

Behavioral Economics and the Affordable Care Act Marketplaces:  
Utilizing Choice Architecture to Optimize Consumer Decisions  
for Health Insurance

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## ABSTRACT

People make poor decisions when choosing health insurance plans. This raises a major concern, which is whether an average consumer can effectively navigate through dozens of plan options, all the while considering the complex variables and calculations associated with the task, and make a truly informed choice. Unfortunately, recent studies point to the variety of behavioral failures that exist in this market which inhibit efficient and effective operation of consumer choice. In response, this paper focuses on using behavioral economics, particularly choice architecture tools, to provide recommendations for improvements to the marketplace website design. The paper is organized into three parts, which mimics the order of events consumers experience as they proceed through the marketplace. The first part focusses on surveying the shopper, which includes a preliminary questionnaire aimed at determining shoppers' needs and preferences prior to the browsing page. The second part explores the optimal design for presenting health plan choices, particularly relating to the default ordering of available options. The third part proposes the use of consumer aids, particularly educational, case scenario cost and intelligent assignment tools. In summary, the goal of this study is to help shoppers help themselves make better health plan decisions based on cost, value, care and personal preferences through the application of behavioral economics.

## BACKGROUND

### *Affordable Care Act*

While other topics have overwhelmed the political arena at times, healthcare has always remained one of them, and for good reason, because it affects Americans each and every day. Healthcare was especially pertinent during the 2008 presidential election with radical changes to the national delivery of care being proposed. Changes to this extent were last seen over half a century ago with the creation of Medicare and Medicaid in 1965. Amid the worst financial crisis since the Great Depression, problems such as uncontrollable healthcare costs and over 46 million Americans uninsured (with many more under-insured) resonated across the country. As a result, President Obama began to frame healthcare reform as a necessary step towards rebuilding the economy.

Two years later in March of 2010, the Affordable Care Act (ACA or "Obamacare") was signed into law. The ACA has three primary objectives: 1) increase health insurance coverage, 2) reduce rising costs of healthcare, and 3) improve the quality of care provided. Among its key provisions include a mandate for all Americans to obtain health coverage, a notable expansion to the Medicaid program, and a multitude of consumer protections including guaranteed issue, a ban on exclusion by pre-existing condition, premium subsidies, and what will be focal point of this paper – the creation of the health insurance marketplace, also known as the “exchange.” An exchange is an organized market for the purchase of health insurance which was first rolled out under the mandate of the ACA in October of 2013. It serves a wide variety of roles, including being a venue for managed competition in effort to increase affordability and accessibility, creating a sizeable risk pool, making markets more transparent to facilitate consumer decision-making, and facilitating other key features of reform such as payment of premium tax credits and enforcement of mandates. Overall, the marketplace allows previously uninsured individuals, including those without employer-sponsored insurance and small companies, to be able to purchase health insurance for themselves and their families directly online. The hope was that it would bring together millions of Americans relying on individual policies in order to create larger risk pools thus encouraging greater competition and lower premiums.

### *Creation of State-based, Federally-facilitated, and Hybrid Marketplaces*

After the ACA's passage, states were given two options based on their desired level of involvement – either create their own state-based marketplace (SBM) or utilize the federally-facilitated marketplace through HealthCare.gov. However, it quickly became apparent that significantly fewer than expected number of states would elect the first option; the majority took the escape route and opted to let Washington do the legwork. This was partly a reflection of hostility towards the ACA, but mainly on the grounds of legitimate concerns over the political and financial consequences as well as the technical hurdles associated with such a substantial undertaking. Shortly after, the Department of Health & Human Services also invented hybrid marketplaces (e.g. “State-partnership” and “Federally-supported State-based”) in effort to collaborate with state insurance commissioners expressing interest in greater involvement. This solution delegates significant authority and responsibility back to the state while allowing them to continue utilizing the federal IT platform.

As of March of 2016, the distribution of marketplace types is 13 State-based marketplaces, 4 Federally-supported marketplaces, 7 State-partnership marketplaces and 27 Federally-facilitated marketplaces. The following paper focuses on the 13 states that have established a SBM since they each run their own IT platform. The SBMs will be referred to by the state abbreviation followed by a ‘M’ (for example, NY-M for the New York marketplace). Residents of the remaining 38 states enroll for coverage through [www.HealthCare.gov](http://www.HealthCare.gov), therefore, will be collectively referred to as HealthCare.gov. Because this paper is interested in surveying the choice architecture tools used on each unique marketplace website, the distribution of state involvement is irrelevant.

### *Health Insurance Shopping Experience*

Consumers have four ways to apply for health coverage: online, by phone, with help of a trained assister, or by paper application. Consumers simply need to enter their respective SBM website or HealthCare.gov in non-SBM states. If help is needed in navigating through the marketplace, consumers can access the call center 24/7. Another option is to receive in-person help in one's local community through navigators who can help shoppers apply, choose, and enroll in a plan. Shoppers can make a simple search using the "find local help" tool which redirects them to a

list of sponsored assister programs in their area, including certified application counselors, federally qualified health centers and in-person assisters, as well as health insurance agents and brokers.

However, the majority of shoppers do not utilize external aids or seek a navigator. According to a New York State of Health press release on marketplace enrollment, 41 percent of enrollees across all programs enrolled through the website without assistance in 2014. Additionally, in Connecticut, online applications by consumers enrolling independently (rather than through brokers, assisters or the call center) remained the single largest source of enrollment (Wishner et al., 2015). Most shoppers continue to shop autonomously and may potentially be making uncertain decisions in the process. Therefore, these statistics underscore the importance of a reliable and user-friendly marketplace that helps not only promote higher enrollment rates but also ensures optimal, cost-effective decision making by independent shoppers.

## LITERATURE REVIEW

### *Understanding the Shoppers*

Every fall during open enrollment season, tens of millions of Americans use the ACA marketplace to enroll in a health insurance plan. Along with the growing use of private health insurance exchanges by employers, individual consumers are beginning to play a more significant and decisive role in their plan selection. This raises the question, can an average consumer effectively navigate through the myriad of plan options, all the while considering the complex variables and calculations required to make a truly informed choice?

Let us first consider who we are dealing with – the enrollees. According to the Department of Health and Human Services, there are nearly 11.7 million enrolled in the marketplace as of 2015. Out of these enrollees, 35 percent are between the ages of 18 and 34, demonstrating a significant increase in participation from young adults. This also reveals that to a substantial portion of marketplace shoppers, this may be their first encounter with health insurance as recent graduates or those no longer qualifying as dependents on parental insurance plans. More than half (53 percent) of the enrollees were also new consumers who did not have coverage as of 2014, further supporting this point. Additionally, 87 percent of the enrollees qualified for government subsidies to help them purchase coverage, with an average tax credit of \$263. Correspondingly, the majority of enrollees were found to earn less than 400% of the Federal Poverty Level, averaging an annual income of

\$29,425 for an individual. This demographic finding indicates that the majority of shoppers that the marketplace services are either young adults new to health insurance or low income individuals. Therefore, it can also be inferred that those who shop on these marketplaces are more likely to have low insurance and financial literacy and thus may lack the proper knowledge of major terminology and concepts which are crucial to the decision-making process. These findings substantiate the argument that marketplaces need to be designed so that they best tailor to a large population of shoppers who are new to health insurance.

Furthermore, a variety of studies have also investigated the ability of shoppers to make optimal decisions regarding their health plan choice. Unfortunately, substantial evidence points to severe limitations such as lack of comprehensibility, succumbing to behavioral biases such as faulty heuristics, and limited literacy skills. Evidence from enrollment in the Massachusetts Health Connector, the exchange which served as the principal model for the ACA's exchanges, suggests that consumers struggle in making informed health plan decisions (Sinaiko et al., 2013). From one Connector plan, 42 percent of enrollees reported that health plan information was "hard to understand" and 54 percent reported that they either had help choosing a plan or wished that they had. Ericson and Starc (2012) went a step further and examined the Connector plan selections made by the consumers. They concluded that shoppers may be using heuristics and searching out the "cheapest and least generous plans" instead of comparing plans' benefits and costs; 20 percent of enrollees chose the cheapest plan possible. These reports are not surprising given the vast amount of recent literature citing high insurance and financial illiteracy rates and limited numeracy skills in shoppers, which are critical for making cost-effective decisions (Bhargava et al., 2015; Loewenstein et al., 2013; Politi et al., 2015; Blumberg et al., 2013; Long et al., 2014). Collectively, these studies provide staggering evidence pointing to the same conclusion – consumers have difficulty making optimal choices in a complex environment, which would be an understatement when describing the health insurance marketplace.

#### *Using Behavioral Economics & Choice Architecture*

These studies bring to light the variety of behavioral failures that exist in this market, including asymmetric information, choice overload, inattention, complexity aversion, heuristics, illiteracy and other unintended influences and biases. These failures ultimately inhibit efficient and effective operation of consumer choice. As a result, health insurance policy makers should consider

insights from behavioral economics, particularly choice architecture, which is a strategy commonly practiced by marketers of other products and services as well. Choice architecture, a term coined by Thaler and Sunstein (2008), represents the design of ways in which choices can be presented to a decision maker. Using techniques such as varying the presentation order of alternatives or selecting strategic defaults, choice architecture can be highly influential. Oftentimes, it has a significant impact on what is ultimately chosen.

## AIM

In response to marketplace concerns emphasized by these latest studies, this paper looks for potential solutions. It explores tools of choice architecture in hopes of encouraging a more simplified, user-friendly marketplace design that is appealing to consumers. In reference to Ubel et al. (2015), whereas the first round of open enrollment was primarily about avoiding catastrophe and the second round was about fixing minor bugs in the programming code, the third round should focus on redesigning the way marketplaces present insurance plan choices to help improve shoppers' decision-making. Correspondingly, this paper provides a comprehensive list of recommendations for improving the state and federal marketplaces in preparation for next enrollment year. The ultimate goal is to help consumers maneuver through this confusing system while being independently capable of making optimal choices based on their unique needs and preferences.

## METHODOLOGY

This study was conducted through the examination of HealthCare.gov and all 13 SBM websites after the third enrollment period. Each marketplace was surveyed and detailed screenshots of the webpages were recorded. The process simulated a typical marketplace shopping experience in context of *window shopping*, which refers to what consumers would see when browsing plan options anonymously prior to creating an account, in comparison to *real shopping*, which refers to what consumers are presented with on the website after creating a verified account with personal identification. Subtle differences exist in the choice environments of window and real shopping contexts (Figure 1; Wong et al., 2016); unfortunately, this study could not collect data in context of the real shopping experience due to complications regarding account verification. This study was

also conducted after the closing of the 2016 enrollment period which ended on January 31, 2016. Therefore, the data presented in this paper refers exclusively to the window shopping experience.

<b>Choice environments in the health insurance Marketplaces, by window-shopping and real-shopping context</b>		
	<b>Number of Marketplaces (N = 14)</b>	
	<b>Window shopping</b>	<b>Real shopping</b>
<b>DEFAULT ORDER OF PLANS BY:</b>		
Premium	11	10
Estimated total out-of-pocket spending	2	2
Best fit for consumer	0	1
Silver tier listed first	0	1
Metal tier	1	0
<b>CONSUMER DECISION AIDS</b>		
Total cost estimator	5	2
Integrated provider lookup	8	9
Integrated drug lookup	1	0
Quality ratings	4	5
Pop-up definitions	10	11

**SOURCE** Authors' analysis of health insurance Marketplaces in the third open enrollment period, November 1–30, 2015. **NOTES** "Window-shopping context" refers to what consumers see when browsing plan options before creating an account. "Real-shopping context" refers to what consumers see after they create an account with their personal identification. The information presented in this exhibit applies to window-shopping consumers who did not qualify for premium tax subsidies. Quality ratings and pop-up definitions are explained in the Notes to Exhibit 1.

*Figure 1. Differences in marketplace choice environments by window-shopping and real-shopping context (Wong et al., 2016)*

Within each marketplace, data was collected on the preliminary questionnaire (if applicable), the main browsing page with regard to the default ordering of plan options, as well as, any consumer aids utilized. This study was inspired by Wong et al. (2016), where she and her team conducted a survey across all the state-based websites and HealthCare.gov while examining and recording the characteristics found on each individual marketplace. Wong documented specific features, including the following: the order in which plans were displayed; the plans' features that were presented on the main browsing page; the availability of decision aids, such as quality rating, estimators of personal out-of-pocket costs that required consumer-specific information, tools that incorporated information about the availability of providers and formularies, and explanations that popped up when the cursor hovered over terms. The following Figure 2, sourced from Wong et al., exhibits the characteristics found on each marketplace.

**Choice environments in the health insurance Marketplaces, real-shopping context**

				Functionalities on HealthCare.gov and state-based Marketplaces		
		Available on state-based Marketplaces				
	Available on HealthCare.gov	No.	States	Sort only	Filter only	Sort and filter
DEFAULT ORDER OF PLANS BY:						
Premium	Yes	9	CO, CT, DC, ID, MD, NY, RI, VT, WA	— <sup>a</sup>	— <sup>a</sup>	— <sup>a</sup>
Estimated total out-of-pocket spending	No	2	CA, KY	— <sup>a</sup>	— <sup>a</sup>	— <sup>a</sup>
Best fit for consumer	No	1	MN	— <sup>a</sup>	— <sup>a</sup>	— <sup>a</sup>
Silver tier listed first	No	1	MA	— <sup>a</sup>	— <sup>a</sup>	— <sup>a</sup>
CONSUMER DECISION AIDS						
Total cost estimator	No	2	CA, KY	2	0	0
Integrated provider lookup	Yes	8	CO, DC, KY, MD, MA, NY, RI, WA	1	2	0
Integrated drug lookup	No	0	None	0	0	0
Quality ratings	No	5	CA, CT, MD, NY, VT	1	0	3
Pop-up definitions	No	11	CA, CO, CT, ID, MD, MA, MN, NY, RI, VT, WA	— <sup>a</sup>	— <sup>a</sup>	— <sup>a</sup>
PLAN FEATURES PRESENTED						
Premiums	Yes	13	CA, CO, CT, DC, ID, KY, MD, MA, MN, NY, RI, VT, WA	3	1	10
Maximum out-of-pocket spending	Yes	12	CA, CO, CT, ID, KY, MD, MA, MN, NY, RI, VT, WA	1	3	4
Deductible	Yes	13	CA, CO, CT, DC, ID, KY, MD, MA, MN, NY, RI, VT, WA	1	1	9
Metal tier	Yes	13	CA, CO, CT, DC, ID, KY, MD, MA, MN, NY, RI, VT, WA	1	10	3
Insurance carrier	Yes	13	CA, CO, CT, DC, ID, KY, MD, MA, MN, NY, RI, VT, WA	0	6	5
Plan type, such as HMO	Yes	9	CA, CO, DC, ID, KY, MD, MA, MN, VT	0	8	0
Indication of network size	No	2	MA, RI	0	0	0

**SOURCE** Authors' analysis of health insurance Marketplaces in the third open enrollment period, November 1–30, 2015. **NOTES** "Real-shopping context" refers to what consumers see after they create an account with their personal information. "States" are the fifty states and the District of Columbia. There are thirteen state-based Marketplaces and one federal Marketplace. Quality ratings and pop-up definitions are explained in the Notes to Exhibit 1. HMO is health maintenance organization. <sup>a</sup>Not applicable.

*Figure 2. Choice environments in the health insurance marketplaces in real-shopping context (Wong et al., 2016)*

The goal of this study is to take Wong's efforts one step further. After surveying the variety of features found across each marketplace, this study builds off this data by relating specific characteristics to literature-based behavioral economic concepts. This knowledge is then applied to provide recommendations for improvements to the marketplace design.

## OUTLINE

The remainder of this paper provides examples of tools available to choice architects and how they can be applied to the marketplace. The goal of this study is to provide an initial roadmap and to identify, describe and categorize many of the tools available to choice architects coupled with brief illustrative applications found on current SBMs or Healthcare.gov. Following a brief, systematic review of literature, a "model" and "improvement" case will be presented to serve as examples illustrating the concepts discussed. Each section serves as a primer for considering issues

in marketplace design from a behavioral economics perspective and concludes with innovative recommendations that supplement the currently used designs.

The paper is divided into three sections: surveying the shopper, presenting the options and helping the shopper, mimicking the order that information is presented to a typical shopper proceeding step-by-step through the marketplace website. Correspondingly, the list of choice architecture tools to be discussed is divided into three broad categories, which include those used in the preliminary questionnaire, in the presentation of choice options, and as consumer decision aids. The design and features of each marketplace will be compared and applied to literature-based behavioral economic concepts. Finally, the paper concludes with potential frameworks and recommendations that unite these theories.

## PART 1: SURVEYING THE SHOPPER

Standard across all the marketplaces, the shopping process begins with basic preliminary questions prior to allowing shoppers browse the available plans (Figure 3). The default standard questions relate to location, number of household members, and personal information, including age, gender, pregnancy and tobacco use. These questions are essential for the marketplace to be able to provide an accurate list of available plans in one's area and their associated costs. However, certain SBMs involve more in-depth questions in a separate preliminary questionnaire such as expected household income and expected medical usage. Depending on the marketplace, these more in-depth questions can be optional or mandatory; only after answering these questions are shoppers redirected to the browsing plan page. The following will explore some issues common to the preliminary questionnaire section of the shopping experience along with its relevance to literature-based behavioral economic concepts.

access health CT

ahCT Mobile | Create Account | Sign In

Google Custom Search Search

Get Health Coverage Learn More Get Help

ENTER BASIC INFORMATION BROWSE INSURANCE PLANS APPLY FOR HEALTH COVERAGE CONFIRM PLANS

**Let's get started!**  
We need to know a little about you

**Tell us who needs coverage** Fields marked with \* are required.

County of the applicant? \*

What is the age of the applicant? \*

**Optional Information**  
For detailed pricing, please provide the optional information below.

Is the applicant pregnant? ☐ Yes ☒ No

**Tell us about your total household income**

**Optional Information**  
To view subsidies available for you, please enter your income information below.

What is the total household income?

Annual Total

Depending on your income, you may qualify for reduced cost plans.

Note: Beginning January 1, 2014, under federal law (the Affordable Care Act) individuals must have minimum health insurance coverage. People who don't have Medicaid, CHIP or other minimum coverage might have to pay a penalty.

< Back Next >

Figure 3. Screenshot of the standard preliminary questions found on Connecticut's SBM

### Behavioral Economic Concepts

#### i. Defaults

Choice architects can exert significant influence over consumer choices through the use of default-setting policies. Defaults serve as classic instruments of libertarian paternalism; they appeal to a wide audience by respecting freedom of choice while simultaneously guiding consumers to behave in ways that will make their lives better (Sunstein and Thaler, 2003). Studies have shown the

strong role that defaults play on real world choices across a variety of domains, including investment (Cronqvist and Thaler 2004; Madrian and Shea, 2001), insurance (Johnson et al. 1993), marketing (Goldstein et al. 2008) and organ donation (Johnson and Goldstein 2003). For example, Johnson and Goldstein (2013) found that a simple default switch making donation the default option (for the decision to become an organ donor) had significant effects. The extent of this impact was seen through increased donation agreement rates of 16 percent, which is equivalent to 2.3 million donors. There is a whole palette of default-setting policies, including simple defaults (one default for all), random defaults (randomized assignment), and most notably, forced choice (withholding the product by default and releasing it only after an active choice is made) which is of particular interest in this section.

An important consideration for marketplace choice architects is determining whether to make the preliminary questionnaire, by default, a mandatory or optional step in the shopping process. Shoppers go to the marketplace website to shop, therefore, they want to see the products right away. However, it is important to note the significance of the preliminary questionnaire, especially questions on household finances. These responses are essential for the marketplace to be able to determine if a shopper qualifies for government subsidies such as tax credit, a cost-sharing reduction or no cost coverage. This not only helps lower premium costs but can provide overall savings of up to hundreds if not thousands of dollars a year, especially if the shopper is deemed eligible for more comprehensive, generous programs such as Medicare, Medicaid or CHIP to which they are then redirected to. Certain individuals and families with low to moderate incomes between 100 to 400 percent of the Federal Poverty Level may be eligible for these savings, therefore underscoring the importance of not only providing a response but providing an *accurate* one. However, while mandated response can ensure high response rates, it also comes at a cost of skimming behavior and inattention thereby risking response accuracy.

## ii. Inattention

After mandating consumers take part in a preliminary questionnaire prior to doing what they came to do, which is to shop, an important consideration is ensuring a willingness to do the task thoroughly. In the case that the questionnaire is long and extensive, this risks becoming off-putting to shoppers as they grow impatient (*we can easily relate to this if we recall our last doctor's visit and being asked to fill out a medical history form with 40+ checkboxes*). A common response is feeling overwhelmed,

oftentimes resulting in question skimming without proper attention to each individual question. Though empirical literature on surveys are sparse, some qualitative work has been done to better understand respondents' perception of surveys. When critiquing surveys, respondents claim that they expect to see adequate information about the survey's purpose and topics, as well as, the data uses and the research organization (Landreth, 2004; Leeuw et al., 2007). Upon survey of the SBMs and HealthCare.gov that utilize preliminary questionnaires, it was found that it is rarely indicated to shoppers *why* certain questions, which are oftentimes very personal, are being asked and *how* their responses will be used. Therefore, it is common for shoppers to be unaware of how their responses are being utilized and the potential it has to be significantly beneficial to them, which poses an issue.

### iii. Information Overload

The combination of increasing quantities of information and limited information processing capacities leads to a phenomenon known as information overload, similarly described as analysis paralysis (Stanley & Clipsham, 1997) and information fatigue syndrome (Oppenheim, 1997). Information overload is a common problem found across almost all disciplines, including medicine, business, law and more. A number of studies have commonly concluded that information overload is believed to reduce decision-making effectiveness (Speier et al., 1999; Keller and Staelin, 1987; Lee and Lee, 2004; Edmunds and Morris, 2000). Klapp (1986) claims that a large amount and high rate of information act like noise when they reach overload, a rate too high for the receiver to process efficiently without distraction, stress, increasing errors and other costs making information poorer. Similarly, Klapp showed how information overload can also be a cause of boredom. Almost everyone has, at some point, experienced the feeling of being bombarded with too much information (*let us recall our latest tax forms*), resulting in feeling stressed which, in turn, affects our decision-making abilities. Given the massive amount of questions and data displayed as shoppers proceed through the marketplace, information overload and its consequences pose major concerns.

### iv. Goal Gradient Effect

The goal gradient effect hypothesis refers to the behavior where our tendency to approach a goal increases with proximity to the goal. This theory was originally proposed by behaviorist Clark Hull in 1932. In his classic experiment, Hull (1934) found that rats in a straight alley ran

progressively faster as they proceeded from the starting box to the food. Its implications for human behavior and decision-making were further explored by Kivetz et al. (2006). This study provided empirical evidence of this effect, showing that (1) participants in real café reward programs purchased coffee more frequently the closer they got to earning a free coffee, (2) Internet users who rate songs in return for reward certificates rated more songs per visit on the website as they approached the reward goal and (3) the illusion of progress towards the goal induces purchase acceleration. This was exemplified when customers, who received a 12-stamp coffee card with 2 preexisting “bonus” stamps, completed the required purchases faster than those who received a “regular” 10-stamp coffee card. This behavioral phenomenon has significant theoretical and practical implications for intertemporal consumer behavior which can be used in motivational systems (e.g., Hsee et al., 2003; Kivetz and Simonson, 2003; Lal and Bell, 2003). In this study, we extend the goal gradient effect to the domain of consumer behavior on the marketplaces. It investigates the consequences of this behavior by exploring its implications on creating an incentive system in the preliminary questionnaire section through the use of a progress indicator.

#### v. Heuristics

Publications by Tversky and Kahneman (1974) have shown that under uncertain conditions, humans tend to make judgements by relying on identifiable heuristics. A heuristic can be thought of as a substitution of the intended but difficult-to-answer *target question* with a simpler, easy-to-answer *heuristic question* which one answers instead. When faced with a complex decision, heuristics provide a quick off-the-shelf solution; however, they are often imperfect and lead to inaccurate conclusions. For example, one may assess the risk of a heart attack by recalling such occurrences among one’s acquaintances. This is known as the availability heuristic, which can be described as assessing the frequency of a class of events based on the ease at which instances come to mind. This is consistent with research done in the area showing that in these situations, humans make systematic and costly mistakes as a result of their limitations in cognition, motivation and self-control (DellaVigna, 2009).

One, if not the most crucial, question in the preliminary questionnaire is asking shoppers how much health insurance do they ultimately need? And correspondingly, how much can they afford to spend on healthcare costs? Both questions are difficult to answer since they require shoppers to weigh and analyze their financial and medical status, comfort level, and probability of future risks. None of these complex considerations are easy to thoughtfully process, as a result,

shoppers respond by using heuristics. The following are two examples of target questions asked to shoppers followed by potential heuristics that consumers may substitute them for instead.

Target question: “How much are you comfortable contributing to healthcare costs?”

Heuristic question: “How much emotion do I currently feel about my health right now?”

Target question: “What is your level of medical usage?”

Heuristic question(s): “Am I sick right now?” or “When was the last time I had a medical emergency?”

Unfortunately, these heuristics make poor substitutes. They replace target questions with heuristics which are temporal and particular to one’s current status. Therefore, utilizing heuristics poses a risk of recency bias, the tendency to believe that trends observed in the recent past will continue into the future and therefore recent events are referred to as a source of reasoning for future decisions. For example, imagine a shopper is unhappy from a bad day at work or happened to be sick with a common cold on the day of shopping. The shopper may be inclined to perceive his medical need as higher than expected, resulting in unnecessary and expensive costs all-year long. On the other hand, imagine a shopper had just come back from his daily run and is feeling extremely optimistic from the rush of endorphins. This shopper may perceive his medical needs to be much lower than expected whereas, in fact, he has been struggling with chronic kidney disease and requires expensive hemodialysis sessions on a weekly basis. In this case, the shopper would have been better off with a more expensive but more comprehensive benefits plan. In summary, one’s current medical and financial status is not representative of one’s overall condition over the course of a year, which is the length of a typical insurance plan contract.

### *Illustrative Cases*

The following compares two marketplace examples, the SBMs of Kentucky and Minnesota, which represent an *improvement* and *model case* respectively. This case study serves to provide illustrative, real-world examples of the behavioral economic concepts discussed above.

i. Improvement Case: Kentucky SBM

The following analysis looks at an *improvement case* of the preliminary questionnaire section exemplified by the Kentucky SBM (KY-M). KY-M requires its shoppers to respond to a comprehensive list of questions beyond the standard demographic questions of other marketplaces. However, KY-M's questionnaire falls short of optimal design. It has two major problems: 1) unnecessary questions and 2) overwhelming organization (Figure 4).

The KY-M preliminary questionnaire mandates an extensive list of questions be answered, many of which are neither necessary nor does it aid in the shopping process. For example, one question asks, "Is Household Member 1 dependent on a ventilator?" This question applies to only a very small minority of shoppers and should not be used on a general questionnaire. The questionnaire eerily resembles the medical history forms found in every doctor's office. Not to mention, KY-M requires this extensive list of questions be answered for *each* member of the family thereby becoming an extremely tedious and repetitive process for the shopper. Accompanying the problem of question overload, KY-M also lacks a progress indicator. As a result, shoppers are uncertain as to how many questions will be asked therefore, assuming it to be extensive, risks inattention and response inaccuracy.

The figure displays two side-by-side screenshots of the Kentucky SBM preliminary questionnaire for Household Member 1. Both screens feature a header with the 'kynect' logo and a prompt: 'Please make sure you answer every question.' Below the header is a placeholder for a profile picture labeled 'Household Member 1'. The main content area is titled 'Household Member 1's information' and contains a list of 10 questions, each with radio button options for 'Yes' and 'No'. The questions are as follows:

- \* Is Household Member 1 a parent or caretaker for any child in the household?
- \* Does Household Member 1 require any long term care services?
- \* Is Household Member 1 blind or permanently disabled?
- \* Does Household Member 1 receive Supplemental Security Income (SSI)?
- \* Is Household Member 1 pregnant?
- \* Do you or any household members have access to health insurance from a job? Or, do you have access to other health insurance coverage? (Medicare, TRICARE, Veterans' Health)
- \* Is Household Member 1 a member of a federally recognized American Indian or Alaskan Native tribe, band, nation, community or other group?
- \* Does Household Member 1 have an acquired brain injury?
- \* Is Household Member 1 dependent on a ventilator?
- \* Does Household Member 1 require assistance in order to be able to remain in his or her home?
- \* Does Household Member 1 have a behavioral or intellectual or developmental disability?
- \* Is Household Member 1 an in-patient of a hospital, nursing facility, or intermediate care facility for intellectual disability?
- \* Is Household Member 1 a resident of a personal care home?
- \* Would Household Member 1 like to leave the facility and receive these services in his or her own home and community?

At the bottom of each screen are three buttons: 'Exit', 'Back', and 'Next'.

Figure 4. Screenshot of the preliminary questionnaire found on Kentucky's SBM

ii. Model Case: Minnesota SBM

The subpar KY-M design can be contrasted against a *model case* employed by the SBM of Minnesota (MN-M), which is discussed in the following analysis. MN-M is unique in having a preliminary questionnaire that is not only more comprehensive than any other SBM or HealthCare.gov, but has also been designed by default to be a mandatory step prior to access to the browsing page. Furthermore, it remains concise enough not to deter impatient shoppers. This preliminary questionnaire takes the shopper step-by-step through a series of questions which appear one at a time. After asking the standard basic demographic questions, MN-M redirects shoppers to a second set of more in-depth questions specifically aimed at determining their medical needs and plan feature preferences (Figure 5). The MN-M questionnaire includes the following:

- 1) *Preferred clinic/hospital*: Allows users to look up a nearby hospital they plan to utilize
- 2) *Plan feature*: Allows users to indicate if they want a Health Savings Account (HSA)
- 3) *Wellness programs*: Allows users to select wellness programs of interest
- 4) *Metal levels*: Allows users to indicate which metal tiered plans they would like to view while providing a definition of each metal tier
- 5) *Deductible*: Allows users to indicate the maximum annual deductible they are most comfortable with from a list of dollar ranges

The figure displays four sequential screenshots of the myMNSure website's questionnaire process, each marked with a red circle and a number:

- Screenshot 1:** The 'Find a Plan' section. It includes a 'Plan Comparison Tool' and a 'Start' button.
- Screenshot 2:** The 'Where do you live?' section. It includes a ZIP code field (55421) and a 'Submit' button.
- Screenshot 3:** The 'What matters most to me' section. It includes a sidebar menu with options like 'Preferred Clinic/Hospital', 'Plan Features', 'Wellness Programs', 'Metal Levels', and 'Deductible'. A 'Next' button is at the bottom.
- Screenshot 4:** The 'Is it important to keep your current clinic or hospital in your plan's network?' section. It includes a 'Yes/No' selection and a 'Next' button.

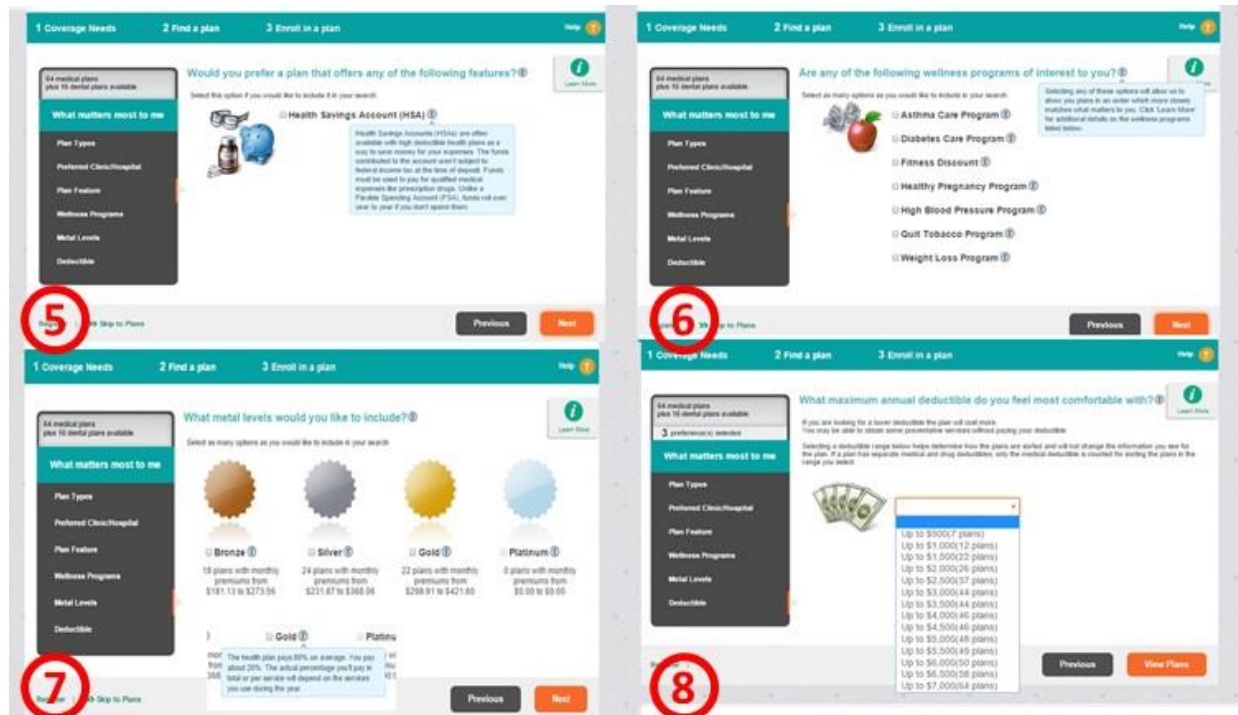


Figure 5. Step-by-step screenshots of the preliminary questionnaire found on Minnesota's SBM.

These model characteristics will help in forming recommendations to Part 1. First, MN-M does a good job presenting each question one at a time per page, with a "next" button redirecting the shopper to the following question on a new page. This design eliminates information overload, which commonly occurs when too many questions are presented at once as an extensive list. Furthermore, by mandating that shoppers proactively select which metal tiered plans they would like to view on the main browsing page in question seven, MN-M prevents shoppers from being confronted with the complete, extensive list of available plans which can range from 50 to up to 740 plans at once (such as on the NY-M). In choice overload experiments, customers were found to be increasingly less like to make a purchase as more products were added to the choice set as a result of decision fatigue (Schwartz, 2004). This mandatory question helps filter results to a reasonable number, eliminating the negative effects of choice overload.

Second, by including a step-by-step timeline indicating one's progress through the preliminary questionnaire, a shopper is able to gauge how far he or she is along the shopping process and what to expect next (Figure 6). This use of a progress indicator exploits learnings from the goal gradient effect hypothesis, a phenomenon that occurs by providing users with a heightened

sense of personal advancement, which serves as an influential source of satisfaction and motivation to continue until completion.

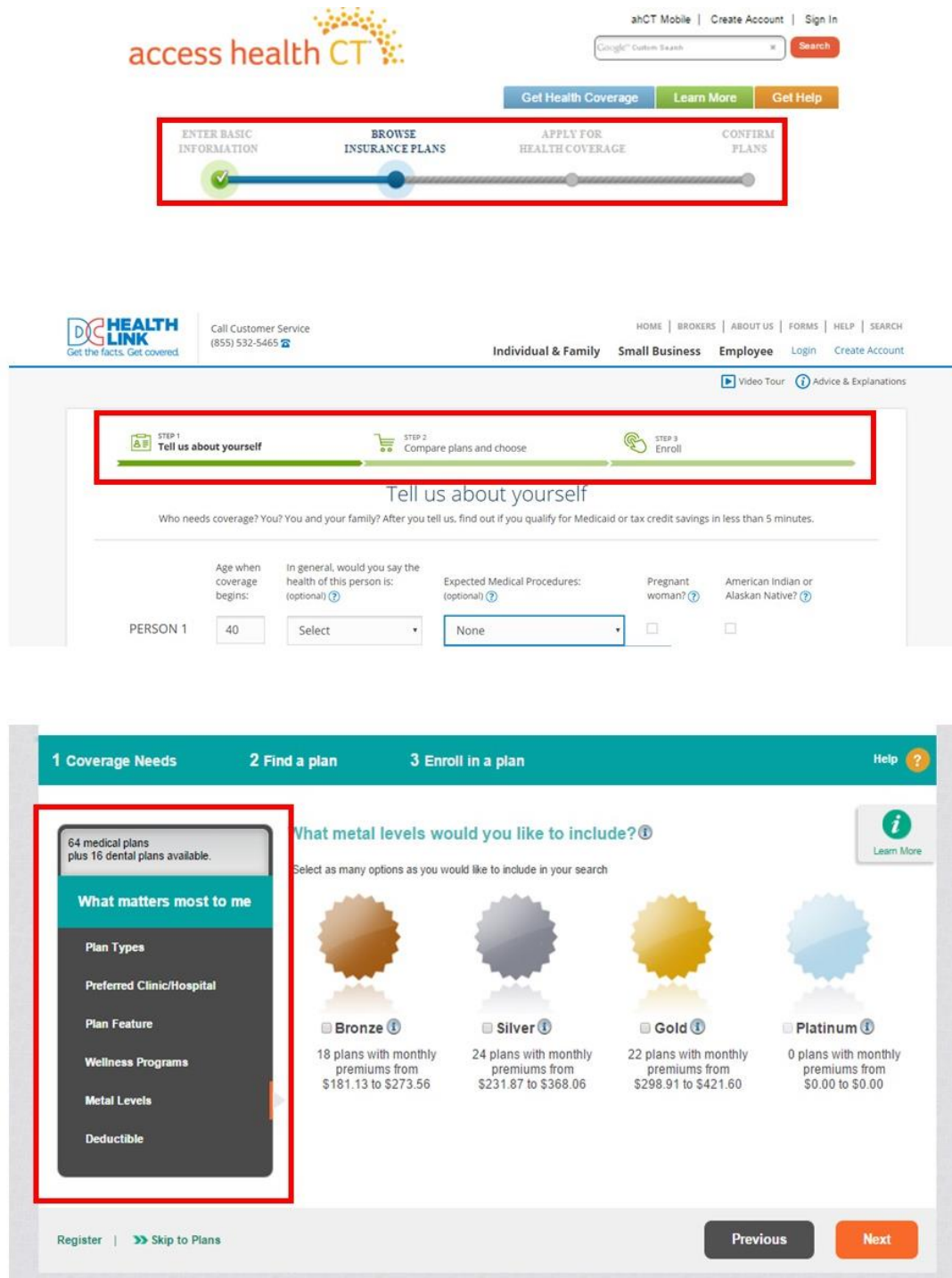


Figure 6. Examples from CT-M, DC-M and MN-M of progress indicator use outlined in red

## *Concluding Recommendations*

In response to the concerns above, Part 1 concludes with five recommendations for the preliminary questionnaire section of a marketplace. These solutions are based on the examples reviewed and critiqued while utilizing known behavioral economic principles to combat the issues discussed.

### *i. Defaults – Use Mandatory Response*

Minnesota has designed its exchange such that the preliminary questionnaire is a required step of the shopping process prior to being able to view the available plan options. This can be compared to other SBMs that list questions as optional, including pregnancy and household income, both which are critical indicators for determining best choice as well as eligibility for savings such as premium tax credits. It is the job of marketplaces to ensure shoppers take advantage of these benefits. Without offering these recommendations to shoppers, it is doubtful that shoppers would be aware of the financial aid opportunities or be capable of choosing the best, most cost-effective option given their unique medical and family situations. In order to guarantee a high participation rate, it is recommended to make the preliminary questionnaire mandatory by default. Additionally, it is also recommended to frame questions so that they are short and concise in content to prevent inattention and inaccuracy, which is discussed in the following.

### *ii. Inattention – Provide Incentive*

An important task for choice architects is to prevent inattention through skimming behavior which has the potential to result in inaccurate responses. One solution to this problem is providing incentives. The most obvious way to get a person to do something is to pay him or her for doing it. The possibility that monetary incentives can crowd out intrinsic motivation was first demonstrated by Deci (1971), who found that unrewarded subjects spent less time working on a puzzle compared to rewarded controls. However, Kamenica (2012) also showed that monetary incentives have the potential to backfire while nonstandard interventions, such as framing, can be more effective for influencing behavior. Combining these two theories may be optimal.

It is recommended that marketplaces make shoppers aware of *why* the preliminary questions are important and *how* their responses will be utilized. This will result in greater willingness to take the time and effort to answer each question truthfully and accurately. This can be accomplished by displaying a statement, such as the following, to shoppers prior to asking more complex medical and financially-related questions.

There are a total of 53 health insurance plans available in your area  
Please **carefully** review each question and answer to your best ability

Based on these responses, we will be able to 1) determine if you qualify for financial benefits, 2) organize your list of plans in an order best fit for you, and 3) provide you with recommendations

The first sentence makes consumers aware of how many plans they will have to choose from. On average, a marketplace consists of 40-60 different choices on the browsing page. After seeing this large number of choices, consumers will be incentivized to take advantage of this preliminary questionnaire to help narrow down their options. This is reiterated in the second sentence which provides instructions to carefully review the following questions. The third sentence then concludes with *why* this questionnaire is important and *how* exactly it can help the consumer. For more specific questions, such as the question asking about household income, it can be additionally noted such as the following:

By telling us your household income, we can determine if you are eligible for a government subsidy through tax credits – *this can help **lower** your costs!*

Throughout the questionnaire, it is critical to use simple language and be as concise as possible. This will insure attention when reading and accommodate the wide range of literacy and education levels of the shoppers.

### iii. Information overload – Avoid Crowding

To avoid information overload and its consequences, such as inattention, skimming and inaccuracy, it is recommended to design the preliminary questionnaire so that one question is

presented at a time, per page. Placement of the question text in the middle of the page with a clean white background is recommended for easy and simple visualization, similar to how MN-M has done (Refer back to Figure 5).

iv. Goal Gradient Effect – Include a Progress Indicator

Incorporating the goal gradient effect hypothesis, it is recommended for marketplaces to include a "completeness level" bar at the top of the questionnaire to track the shopper's progress while indicating how many more questions will be asked (Refer back to Figure 6). This will encourage shoppers to remain patient since they are made aware of their increasing progress, instead of blindly answering questions that seemingly have no end. Without this indicator, marketplaces risk their shoppers skimming questions in effort to finish the preliminary section as quick as possible in order to do what they came to do which is to shop.

v. Heuristics – Provide *Better* Heuristics

It is essential to ask target questions in a simple, easy-to-interpret format. However, in the case of complex medical and financial status questions, this may not be enough to elicit accurate response. Instead of leaving it to shoppers to substitute complex target questions with incorrect heuristics, the following recommendation provides a potential solution where marketplaces provide *better* heuristics for shoppers to utilize – better to give shoppers a good heuristic than allow them to use a bad heuristic of their own. Providing shoppers with additional questions to mentally consider simultaneously with the target question may ensure more accurate response. Examples are provided in the following:

**Target Question:** What is your expected medical usage?

**Heuristic Questions:**

- Please take some time to reflect on your medical status these past 6 months
- How many times do you visit the doctor's office on an average year?
- Are you at high risk of genetically inherited disorders or diseases?
- Provided are three categories of medical usage levels to choose from: low, medium, or high

*(A description of each category is provided below, indicating the average number of doctor's visits, lab or diagnostic tests, prescription drugs and other medical needs and expenses hypothetically expected at that particular level – this design facilitates decision-making by allowing shoppers to simply select one of the three options based on the description which fits them best)*

**Target Question:** What amount of deductible are you comfortable with?

**Heuristic Questions:**

- How much in savings do you have in your bank account right now?
- In an emergency (worst case scenario), how much could you realistically afford to spend on healthcare costs at one time?

In summary, these five choice architecture-based recommendations for Part 1 aim to provide a better shopping experience, as well as, encourage accurate responses in order to ultimately help shoppers make optimal decisions based on their own individual needs and preferences.

## PART 2: PRESENTING THE OPTIONS

When shoppers reach the browsing plans page, they are confronted with a myriad of health plan options. A typical display of this page is shown in Figure 7.

The screenshot displays the HealthCare.gov website interface for browsing 2016 health insurance plans. At the top, the navigation bar includes the HealthCare.gov logo, tabs for 'Individuals & Families' and 'Small Businesses', a 'Log in' link, and an 'ESPAÑOL' link. The main heading is '2016 health insurance plans & prices'. Below this, a sub-header indicates 'People covered: Primary (Age 45)' with an 'EDIT' button. The page shows '55 plans available' and filters for 'Premium' and 'Health plans'. A sidebar on the left contains 'FILTERS' for 'Monthly premium' (ranging from less than \$400 to less than \$900), 'Plan category' (Bronze, Silver, Gold, Platinum), 'Plan type' (HMO, EPO, POS), and 'Medical management programs' (Asthma, Heart Disease, Depression, Diabetes, High Blood Pressure and High Cholesterol, Low Back Pain). The main content area displays a plan card for 'Horizon Blue Cross Blue Shield of New Jersey - OMNIA Bronze'. This card shows an estimated monthly premium of \$327, a deductible of \$3,000, and an out-of-pocket maximum of \$6,850. It also lists estimated total yearly costs of \$6,011 and provides links to 'LEARN MORE ABOUT THIS PLAN' and 'COMPARE'. Below this, another plan card for 'Oscar - Oscar Market Bronze' is partially visible.

Figure 7. Screenshot of the main browsing page found on HealthCare.gov

The list of available plans varies by marketplace and can consist of as little as 30 plans to up to 74 pages of plans, which is equivalent to a total of 740+ plans (Figure 8). As humans, we have a hard enough time choosing from a menu of 15 entrées for one dinner, nevertheless from hundreds of choices for a decision that will affect our overall health and wellbeing for an entire year. The extremely high number of available options makes it critical to utilize choice architecture in a way that helps consumers navigate through the marketplace and choose effectively.

Search plans for 2016

Compare Plans

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Insurance Company	Plan Name	Metal Level	Coverage Type	County	Persons Covered	Price Per Month	Details
 ★★★★★	Fidelis Care Bronze ST INN Pediatric Dental Dep25	Bronze	Medical Plus Child Dental	Suffolk	Individual	\$314.40	<a href="#">View Details</a>
 ★★★★★	Fidelis Care Bronze ST INN Pediatric Dental Dep29	Bronze	Medical Plus Child Dental	Suffolk	Individual	\$330.12	<a href="#">View Details</a>
 ★★★★☆	AffinityAccess 2.0 Bronze NS INN Dep25, Adult Dental Cleaning Exams Whitening, Adult Vision Exam	Bronze	Medical	Suffolk	Individual	\$337.77	<a href="#">View Details</a>
 ★★★★☆	CareConnect EPO Bronze ST INN Pediatric Dental Dep 25	Bronze	Medical Plus Child Dental	Suffolk	Individual	\$338.00	<a href="#">View Details</a>
 ★★★★☆	AffinityAccess 2.0 Bronze NS INN Pediatric Dental Dep25, Adult Dental Cing Exams Whiting, Vision Exam	Bronze	Medical Plus Child Dental	Suffolk	Individual	\$338.04	<a href="#">View Details</a>
 ★★★★☆	AffinityAccess Bronze ST INN Dep25	Bronze	Medical	Suffolk	Individual	\$339.28	<a href="#">View Details</a>
 ★★★★☆	AffinityAccess Bronze ST INN Pediatric Dental Dep25	Bronze	Medical Plus Child Dental	Suffolk	Individual	\$339.55	<a href="#">View Details</a>

Figure 8. Screenshot of the main browsing page found on New York's SBM

### Order Matters

The following section explores one of the most influential factors of a shopping experience – product presentation. In particular, it focuses on the default order of choices (how plans appear on the marketplace website before the consumer applies any filters or sort-by options). The first thing shoppers always notice is the item that appears first at the top of the list (Levav et al., 2010). Consumers have a tendency to select plans near the top, a common phenomenon observed in other

domains as well. For example, politicians listed at the top of ballots receive more votes (Meredith and Salant, 2013; Miller and Krosnick, 1998), papers found on the top of new studies lists are downloaded more frequently (Feenberg et al., 2015), and even items placed at eye level on store shelves sell out faster than those down below or above, which is now a commonly exploited technique by retailers for greater profit (Underhill, 2008; Dreze et al., 1994). This behavior occurs because decisions regarding choice are often made in sequential order. As a result, the further down a list a choice is presented, the greater the risk of feeling choice fatigue. This can potentially cause consumers to act differently than they normally would due to the high cognitive load they are faced with. For example, a phenomenon known as "roll-off" has been deemed a cause for why voters are less likely to cast a vote as they move down a ballot (Bowler and Donovan, 2000). This is because along with being a consequence of choice fatigue, the context and saliency of the overall mission generally decreases with lower ballot position. Together, these studies show that the default ordering of products plays a significantly influential role on a consumer's ultimate decision.

i. Low to High Premiums

After surveying across the insurance marketplaces, the most common way of ordering health plan options was found to be from lowest to highest monthly premium values. Other ordering methods utilized were specific to particular SBMs which included organization by metal tier categories (CA-M), randomization (KY-M), lowest to highest total yearly costs (DC-M, VT-M), and preference match percentage (MN-M), which are assessed in the following.

ii. Metal Tier Categories

The California SBM (CA-M) exhibits an atypical design. By default, it categorizes all the available plan options into distinct metal tier categories thereby allowing shoppers to navigate through each tier separately while staying on the same page (Figure 9). With this design, the characteristic of metal tier becomes salient to the shopper; however, this poses the question of whether metal tiers should be the main determining factor in plan choice. However, it is an improvement from premium-based ordering since metal tiers are more representational of true healthcare costs associated with the plan by taking into account not only premiums but also expected contribution to cost sharing.

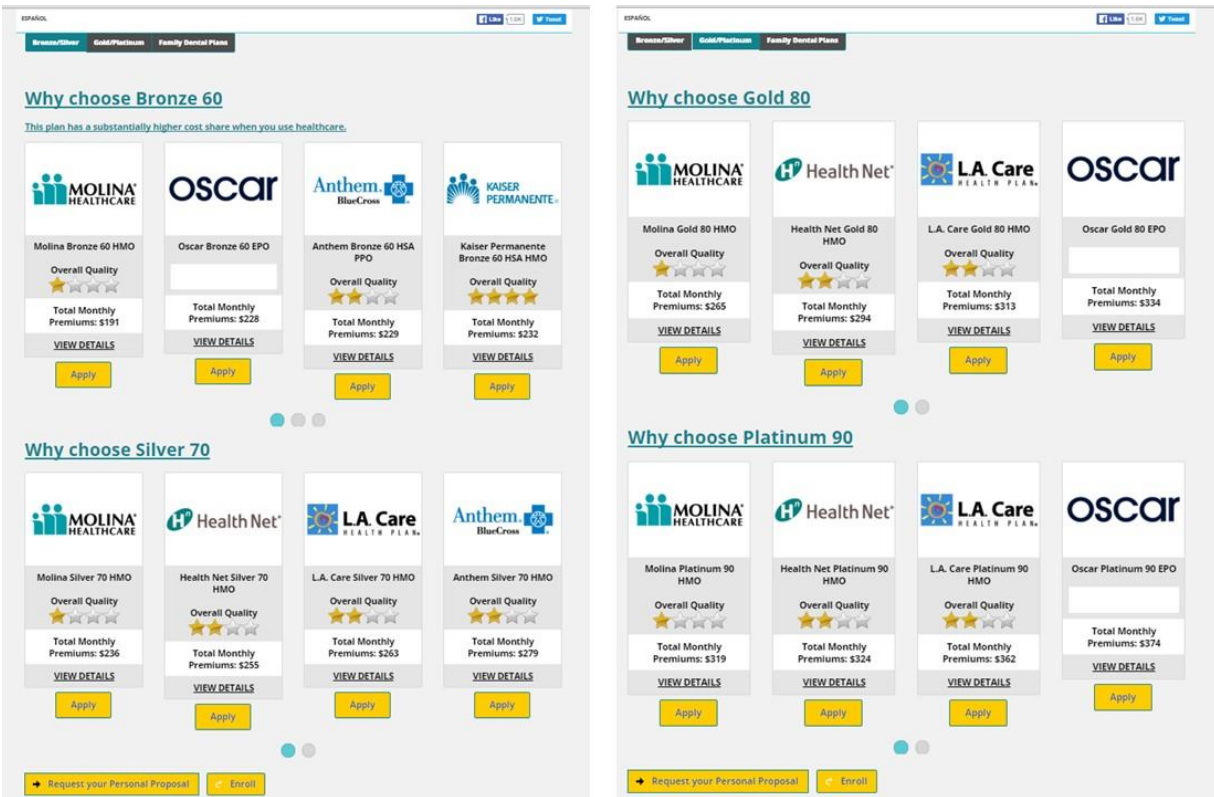


Figure 9. Screenshot of the main browsing page found on California's SBM

### iii. Randomization

The Kentucky SBM (KY-M) employs randomized ordering by default. The benefit of this design is that shoppers are exposed to a variety of plan types on the first page and not just the cheapest options. However, the main drawback to this design is that without an organized viewing method, consumers are expected to use the sort-by option to organize the results themselves. This may be beneficial by giving shoppers the freedom of choice on how to unbiasedly sort their results (e.g. by premiums, deductibles, metal levels, or out-of-pocket maximum); however, to an untrained and uncertain new shopper, this becomes a confusing task compared to being given a default standardized way of viewing their options. In this case, too much freedom may elicit more uncertainty.

iv. Yearly Cost Estimate

The term “yearly cost estimate” is defined as “an estimate of the average annual cost that people like you will pay for coverage. It is based on information you provided on how many people need coverage, age(s), health status and any anticipated medical procedures” (Definition from VT-M). This default ordering is utilized by only two SBMs, Vermont (Figure 10) and District of Columbia (Figure 11), which calculates the estimated annual cost based on the plan's features and cost sharing requirements. This is a big step forward from other marketplaces, which only display individual pieces of the overall cost as broken down into premiums, deductibles, copays, etc. This addition can serve as extremely valuable information for shoppers when assessing plan costs.

The "Yearly Cost Estimate" reported here is an **estimate** of the average annual cost that people like you will pay for coverage. It is based on information you provided on how many people need coverage, age(s), health status and any anticipated medical procedures.

It includes your premiums (after subtracting any **estimated** tax credit savings), and likely out-of-pocket costs (including deductibles, copayments and coinsurance). Out-of-pocket costs are your share of the costs not covered by your plan for doctors, hospitals, prescriptions, and other services.

The "Yearly Cost Estimate" is the best way to compare plans on cost, but please keep in mind this only an **ESTIMATE**.

Welcome to Vermont Plan Comparison Tool 2016

**VERMONT HEALTH CONNECT**  
Find the plan that's right for you.

Home Start Tool Again Tour Advice and Explanations

Contact Us  
Call 855-899-9600  
TTY/TDD 888-834-7898

Help Center Health Plans About VHC Latest Updates FAQ Search SIGN IN

Available Health Plans: 20 plans found. Sort By Yearly Cost Estimate

Plan	Yearly Cost Estimate	Cost in a Bad Year
<b>MVP Vitality HDHP</b> Click plan name for <b>DETAILS</b> Click checkboxes to <b>COMPARE</b> MVP Health Care - HMO - Bronze Monthly Premium: \$380.71 Deductible: \$4,400	\$7,279	\$11,069
<b>MVP Vitality Plus</b> MVP Health Care - HMO - Bronze Monthly Premium: \$391.36 Deductible: Medical: \$5,000 / Drug: \$3,000	\$7,326	\$11,546
<b>MVP Vitality</b> MVP Health Care - HMO - Bronze Monthly Premium: \$392.45 Deductible: Medical: \$4,000 / Drug: \$500 per person	\$7,369	\$11,559
<b>BCBSVT Silver CDHP Plan</b> Blue Cross and Blue Shield of Vermont - EPO - Silver Monthly Premium: \$468.90 Deductible: \$1,425	\$7,507	\$11,377

Filter Results

Metal Level

- ☒ Bronze
- ☐ Silver
- ☐ Gold
- ☐ Platinum

Plan Type

- ☐ EPO
- ☐ HMO

Insurance Company

- ☐ Blue Cross and Blue Shield of Vermont
- ☐ MVP Health Care

Monthly Premium

Figure 10. Screenshot of the main browsing page found on Vermont's SBM utilizing yearly cost and bad year cost estimates outlined in red

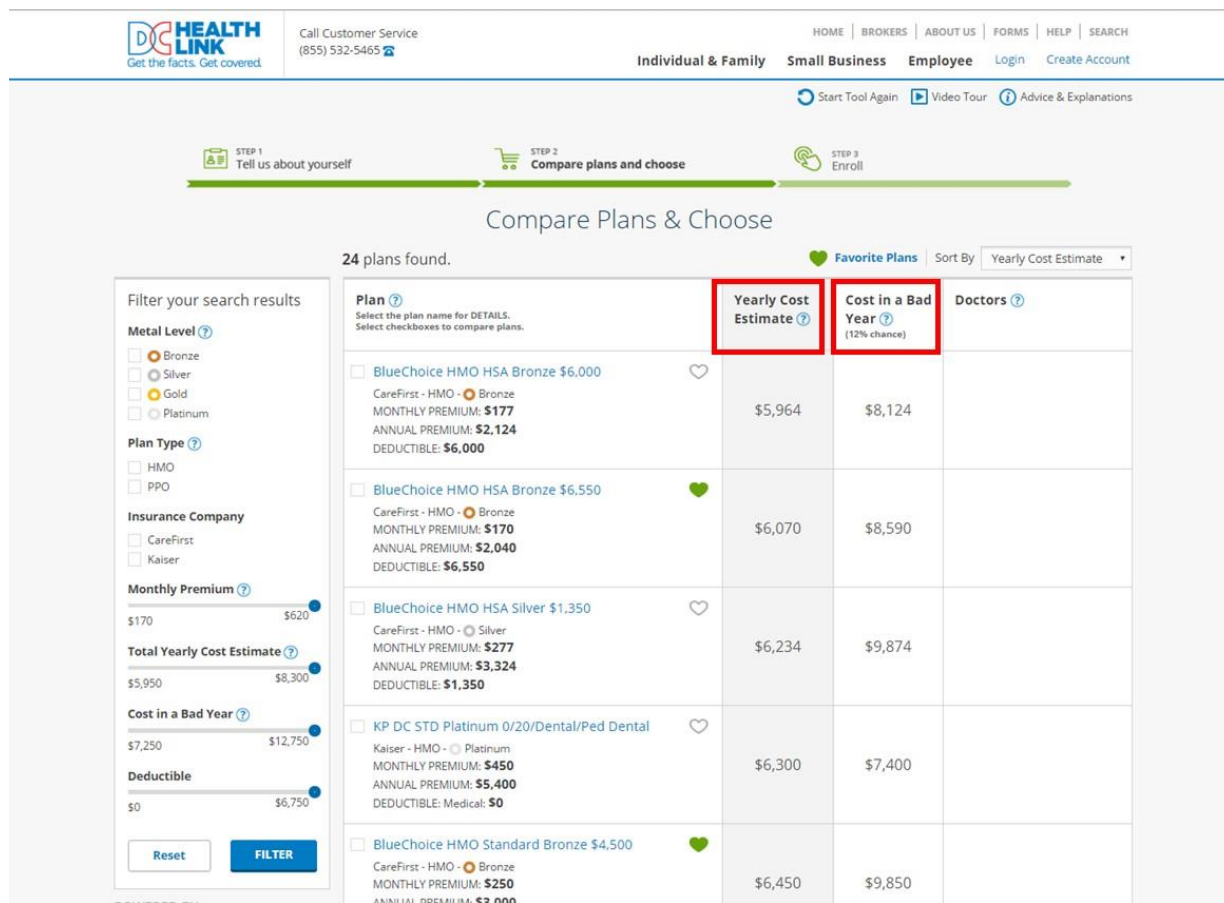


Figure 11. Screenshot of the main browsing page found on Washington District of Columbia's SBM utilizing yearly cost and bad year cost estimates outlined in red

v. Cost in a Bad Year

In addition to providing a total yearly cost estimate, these two states are also commendable for taking the extra step to provide a bad year estimate as well (Refer back to Figure 10 & 11). This value is defined as “an estimate of costs (premiums plus your share of out-of-pocket costs) in a year when you have to use expensive health care services.” Along with the estimate, both SBMs also provide “the likelihood (as a percent chance) that someone covered by your policy will experience an expensive year based on the information you provided on how many people need coverage, age(s), health status and any anticipated medical procedures” (Both definitions from VT-M). Providing an additional yearly cost value representative of a worst case scenario gives shoppers an upper range dollar amount to be prepared to spend. By also indicating the percentage chance of this occurring (5-6 percent), this allows users to gauge how much to weigh this value based on the likelihood of its occurrence.

vi. Percentage of Preference Match

As discussed earlier in Part 1, the SBM of Minnesota employs a questionnaire that includes the option to indicate preferences for specific wellness programs, comfortable maximum annual deductibles, and expected medical procedures and usage. MN-M takes this a step further and provides shoppers with a rare option to order and view their available plans list according to “preference match” (Figure 12). Based on the shoppers’ responses to what matters most to them in the preliminary questionnaire, the responses are then used to order the plans on the browsing page. Matches are presented as percentage values with “best match” plans having the highest percentage and appearing at the top of the browsing list.

This design, however, does not filter and reduce the available plans list. This is critical since some shoppers may reconsider their preferences based on the associated costs once they are able to view all their options. Therefore, the responses to the preliminary questionnaire should not eliminate any plans from being visible; instead, they should only be used as a tool to aid in default ordering. MN-M’s strategy is unique in that instead of making costs the salient measure, it more heavily weighs the shoppers’ qualitative preferences and exploits consumer behavior where shoppers have a tendency to choose options at the top of the list.

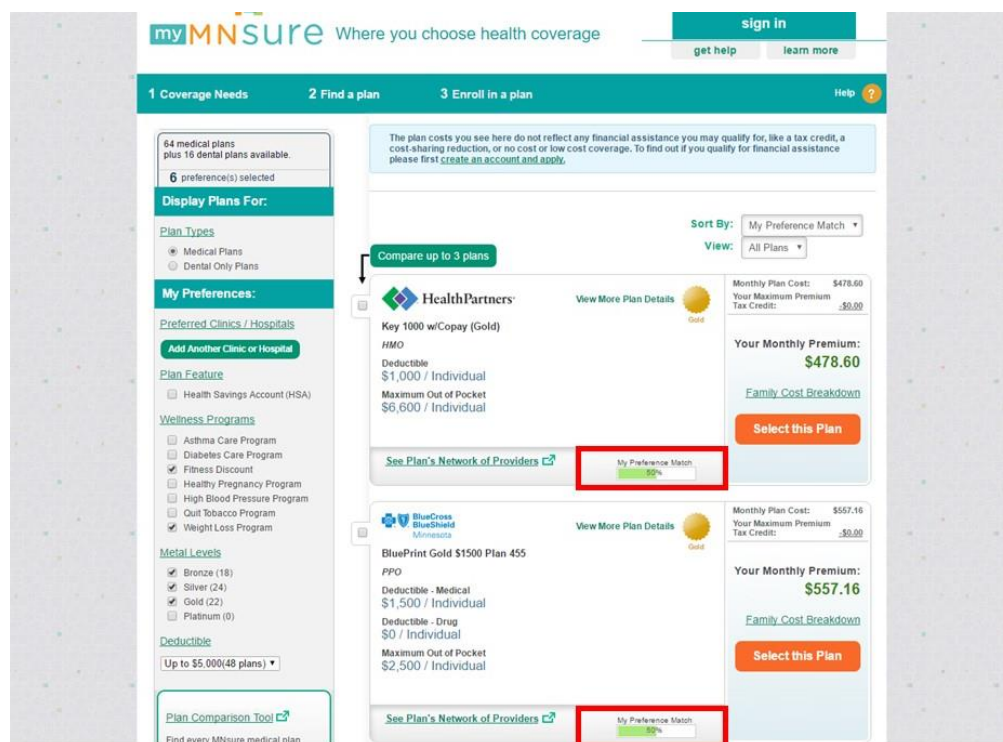


Figure 12. Screenshot of the main browsing page found on Minnesota’s SBM utilizing preference match percentages outlined in red

## *Illustrative Cases*

### i. Improvement Case: Low – High Premiums

The most popular default order utilized by SBMs and HealthCare.gov, with the exception of the five SBMs listed above, is lowest to highest monthly premiums. This next section looks to understand why this is the case using behavioral economic concepts and why it poses a major problem for optimizing choice.

#### Over Focus on Premiums

Prospect theory is a behavioral economic theory that describes our tendency to choose between probabilities alternatives that involve risk with known outcomes. Kahneman and Tversky (1979) researched these apparent anomalies in human behavior and demonstrated that people's attitudes toward risks concerning gains may be quite different from their attitudes toward risks concerning losses. Humans are very risk averse to gains whereas we tend to be risk seeking to losses. For example, people prefer getting \$500 with certainty over a 50 percent chance of getting \$1000 (risk-aversion), however, prefer a 50 percent chance of losing \$1000 over losing \$500 with certainty (risk-seeking). Though this is not necessarily irrational, it is important to recognize the asymmetry of human choices given its relevance to real life examples such as choosing a health plan.

When it comes to health insurance, monthly premiums represent a sure loss whereas variable costs such deductibles and out-of-pocket payments represent uncertain losses. Because consumers have to pay monthly premiums regardless of their medical usage, they respond by trying to minimize sure losses as much as possible while risking the bigger probabilistic losses. Therefore, prospect theory justifies shoppers' behavior in looking for plans with the lowest premium – they want to minimize their sure loss. However, this does not imply that a low premium plan is the best choice, especially for a shopper with high medical usage. In this case, a lower deductible plan at the cost of a slightly higher premium would be a better alternative.

Another element of Prospect theory is diminishing sensitivity. People are more sensitive to changes near their status quo than to changes further away. This principle reinforces the implications illustrated by the value function which is concave in the region of gains but convex in the region of losses; the change from \$200 to \$300 has a greater impact than a change from \$1000 to \$1200 even though the difference is 50 percent less in monetary terms. This tendency oftentimes results in

shoppers making the poor choice of choosing a lower premium plan at the expense of a significantly higher deductible plan. This is because shoppers are less sensitive to the difference between a \$10,000 and \$10,200 deductible compared to the difference between a \$200 and \$300 premium, which is smaller in monetary terms but has a larger psychological effect. These implications of Prospect Theory provide further evidence for why marketplaces should not order plan choices from low to high premiums by default. By doing so, it makes premium values more salient to the shopper as a determining factor thus encouraging the potentially adverse choice of cheap premium plans.

### Associated Problems

Ordering the browsing page by low to high premiums results in two major problems: 1) inability to view more expensive, higher-tiered plans and 2) overweighed focus on monthly premiums during the decision-making process. Low to high premium ordering results in the obvious problem where shoppers may never get to see the more expensive, higher metal tiered plans (e.g. gold or platinum) since it would require tediously scrolling through multiple pages. For example, in the case of New York, shoppers are confronted with 74 pages of plans totaling 740 plans on the main browsing page (Refer back to Figure 8). A shopper would not be able to see a silver plan unless they scrolled to the 17<sup>th</sup> page, which is highly unlikely even for the most patient shopper.

Supporters of this design may defend that shoppers can simply use the side filter navigation panel to actively check for gold or platinum plans if they wish. However, a response to this point would be that a new shopper may not be aware of the existence of metal tiers or understand the meaning of tiers to begin with. Therefore, it would be nonsensical to expect shoppers to proactively look for a higher tiered plan or even know that they exist if they are not first shown the different types of options available to them. This scenario is highly probable particularly if there is no preliminary survey, similar to that of MN-M, which mandates the shopper actively choose which metal tiers he or she would like to view while simultaneously giving them the opportunity to learn what metal tiers are. Because it is unlikely for a shopper to be willing to browse through enough pages to see higher metal tiered plans (unless actively looking for it), many shoppers may simply choose the cheapest bronze plans as a result. However, this may not be ideal given a shopper's distinct medical needs and preferences.

The second problem with using premiums as the default unit for choice order is its saliency effect. This design reinforces the perception of premiums as the major determining factor for plan choice, a problem which already exists shown by the evidence of consumers overweighing plan

premiums over expected out-of-pocket costs (Abaluck and Gruber, 2011). However, premium values should not be the all-encompassing consideration since there are many other important financial variables involved in the overall health plan cost, including deductibles, out-of-pocket maximums, and copayments. One can compare this to browsing online for a new car. However, instead of listing the full price of the car, the car company has listed a price that only accounts for the price of the wheels while disregarding the significant costs of the remaining car parts. Therefore, the price listed below each model is not representative of the true cost of the car if one were to buy it; similarly, premiums make up only one part of the overall healthcare costs.

Premium-based ordering encourages shoppers to look for the cheapest premium plans. However, depending on their medical background, this may cause more harm than good. For example, a shopper with high medical usage would be significantly better off paying slightly higher monthly premiums with an overall lower deductible in a gold plan (where the insurer starts paying a share of the cost sooner) than paying low premiums and being hit with an extremely high and unaffordable deductible in a bronze plan. This ordering design only exacerbates the already existing problem of overweighed focus on monthly premiums.

### *Concluding Recommendations*

#### ii. Model Case: Low – High Total Yearly Cost

Both DC-M and VT-M, which are nearly identical in choice architecture design, serve as model cases for Part 2 and mirroring their design is recommended. Ultimately, total yearly cost should be the most salient concern of shoppers when assessing their plan options. This value provides a comprehensive estimate of total spending for the year which takes into consideration premiums as well as the extra costs associated with health insurance, such as expected out-of-pocket costs based on the plan's features including deductible and out-of-pocket maximum values. These considerations are not as obvious to a naïve shopper therefore this design would provide him or her with a more realistic dollar value representative of *actual* spending. A bad year cost estimate and percentage of likelihood is also recommended in order to provide shoppers with an upper range dollar value that they should be prepared to spend in a worst case scenario. Adopting MN-M's special use of preference match percentages is an additional recommendation that can provide shoppers with a supplementary tool that can aid in the decision-making process. By including a

preference match percentage, shoppers can assess and compare their more qualitative preferences, such as desired wellness and medical management programs (e.g. asthma care, diabetes care, fitness discount, high blood pressure program, etc.), alongside their quantitative cost needs. These are both essential considerations to the decision-making process for optimal choice.

To summarize, default ordering by total yearly cost and preference match each have their advantages; the former weighs financial costs more heavily in the decision-making process while the later weighs qualitative and program-based preferences more heavily. Combined, these two designs provide a significant improvement to the unfavorable low to high premium ordering design which is commonly used today.

### PART 3: HELPING THE SHOPPER

Part 3 continues to explore choice architecture solutions, focusing primarily on consumer aid tools. In light of the extensive findings on health insurance and financial illiteracy, as well as, poor plan choice, the following section discusses the use of real-time consumer aids, including educational tools, case scenario prices and an intelligent assignment tool in effort to encourage better choices and provide a better shopping experience for marketplace users.

#### *Educational Tool*

Making informed health plan choices poses quite a challenge for consumers, shown by Parts 1 and 2 above. However, another major concern has been brought into the spotlight by a group of studies which have published substantial evidence in support of high health insurance and financial illiteracy rates existing among shoppers.

Loewenstein et al. (2013) conducted an eye-opening study examining how well Americans understand and believe they understand health insurance. Using empirical research, the study brought to light three main concerns, including Americans' poor comprehension of health insurance, lack of numeracy skills and overconfidence in their abilities. Comprehension of health insurance, especially regarding features and costs, is crucial given that they are major considerations for proper plan choice. The study found that only 14 percent of the insured were able to define the basic cost-sharing concepts fundamental to most health insurance plans, including deductible, copays, coinsurance and maximum out-of-pocket costs. Given that these terms are universally

displayed across all the marketplaces, lack of comprehension would severely hinder optimal decision-making. Not only is illiteracy a problem but limited numeracy skills also pose an issue, especially since financial calculations are critical to the decision-making process as well. Even when provided with the proper plan details, many respondents were unable to calculate the cost of basic services; 60 percent could not identify the cost of a MRI scan and only 11 percent were able to answer a basic calculation question about the cost of a four-day hospital stay when provided the plan details and given the sufficient information required to answer them accurately. The third striking finding in Loewenstein's study was subjects' overconfidence in their abilities, claiming they understood terminologies such as "co-pay," however, when asked a question testing their understanding of the term, only 28 percent could answer it accurately. Similarly, whereas only 7 percent admitted to not knowing the term "maximum out-of-pocket cost," 41 percent were unable to define it.

Unfortunately, the problem of limited comprehension not only exists when analyzing potential plans, but Cunningham et al. (2001) found that more than two thirds of respondents could not accurately answer questions regarding features of their *own* plan. The implications of this finding raises the question that if shoppers cannot fully comprehend their own health plan choice, how can we expect them to be able to choose a better one? Evidence of high insurance and finance illiteracy is concerning. Illiteracy is highly predictive of poor plan choices, with consumer mistakes such as overpaying for a lower deductible or underpaying with cheaper premiums and ending up with an exorbitant bill that results in financial distress. As a solution to improve choice quality, educational aids can be designed to educate shoppers on health insurance terminology, which they can view on the browsing page during the shopping process.

i. Improvement Case: Connecticut SBM

The critical component to writing a clear and persuasive message is through simple language. According to a study by Oppenheimer (2006), representing familiar ideas in pretentious language is taken as a sign of poor intelligence and low credibility (*if only this could be applied to our legal documents*). Many SBMs provide elaborate definitions of terminologies and explanations of concepts which are displayed across the browsing page screen, either by clicking or hovering one's mouse over a nearby question mark. However, these definitions tend to be incredibly long and in-depth (Figure 13). As helpful as they are in understanding difficult concepts at the time of being read, their lack of

conciseness hinders memorability once a shopper clicks out of the help tool and needs to apply the new knowledge to make an optimal decision.

**Compare Plans**

The amount you pay each month to the insurance company for health insurance coverage. The premium includes the costs of all benefits described in a plan's Evidence of Coverage. Your premium cost may be lowered if you are eligible for Advanced Premium Tax Credits (APTC). Some benefits cannot be paid for with federal dollars (APTCs). APTCs cannot be used to pay for coverage of any benefit not considered an Essential Health Benefit, like elective abortion coverage. If the plan you select covers such benefits, there will be a small premium charge even if the cost of the plan you choose is less than or equal to your maximum eligible APTC.

**Estimated Monthly Premium**

- ☐ Under \$99
- ☐ \$100 - \$199
- ☐ \$200 - \$299
- ☐ \$300 - \$399
- ☐ Over \$400

**Metal Level**

- ☐ Bronze
- ☐ Silver
- ☐ Gold
- ☐ Platinum

**Annual Deductible**

Plans are primarily separated into five health plan categories. The metal tiers of Bronze, Silver, Gold, or Platinum and Catastrophic. The categories are based on the percentage the plan pays of the average overall cost of providing essential health benefits to members. The plan category you choose affects the total amount you'll likely spend for essential health benefits during the year. The percentages the plans will spend, on average, are 60% (Bronze), 70% (Silver), 80% (Gold), and 90% (Platinum). Catastrophic plans are available to people under 30 years old and to some people with low incomes. For example, a Silver plan (with a 70% actuarial value) would be expected to pay, on average, 70% of expected medical expenses for essential health benefits. The individuals covered by the plan would be expected to pay, on average, the remaining 30% of the expected expenses in the form of deductibles, co-payments, and coinsurance.

**37 of 37 plans** | Clear All | -

No Filters Selected

Catastrophic Plan without a valid Exemption Certificate. If you want to compare Catastrophic plans, click [here](#). If you would like to apply for an exemption certificate, click [here](#).

**ConnectiCare**  
**Bronze Select POS HSA**  
QUALITY RATING: ★★★★★  
METAL LEVEL: Bronze

ESTIMATED MONTHLY PREMIUM	ANNUAL OUT-OF-POCKET MAX	EMERGENCY ROOM	PRIMARY CARE CO-PAY	ANNUAL DEDUCTIBLE
\$224.08	\$6550	\$0	\$0	\$6000.00

[Click Here For Detailed Plan Documents \(PDF\)](#)

Check if your doctor is in-network | Add to Compare | APPLY

**ConnectiCare**  
**Bronze Standard POS HSA**  
QUALITY RATING: ★★★★★  
METAL LEVEL: Bronze

ESTIMATED MONTHLY PREMIUM	ANNUAL OUT-OF-POCKET MAX	EMERGENCY ROOM	PRIMARY CARE CO-PAY	ANNUAL DEDUCTIBLE
\$234.40	\$6500	10%	10%	\$5300.00

[Click Here For Detailed Plan Documents \(PDF\)](#)

Check if your doctor is in-network | Add to Compare | APPLY

**Health Insurance Carrier**

- ☐ Under \$1249
- ☐ \$1250 - \$2499
- ☐ \$2500 - \$3749
- ☐ \$3750 - \$4999
- ☐ Over \$5000

**Quality Rating (NCQA)**

- ☐ ★★★★★
- ☐ ★★★★
- ☐ ★★★
- ☐ ★★
- ☐ ★
- ☐ Not yet rated

An overall rating from The National Committee for Quality Assurance (NCQA) that measures whether health plans are providing good care and services to their members. For example, NCQA would measure how well a plan helps members manage their diabetes. QHP quality rating is a conversion of NCQA statuses into a star system, which ranges from zero to four stars, with four stars being the highest possible rating: - Excellent = 4 stars (4 stars colored in) - Commendable = 3 stars (3 of 4 stars colored in) - Accredited = 2 stars (2 of 4 stars colored in) - Provisional = 1 star (1 of 4 star colored in) - Not yet rated, new carrier = no star symbol is displayed, instead display 'Not yet rated - new carrier'

The amount you owe for health care services your plan covers before your plan begins to pay. For example, if your annual deductible is \$3,000 your plan won't pay anything until you've met your \$3,000 annual deductible for covered health care services that are subject to the deductible. The annual deductible may not apply to all services. Some healthcare services are covered before your annual deductible is met, such as a preventive check-up. The annual deductible and out-of-pocket maximum shown are for individual coverage only. The family deductibles and out-of-pocket maximums are GENERALLY two times the amount for individual coverage. Click on the "Details" icon on the right hand side of the screen for more information.

**Metal Level**

- ☐ Bronze
- ☐ Silver
- ☐ Gold
- ☐ Platinum

**Annual Deductible**

- ☐ Under \$1249
- ☐ \$1250 - \$2499
- ☐ \$2500 - \$3749
- ☐ \$3750 - \$4999
- ☐ Over \$5000

**Health Insurance Carrier**

Figure 13. Compiled screenshots of the main browsing page found on Connecticut's SBM displaying its educational tool definitions on insurance terminology

ii. Model Case: HealthCare.gov

When referring to difficult and complex health and financial terminology, general population literacy in these concepts are low. Therefore, if the marketplaces care about being perceived as credible and intelligent, they should not use complex language where simpler language can do. In addition to making the message simple, it is just as critical to make it memorable. HealthCare.gov provides a good example of this by using concise definitions (Figure 14). Additionally, HealthCare.gov forces the shopper, by default, to click through these educational definitions step-by-step prior to viewing the available health plans list (with the option to “skip all”).

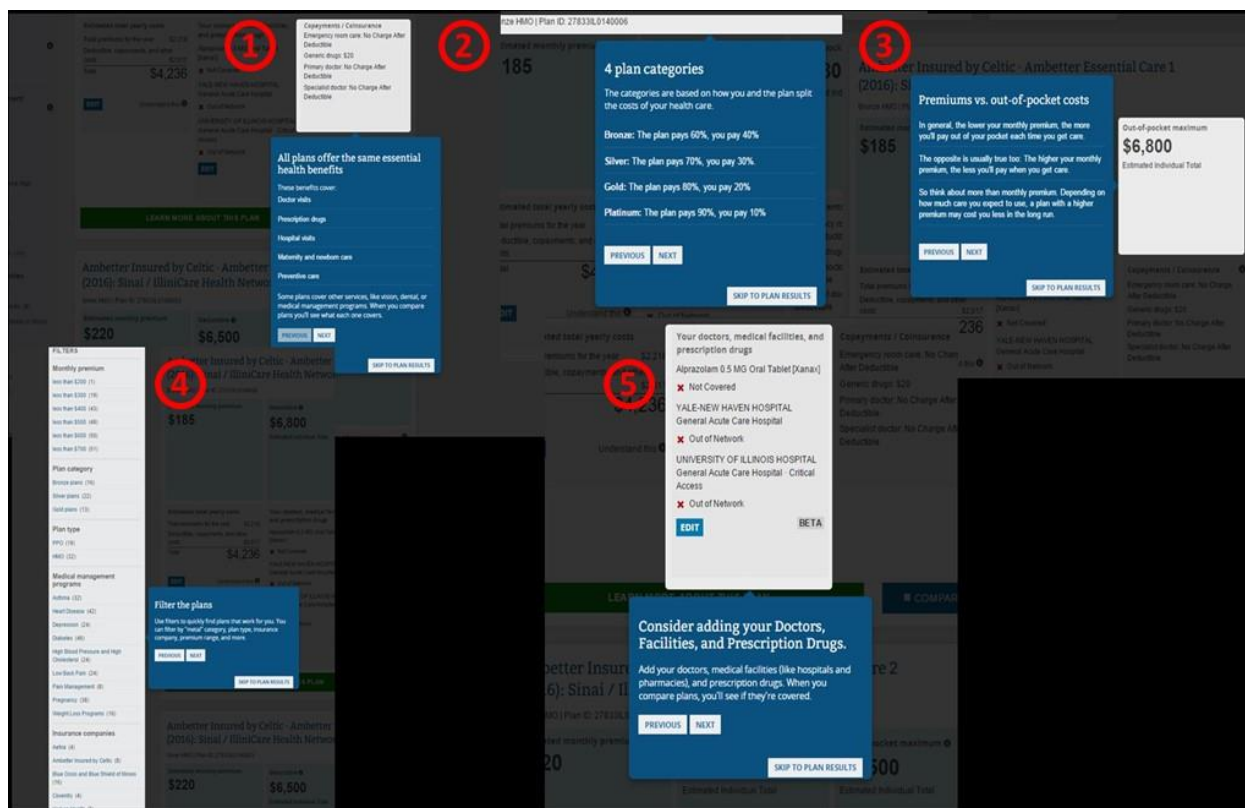


Figure 14. Compiled screenshots of the main browsing page found on HealthCare.gov displaying its pop-up educational tool definitions (displayed one at a time)

### Concluding Recommendation

When providing educational help, short and concise descriptions of complex terminology are critical for comprehensibility and memorability. A recommendation for an innovative method in providing effective learning while also maintaining memorability is detailed in the following:

1. Have a detailed description pop-up when the question mark is clicked
2. After X-ing out of the pop-up, automatically provide a shortened, easy-to-remember version of the definition; for example, by utilizing rhymes or acronyms
3. Pin these short one-liner definitions on the side of the available plans list (with the option to be un-pinned by shoppers who are already comfortable with the term)

Essentially, two definitions of terms are provided; one that is detailed and comprehensive for learning purposes and another which is short and concise for memorization purposes. For the short one-liner definitions, using mnemonic techniques such as acronyms or other specific memory tricks may be particularly helpful in improving memorization.

*Some examples include:*

- a. **PreMium** – “Payment per Month”
- b. **Out-of-pocket Maximum** – “Maximum dollar amount (**out of your own pocket**) you will have to pay in a bad year”
- c. **Deductible** – “Amount you have to pay before your insurer starts paying your healthcare costs. **You should have this amount of cash readily available.**”

For many people, medical and health system information pose a high barrier – they are hard to read and use. The 1992 National Adult Literacy Survey found that almost 50 percent of the adults in the United States read at the eighth-grade level or lower (Kirsch et al., 1993; Schillinger et al., 2002). Yet most health materials are written at levels far beyond the literacy abilities of a large segment of the population, not to mention the particular demographic serviced by the marketplace, with the majority of shoppers being from low-income with minimal educational backgrounds or comprising a young adult population of new insurance users. These problems created by complex language can be partially addressed through the use of plain language techniques and simple sentence structures. Therefore, it is recommended that alternatives are found for complex words and the writing style is kept within eighth-grade reading level.

## Case Scenario Cost Tool

Another way in which the choices we make are increasingly facilitated by technology is the automatic personalization of user interfaces to reflect our preferences (Hauser et al., 2009; Price et al. 2006). A tool derived from this concept can be found on the SBM of Washington (WA-M). This marketplace stands out through its implementation of case scenario costs where a supplementary set of revised costs are presented to the shopper in the cases of “Having a Baby” and “Managing Type II Diabetes” (Figure 15). It does pose the question as to why only these two specific scenarios are focused on. Perhaps it is because pregnancy is understandably a common case which is associated with fixed, standardized medical procedures and treatments which make overall consumer costs easy to predict. Additionally, it may be that Type II Diabetes is particularly applicable to Washington residents.

**Compare and Select a Plan**

All plans include preventive care services at no-cost (including periodic health exams, OB-GYN exam, well baby visit, immunizations, etc.)

Costs listed below are In Network unless otherwise noted







Coverage Summary	Having a Baby	Managing Type 2 Diabetes	
	<b>Ambetter Essential Care 1 (2016) - Vision</b>  Remove from Comparison  <input type="button" value="Apply"/>	<b>Molina Marketplace Choice Silver</b>  Remove from Comparison  <input type="button" value="Apply"/>	<b>Gold Align 1500 EvergreenHealth Partners/Virginia Mason</b>  Remove from Comparison  <input type="button" value="Apply"/>
<b>Quick Glance</b>			
Estimated Monthly Premium	<b>\$207.95</b>	<b>\$238.70</b>	<b>\$366.41</b>
Your Estimated Cost	<b>\$207.95</b>	<b>\$238.70</b>	<b>\$366.41</b>
Your Health Care Provider/Hospital	Not Applicable	Not Applicable	Not Applicable
Quality Summary	Quality Improvement Strategy	Quality Improvement Strategy	Quality Improvement Strategy
Pediatric Quality	Quality Improvement Strategy	Quality Improvement Strategy	Quality Improvement Strategy
Consumer Rating	Quality Improvement Strategy	Quality Improvement Strategy	Quality Improvement Strategy
Plan Type	Health Maintenance Organization (HMO)	Health Maintenance Organization (HMO)	Preferred Provider Organization (PPO)
Plan Metal Level	BRONZE	SILVER	GOLD
<b>Out of Pocket Costs</b>			
Annual Deductible	\$6500 Individual / \$13000 Family	\$2000 Individual / \$4000 Family	\$1500 Individual / \$3000 Family
Annual Out of Pocket Maximum	\$6500 Individual / \$13000 Family	\$6850 Individual / \$13700 Family	\$5500 Individual / \$11000 Family
Office Visit for Primary Care	No Charge after deductible	\$20 Copay	\$20 Copay
Office Visit for Specialist	No Charge after deductible	\$55 Copay	\$45 Copay
Prescription Drug Deductible	Included in Annual Deductible	\$200 Individual / \$400 Family	Included in Annual Deductible
Emergency Room	No Charge after deductible	\$300 Copay	20% Coinsurance after deductible

Figure 15. Example from Washington's SBM of its case scenario cost tool outlined in red

### *Concluding Recommendation*

WA-M's SBM employs a unique tool for shoppers by helping them estimate tailored healthcare costs. This can be used to supplement the provision of "Total Yearly Cost" and "Cost in Bad Year" values as seen on DC-M and VT-M designs which were discussed in Part 2. This recommendation is based on the innovative idea of providing costs associated with case scenarios, particularly those that are common to the shoppers of the respective state. For example, providing the set of costs in the case of a hip replacement surgery or a heart valve procedure, both of which are on the list of top 10 most common medical procedures in the United States, may be helpful to many shoppers for estimating future costs and deciding on the best plan given their expected medical procedures.

However, this feature highlights a major drawback to an overly user-friendly marketplace interface. Handel (2013) elaborates by claiming that policies designed to improve consumer choice can have a theoretically ambiguous welfare effect as the impact of better decision-making conditional on prices is offset by adverse selection. Adverse selection refers to shoppers making decisions based on maximizing their expected utilities over the plan options conditional on their risk tastes and health risk distributions, in other words, those who are aware of their high medical usage may actively seek out more generous plans. As a result, insurers may be incentivized to display their benefits on the marketplace interface in such a way to avoid attracting sick shoppers. This has been evidenced in real-context as plans on the Massachusetts exchange have already excluded prestigious (and expensive) hospitals from being in-network (Shepard, 2015). Therefore, despite the benefits to shoppers that come with a better interface, from an insurer's point of view, adverse selection becomes a potential concern which risks marketplace viability. The ultimate recommendation in this case is to encourage shoppers to select a financial profile (e.g. premium, deductible, or metal tier) and network that fits them best, instead of choosing based on cases such as specific diseases or disorders which can have potentially adverse effects on the marketplace itself.

### *Intelligent Assignment Tool*

The consequences of severe deficit in insurance literacy and naïve considerations of health risk and price are reflected in poor health plan choice. Bhargava et al. (2015) evaluated choice quality by examining health insurance decisions of 50,000 employees at a large U.S. firm who were provided a new plan menu of 48 identical options where the majority of options were financially dominated (less costly given the same level of benefits); many employees chose dominated options which, in reality, would have resulted in unnecessary excess spending. A variety of other studies provide evidence pointing to similar conclusions (Abaluck and Gruber, 2011; Heiss et al., 2010; and Zhou and Zhang, 2012). In particular, Abaluck and Gruber (2011) concluded that a majority of enrollees could have selected alternative plan choices with both lower premiums and variance in cost, which suggests wide inefficiency in choice. Hypothesizing that poor plan choice may be a result of search complexity, Bhargava also reduced the number of available plan options; however, even when presented with a simple menu featuring only four plans, shoppers still failed to detect dominated plans. Motivated by these findings, the following section details an innovative tool which has not been utilized on any marketplace. It proposes an intelligent assignment tool that provides a customized set of plan recommendations to shoppers.

### *Concluding Recommendation*

As libertarian paternalists, we are strong supporters of freedom of choice in the marketplace. But in any type of market with too many (complex) options, recommendations can help, a lot. The most obvious alternative to no assignment is in favor of, what is known as, intelligent assignment recommendations. No SBM or HealthCare.gov has yet to have utilized a tool like this which provides health plan recommendations to shoppers. Instead, currently all the responsibility falls onto the shoppers themselves with the only option for help being through the call center or a local navigator. The following provides details on how an intelligent assignment tool could be utilized to help shoppers make better decisions while still providing them the freedom of choice.

The tool can be designed to provide three health plan recommendations based on the shopper's responses on the preliminary questionnaire. This will be based on an algorithm which takes into consideration preferences for wellness programs, expected medical usage, household income, spending preferences and other questions asked. However, shoppers are neither mandated

to choose from the recommended plans nor prevented from seeing the other remaining available options. Therefore, shoppers would still be allowed to browse all the available plans in their area in the same way the current marketplace browsing page is designed. The recommendations would be used simply as optional tools to combat problems of choice overload and indecisiveness, should a shopper decide to refer to them. The recommendations would act as baseline options to which their other independently chosen alternatives could be compared against. In order to provide credible and best-fit recommendations, it is recommended to inform shoppers prior to taking the preliminary questionnaire with a statement such as the following:

We will be able to provide you with 3 plan recommendations, which healthcare professionals and economists judge to be the best options for you given your responses

This statement informs shoppers about who is responsible for these recommended choices; shoppers may be more likely to consider the recommendations if they are made aware that the underlying algorithm was made in conjunction with well-knowledgeable healthcare professionals or economists. However, this tool comes with obvious drawbacks, one of which are legal restrictions (having a state prefer a particular company and/or plan over another) which would require further investigation. An alternative proposal would be launching an external extension or plugin tool that provides a similar function of analyzing plans and providing smart recommendations without being affiliated with SBMs or HealthCare.gov.

People's choices for health plans are sometimes no better than random chance (Bhargava et al., 2015). Therefore, intelligent assignment helps avoid poor choices as a consequence of our cognitive limits and can serve as a more trustworthy and accurate tool than the oftentimes sub-par abilities of our brains. There is little to lose by providing this tool, since choices are not filtered or eliminated and the use of recommendations is optional, but there is only to gain which is the creation of a better, more user-friendly shopping experience.

## FUTURE DIRECTIONS

The next step is measuring the impact of specific choice architecture designs. This would require a method of obtaining consumer feedback on whether or not, and specifically which, choice architecture tools work better. It would require collecting survey results from state insurance commissioners and conducting a comparative analysis on them with regard to consumer satisfaction with the chosen plan, rates of plan changes after one year, and statistics on the types of plans selected (to determine the popularity of specific metal tiered or lower cost plans which may be an indication of overweighed focus on monthly premiums). By comparing across different marketplace designs, survey data may indicate that certain designs or features work better than others in helping provide an overall better shopping experience.

Another future direction is finding additional areas where behavioral economics can be used to improve choice. For example, each marketplace utilizes filtered navigation tools as a sidebar to the browsing plans section. This tool allows users to quickly filter their results by indicating minimum or maximum premiums, out-of-pocket maximums or deductibles they want to view, as well as, checking off preferences for specific metal tiers, medical management programs (e.g. asthma, depression, diabetes, lower back pain), plan features (e.g. tobacco cessation program, embedded pediatric dental plans), and quality ratings. Behavioral economics can be used for determining the best design for this tool (e.g. check boxes, sliders, option to input a “min” and “max,” etc.) or in the case of California, perhaps not having a filtered navigation tool at all.

Other applications include diminishing the effects of search complexity in order to reduce the cognitive strain of decision-making. Search complexity is associated with having too many available options, in addition, it is also characteristic of the particular display of the shopping interface. A focus should be put on what types of information is displayed on the browsing plans page as well as how these plan details and features are presented. Whereas an “Econ” (a fully rational and calculating shopper) may know how to deal with small print when it matters; humans, not so much. The size, print, orientation, and complexity of language utilized in choice presentation has significant ramifications on a shopper’s ultimate choice. One method of utilizing choice architecture for this issue would be designing the browsing page to remain consistent in the way plan premiums, deductibles and other cost features are presented for each option, both in wording of text and its location on the page. This ensures visible and cognitive ease by which shoppers can compare across the different options. The general principle is that anything that marketplaces can do

to reduce cognitive strain will help shoppers. This also includes maximizing legibility; for example, bolding and color can have a significant impact on saliency and which details are more likely to be noticed by shoppers (Roberto and Khandpur, 2014).

The application of behavioral economics also becomes relevant one year after enrollment in order to help consumers improve their choice if they were dissatisfied with their previous health plan. Most people seem to find that the burden of switching – the time and energy it takes to decide on the best plan – is just not worth the effort. However, this has the potential for huge savings, especially with some insurers exploiting this consumer inertia by raising prices on existing enrollees and employing the pricing strategy “invest-then-harvest,” while introducing cheaper alternative plans (Ericson, 2014). Furthermore, Abaluck & Gruber (2013) studied the Medicare Part D program and found that inertia results in consumers being 500-700 percent more likely to choose last year’s plan and are willing to give up more than \$600 worth of premiums to remain in the same plan. As a result of these increasing premiums combined with consumer inertia and the exit of the most generous plans, choice inconsistencies and supply side changes dramatically increase foregone welfare over time. In summary, these studies highlight the importance of using choice architecture tools to prevent consumers from falling to status quo bias and inertia, where their lazy inaction can result in continued re-enrollment in a poor plan and significant monetary losses.

In summary, there are a variety of different directions for future research. A critical next step would be to first identify which choice architecture tools work most effectively for consumers through the use of surveys and other feedback methods. This would provide us with empirical evidence to better support the behavioral economics-based recommendations outlined in this paper. Furthermore, it is important to determine consumer satisfaction levels after one year of enrollment. In the case of dissatisfaction with the chosen plan, the marketplace should be responsible for encouraging consumers to take the time and effort to change their plans, while simultaneously helping them select a more suitable option.

## CONCLUSION

The three parts of this paper have each provided a set of recommendations related to surveying the shopper, presenting the health plan options and helping the shopper. The use of better choice architecture has the potential to be applied and utilized by health insurance marketplaces in order to improve their design and aid in the shopping process. A more user-friendly interface can equip shoppers with the appropriate information and tools necessary to make an informed decision while also maximizing the chances that they choose the “best” plan given their medical and financial situations. The hope of this study is that state and federal insurance commissioners will take some of these recommendations into consideration when upgrading their marketplace design for next year’s enrollment period. Consumers are increasingly being given the responsibility of choosing their own health insurance plan. Therefore, behavioral economics provides a promising solution to redesigning the marketplace to help optimize choice for a health plan best suited to the unique needs and preferences of each shopper.

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