\$543	\$825	\$2,000	\$10/visit	\$20/visit	0%

Note. This table displays the premium and cost-sharing features for the plans included in Study 2. Subjects were informed that all plans covered a set of essential benefits and included a modest copayment for prescription drugs, and that all hospital charges would be covered once their deductible had been met. The plans were designed to reflect typical features of the real-life plans from year 1 of the ACA exchanges. Please see the text for additional details on plan construction.

off). Subjects were told that all plans covered the same essential benefits (roughly corresponding to the basic services covered in the ACA), had a modest copayment for prescription drugs, and would cover all hospital charges after the deductible had been met. Table 1 describes the premiums and cost-sharing features of the composite plans.

Plan choice proceeded in three steps, which, for the baseline (metal labels) condition, we depict in Figure 2. After the choice paradigm was introduced (see Panel A), subjects were given the option of filtering plans by tier or viewing all plans (see Panel B). Upon making this decision, subjects were shown the prices and cost-sharing features associated with selected plan(s) (see Panel C) and were given the chance to see all available plans again. Subjects were randomized into one of four experimental situations, each associated with a different set of plan labels:

- Metal labels (*Bronze, Silver, and Platinum*)
- Generic plan labels (*Plan A, Plan B, and Plan C*)
- Medical use labels (*High-Use, Medium-Use, and Low-Use*)
- Generic plan labels accompanied by a plan recommendation

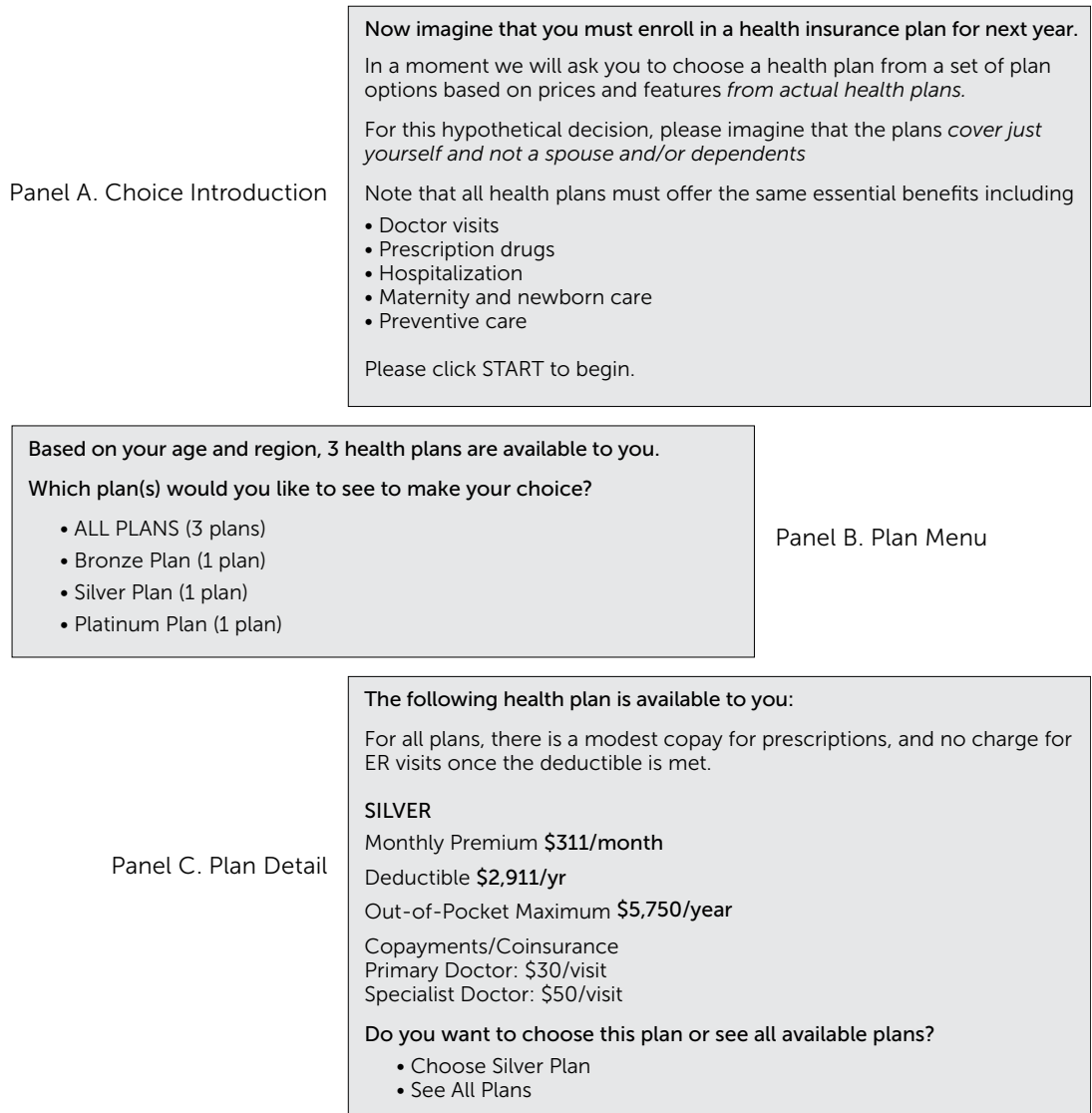
We assessed the efficiency of plan choice in two ways. First, we documented whether the plan selected by a subject minimized the subject's expected health spending, a value based on the two measures of anticipated utilization collected

from the survey. To calculate a subject's expected health spending for each plan choice, we assumed the same per-visit costs as in the first study and additionally assumed a service cost of \$2,000 for each hospital visit, in rough accordance with national averages. Second, to evaluate efficiency of choice from menus featuring the exchange-like metal labels, we compared such choices with the choices made by similar subjects from menus with more informative labels. (See the BLS article for a detailed discussion of a criterion for evaluating choice efficiency.)<sup>12</sup>

**Results.** Figure 3 depicts the likelihood that subjects minimize their expected health spending under different labeling regimes. As shown in Panel A, only 33% of respondents chose the cost-minimizing plan from menus with metal labels similar to those used in the ACA exchanges. Forty-three percent chose plans providing coverage exceeding anticipated need (we designate this group *the overinsured*), whereas 24% chose plans providing too little coverage (*the underinsured*). Panel B shows that those selecting plans from the menus with metal labels overspent by an average of \$888 (95% CI [\$681, \$1,095]), or 16% of the typical premium across all subjects.

The figure also depicts the comparative efficiency of choices when alternative labeling schemes are used. Average overspending for subjects choosing from a menu with generic labels was \$794 (lower but not significantly distinguishable from the overspending seen with the metal labels,  $p = .52$ ). Subjects choosing from menus with labels emphasizing consideration

Figure 2. Experimental interface for the metal label condition in Study 2



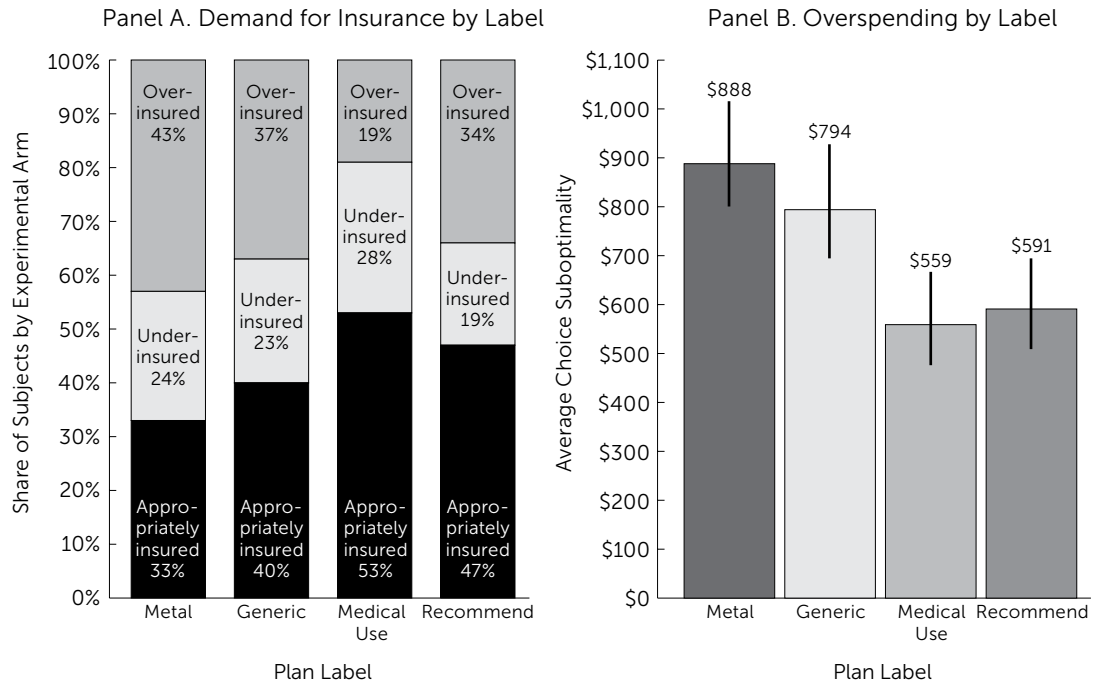
of medical use overspent by an average of \$559 (95% CI [\$378, \$740]), and subjects choosing from menus with generic labels and personalized recommendations overspent by an average of \$591 (95% CI [\$401, \$781]). In the latter two choice environments, subjects chose plans that were significantly more cost-effective than the ones subjects chose under the labeling regime currently used by the ACA exchanges ( $p < .05$ ). When we calculated the magnitude of overspending only for those respondents who chose inefficiently, the metal labels led to \$1,324 (95% CI [\$1,080, \$1,568]) in average excess spending, or 24% of the typical premium.

## Discussion & Implications for Policy

Our studies suggest that for consumers purchasing plans through the exchanges of the ACA, the economic consequences of enrolling in a plan that provides either too much or too little coverage is significant. The first study indicates that an individual's choice of the second-best plan tier, as measured by cost efficiency, would cause the person to overspend an equivalent of 13% to 37% of plan premiums (see Figure 1, Panel B). If consumers were to choose plans at a rate no better than chance,



**Figure 3. Demand for insurance & health overspending across choice architecture**



This figure reports the results of an experiment in which 304 subjects were asked to make a hypothetical insurance decision from a plan menu whose appearance varied across experimental conditions. Panel A reports the share of subjects within each labeling condition who selected a plan that led them to become over-, under-, or appropriately insured based on their self-reported expectations for medical spending. Panel B reports the average overspending, relative to that subject's cost-minimizing plan, for each labeling condition. Error bars indicate an interval of  $\pm 1$  standard error.

as suggested in other studies,<sup>12</sup> inefficient plan choice could be even more costly. Choosing the least cost-effective plan tier leads to average overspending amounting to 34% to 61% of plan premiums, depending on one's expected level of medical need. Although our analysis relies on several simplifying assumptions, the findings, in conjunction with the prior research discussed above, point to the large financial stakes of poor health insurance decisions.

The second study indicates that consumers participating in the ACA are not likely to make efficient plan choices. The two-thirds of subjects in the second study who chose a plan incommensurate with their medical needs from menus that rely on the same metal labels used in the ACA exchanges (and that feature plans with no differences in networks or provider) overspent by \$1,324, equivalent to 24% of the average plan premium. Although the subjects in the second study made only hypothetical decisions, there is reason to believe that the findings from such

experimental paradigms are fairly generalizable. In their examination of thousands of actual decisions of employees and hypothetical decisions of experimental subjects, Bhargava, Loewenstein, and Sydnor reported a striking similarity in the distribution of plan choices.<sup>12</sup> Moreover, experimental studies have found that the presence of financial incentives does not lead to a significant difference in the efficiency of plan choices from hypothetical menus.<sup>9</sup>

It is possible that, on the one hand, the observed demand for excess coverage might reflect an informed preference to avoid financial risk. On the other hand, the observed demand for too little coverage might reflect the high costs of raising funds to pay premiums when individuals have little available cash on hand. We have several reasons to think neither explanation fully accounts for the patterns we observe.

First, one mark of whether plan choices reflect a coherent and informed set of preferences is the

## “insurers might not be driven to eliminate the complicated, profit-generating features of health insurance products”

consistency of such choices across menus that vary in the transparency of their presentation. We find that subjects are significantly more likely to minimize spending under more informative labels, suggesting that the behavior of subjects choosing from menus with metal labels does not reflect fully informed decisions. Second, to understand if plan choices can be explained by a preference for avoiding financial risk-taking, we asked respondents about their general willingness to take on financial risks (on a scale of 1 to 10). Although we caution that these estimates are not highly precise, after controlling for self-reported health and income, our elicited measure of financial risk-taking did not predict demand for overinsurance ( $b = -.02, p = .33$ ) or underinsurance ( $b = -.005, p = .81$ ). (See note F.) Finally, the research discussed above implies that the behavior of subjects in our studies more likely reflects deficits in health insurance literacy than informed preferences for avoiding risk, budgeting convenience, or illiquidity.

We can estimate the approximate implications of our findings for consumer welfare under the ACA. If two-thirds of the roughly 8 million people who enrolled in the ACA in the inaugural year of the exchanges chose plans that led to average overspending amounting to \$1,324, the result would be roughly \$7.1 billion of excess spending each year, borne by a population with low to moderate incomes. The consequences of consumers making suboptimal decisions extend beyond those consumers feel directly. Some economists have argued that in markets with a significant share of consumers who are not fully informed, insurers may be subject to less competitive pressure to reduce prices and improve quality—and may even compete by confusing consumers and then persuading them to purchase lucrative suboptimal plans.<sup>16–19</sup> Thus, insurers might not be driven to eliminate the complicated, profit-generating features of health insurance products. Consistent with this general thesis, other work offers evidence that

the growing complexity of certain financial products correlates with higher profits for banks and reduced consumer welfare.<sup>20</sup>

Why are consumers prone to making suboptimal plan choices despite labeling designed to facilitate optimal decisions? Astute choice of a cost-sharing tier in the exchanges requires careful consideration of one’s expected medical expenses. Those anticipating a modest need for medical care should spend less, on average, by selecting a plan in a low cost-sharing tier, while those anticipating substantial care should benefit, on average, by choosing a plan with greater cost sharing. An explanation consistent with our findings is that people might fail to interpret the metal labels as signaling a gradation in the degree of cost sharing associated with each tier. Instead, they may interpret the labels as implying differences in the quality of medical care or access to such care. This explanation is supported by the second study, in which labels designed to encourage consumers to choose plans based on expected use led to demand for less expensive plans. The possibility that consumers rely on metal labels as a global measure of quality is also suggested by a recent survey that found that, among respondents deemed to be below the median in mathematical ability, gold plans were preferred to other plans regardless of the underlying plan features.<sup>21</sup>

Collectively, our evidence and the research on which it builds suggest that the psychology governing the implementation and marketing of health policy may deserve as much attention as the policy’s underlying economic structure. Practically, the second study suggests that the adoption of labels that imply gradations in expected medical use—a more logical dimension for plan comparison than that implied by metal labels—could improve the efficiency of enrollee choices for health insurance plans. Although the feasibility of moving away from the metal labels is unclear in the present regulatory

environment—such a move would likely require legislative action—behavioral science offers several alternative strategies to encourage more efficient choices. These strategies include the use of plan recommendations; personalized health-cost calculators; education through real-time, scenario-based examples; or the simplified presentation of the trade-offs most relevant for plan comparison.<sup>9,22</sup> To the credit of policymakers, the online architecture of the ACA exchanges has evolved since its inaugural year. In various incarnations, it has featured decision tools, such as health-cost calculators, and displays emphasizing the projected total spending associated with each plan.

Although such innovations are commendable, it is unclear whether decision tools and cost projections situated amid an array of other plan information will lead to improvements in consumer decisions. Ultimately, policymakers should reconsider the benefits of restricted health plan menus or personalized defaults that do not lead consumers into costly and persistent errors in enrollment. More ambitiously, policymakers might consider fundamentally simplifying the structure of insurance so that consumers better understand the plan choices provided to them.<sup>23,24</sup>

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## endnotes

- A. Data were from the Qualified Health Plan landscape, accessed in July 2014 from <http://www.healthcare.gov>.
- B. Specifically, we assumed that the average number of visits per enrollee is 5.7 for primary care physicians and 5.8 for specialists among 30-year-olds; 5.9 and 7.5, respectively, for 40-year-olds; 6.3 and 9.5 for 50-year-olds; and 7.1 and 11.7 for 60-year-olds. We doubled these figures to arrive at the numbers for couples.
- C. For a smaller subset of individuals eligible for additional cost-sharing subsidies, potential overspending may differ from the reported figures.
- D. The subjects were diverse in gender (men = 38%, women = 62%), age (26 to 35 years = 18%, 36 to 45 = 23%, 46 to 55 = 25%, older than 55 = 33%), yearly income (up to \$30,000 = 34%, \$30,001 to \$50,000 = 24%, \$50,001 to \$80,000 = 25%, \$80,001 to \$120,000 = 10%, greater than \$120,000 = 7%) and education (college = 40%, some college = 39%, high school = 19%, less than high school = 2%).
- E. Our primary measure of expected utilization involved asking subjects how many times they expected to see a doctor or visit a hospital in the next year. As a second, more qualitative measure, we asked subjects if they expected to seek little or no care, a moderate amount of care, or a great deal of care.
- F. We separately modeled demand for over- and underinsurance as defined in Figure 3 with a linear probability model in which demand is a function of a participant's self-reported risk, after controlling flexibly for self-reported health and income. We note that these estimates are fairly imprecise given the small experimental sample in each labeling condition.

## references

1. Burke, A., Misra, A., & Sheingold, S. (2014). *Premium affordability, competition, and choice in the health insurance marketplace, 2014* [Research brief]. Retrieved from U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, website: <https://aspe.hhs.gov/system/files/pdf/76896/2014MktPlacePremBrf.pdf>
2. Abaluck, J., & Gruber, J. (2011). Choice inconsistencies among the elderly: Evidence from plan choice in the Medicare Part D program. *American Economic Review*, *101*, 1180–1210.
3. Ho, K., Hogan, J., & Morton, F. S. (2015). *The impact of consumer inattention on insurer pricing in the Medicare Part D program* (NBER Working Paper No. 21028). Cambridge, MA: National Bureau of Economic Research.
4. Kling, J., Mullainathan, S., Shafir, E., Vermeulen, L., & Wrobel, M. (2012). Comparison friction: Experimental evidence from Medicare drug plans. *Quarterly Journal of Economics*, *127*, 199–235.
5. Ericson, K. M. (2014). Consumer inertia and firm pricing in the Medicare Part D prescription drug insurance exchange. *American Economic Journal: Economic Policy*, *6*, 38–64.
6. Heiss, F., McFadden, D., & Winter, J. (2010). Mind the gap! Consumer perceptions and choices of Medicare Part D prescription drug plans. In D. A. Wise (Ed.), *Research findings in the economics of aging* (pp. 413–481). Chicago, IL: University of Chicago Press.
7. Ketcham, J. D., Lucarelli, C., & Powers, C. A. (2012). Sinking, swimming, or learning to swim in Medicare Part D. *American Economic Review*, *102*, 2639–2673.
8. Ketcham, J. D., Lucarelli, C., & Powers, C. A. (2015). Paying attention or paying too much in Medicare Part D. *American Economic Review*, *105*, 204–233.
9. Johnson, E. J., Hassin, R., Baker, T., Bajger, A. T., & Treuer, G. (2013). Can consumers make affordable care affordable? The value of choice architecture. *PLoS ONE*, *8*(12), Article e81521.
10. Kairies, N., Kokot, J., Vomhof, M., & Wessling, J. (2014). *How do consumers choose health insurance? An experiment on heterogeneity in attribute tastes and risk preferences* (Ruhr Economic Paper No. 537). Retrieved from <http://ssrn.com/abstract=2579733>
11. Schram, A., & Sonnemans, J. (2011). How individuals choose health insurance: An experimental analysis. *European Economic Review*, *55*, 799–819.
12. Bhargava, S., Loewenstein, G., & Sydnor, J. (in press). Choose to lose: Health plan choices from a menu with dominated options. *The Quarterly Journal of Economics*.
13. Handel, B. (2013). Adverse selection and inertia in health insurance markets: When nudging hurts. *American Economic Review*, *103*, 2643–2682.
14. Strombom, B. A., Buchmueller, T. C., & Feldstein, P. J. (2002). Switching costs, price sensitivity and health plan choice. *Journal of Health Economics*, *21*, 89–116.
15. Handel, B. R., & Kolstad, J. T. (2015). Health insurance for “humans”: Information frictions, plan choice, and consumer welfare. *American Economic Review*, *105*, 2449–2500.
16. Sandroni, A., & Squintani, F. (2007). Overconfidence, insurance, and paternalism. *American Economic Review*, *97*, 1994–2004.
17. Gabaix, X., & Laibson, D. (2006). Shrouded attributes, consumer myopia, and information suppression in competitive markets. *The Quarterly Journal of Economics*, *121*, 505–540.
18. DellaVigna, S., & Malmendier, U. (2004). Contract design and self-control: Theory and evidence. *The Quarterly Journal of Economics*, *119*, 353–402.
19. Heidhues, P., & Köszegi, B. (2014). *Using information about naivete to price discriminate* [Working paper]. Retrieved from <https://huntsman.usu.edu/qsp/documents/2014papers/Koszegi.pdf>
20. Célérier, C., & Vallée, B. (2015). *Catering to investors through product complexity* (Harvard Business School Working Paper 16-050). Retrieved from Harvard Business School website: [http://www.hbs.edu/faculty/Publication%20Files/16-050\\_5e5fd8d5-652e-4a13-abe7-ffd1466ef691.pdf](http://www.hbs.edu/faculty/Publication%20Files/16-050_5e5fd8d5-652e-4a13-abe7-ffd1466ef691.pdf)
21. Ubel, P. A., Comerford, D. A., & Johnson, E. (2015). Healthcare.gov 3.0—Behavioral economics and insurance exchanges. *New England Journal of Medicine*, *372*, 695–698.
22. Handel, B., & Kolstad, J. (2015). *Getting the most from marketplaces: Smart policies on health insurance choice* (The Hamilton Project Discussion Paper 2015-08). Retrieved from Hamilton Project website: [http://www.hamiltonproject.org/assets/files/smart\\_policies\\_on\\_health\\_insurance\\_choice\\_final\\_proposal.pdf](http://www.hamiltonproject.org/assets/files/smart_policies_on_health_insurance_choice_final_proposal.pdf)
23. Loewenstein, G., Friedman, J. Y., McGill, B., Ahmad, S., Linck, S., Sinkula, S., . . . Volpp, K. G. (2013). Consumers’ misunderstanding of health insurance. *Journal of Health Economics*, *32*, 850–862.
24. Bhargava, S., & Loewenstein, G. (2015). Behavioral Economics and Public Policy 102: Beyond nudging. *American Economic Review: Papers & Proceedings*, *105*, 396–401.