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For Third Enrollment Period, Marketplaces Expand Decision Support Tools To Assist Consumers

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ABSTRACT The design of the Affordable Care Act's online health insurance Marketplaces can improve how consumers make complex health plan choices. We examined the choice environment on the state-based Marketplaces and HealthCare.gov in the third open enrollment period. Compared to previous enrollment periods, we found greater adoption of some decision support tools, such as total cost estimators and integrated provider lookups. Total cost estimators differed in how they generated estimates: In some Marketplaces, consumers categorized their own utilization, while in others, consumers answered detailed questions and were assigned a utilization profile. The tools available before creating an account (in the window-shopping period) and afterward (in the real-shopping period) differed in several Marketplaces. For example, five Marketplaces provided total cost estimators to window shoppers, but only two provided them to real shoppers. Further research is needed on the impact of different choice environments and on which tools are most effective in helping consumers pick optimal plans.

The third enrollment period for the health insurance Marketplaces established by the Affordable Care Act (ACA) opened online November 1, 2015. More than two million consumers selected plans in the first four weeks of the period—and 35 percent of them were not previously enrolled in a Marketplace.[1]

In this enrollment period thirty-eight states used the federal website, HealthCare.gov, while twelve states and the District of Columbia used their own state-based Marketplaces.[2] More than 11 million people selected a plan on the Marketplaces in the second enrollment period, and 12.7 million did so in the third.[3,4]

Substantial technical issues plagued the websites during the first open enrollment period, but they had largely been addressed by the second period.[5] Even in a relatively smoothly functioning Marketplace, selecting a health insurance plan is a complex task, which is made more difficult by unfamiliar terminology, complicated trade-offs between coverage and premiums, and multiple plan options.[6–9] On HealthCare .gov, for example, the average number of health plans per county was forty-eight in 2016.[10]

Suboptimal plan selection, which is prevalent and costly, can lead to consumers' being unsatisfied if they are unaware of their cost-sharing responsibility or the exclusion of their preferred providers from insurance networks.[11] In extreme cases, poor choices can have severe financial consequences, including bankruptcy. In the end, choice errors are costly not only to consumers but also to Marketplace operators and taxpayers.

The design of the online Marketplaces can influence and improve how consumers make these complex decisions.[5] The choice environment, sometimes referred to as the "choice architecture," includes how plan options are displayed and what tools are available to help consumers

make a selection.[12–15] For example, previous studies have shown that providing calculation aids can help consumers make fewer mistakes, while listing plans by premium cost draws attention away from other relevant features, such as deductible and copayment amounts.[5,13]

We examined the choice environments on the state-based Marketplaces and HealthCare.gov in the third open enrollment period. All information reported in the article was current as of November 30, 2015. We collected data on plan presentation and consumer decision aids (Exhibit 1), similar to what we did in the first two open enrollment periods.[15] In this article we recommend steps to improve decision making by consumers in future enrollment periods and research to evaluate these steps.

Study Data And Methods

DATA COLLECTION Our research assistants and we went shopping on the thirteen state-based Marketplaces (for a list of Marketplaces, see Appendix Exhibit A1)[16] and HealthCare.gov in November 2015, at the beginning of the third open enrollment period. At least two researchers independently surveyed each web portal and recorded detailed screenshots of the web pages. All discrepancies in coding data on plan presentation and consumer decision aids were resolved by team consensus.

Our process simulated a typical Marketplace shopping experience, in terms of both real shopping and window shopping. *Real shopping* refers to what is presented on a website after the consumer creates an account with personal identification. *Window shopping* refers to browsing plan options anonymously, before creating an account. We collected data in both contexts because we found substantial differences in the choice environments in previous enrollment periods.[15]

We compared the real-shopping and window-shopping experiences in the third open enrollment period, and below we comment on major differences between the third and first two enrollment periods.

OUTCOMES Within each Marketplace, we collected data on the default order of health plans (that is, the order in which plans appear on a Marketplace website before the consumer applies any sorts or filters) and on filtering and sorting functionality (that is, using check boxes to show plans with specific features or ordering plans by certain variables), since the order of choice options is a strong nudge in decision making.[17] We also collected data on any indications of network size, given the rise in plans with narrow networks.[18]

We documented the availability of several consumer decision aids (described in Exhibit 1), as these are tools that are present on the Marketplaces or recommended by expert groups.[19] Of note, we did not verify the accuracy of the total cost estimates or the provider and formulary directories. We did examine the questions used to generate the total cost estimates and how the estimating strategies differed. We considered pop-up explanations more useful than glossary definitions that appear on a separate webpage.[8] Because of the prevalence of narrow networks, we determined whether sites explained that maximum out-of-pocket spending applied to in-network services only.

We present data for HealthCare.gov separately from the state-based Marketplaces, since thirty-eight states and the majority of Marketplace enrollees relied on HealthCare.gov.[2,4] This study was deemed exempt from review by the University of Pennsylvania Institutional Review Board.

LIMITATIONS Our study had several limitations. First, we may have missed certain choice architecture features that were present on the

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EXHIBIT 1

Consumer decision aids on health insurance Marketplaces

Type of decision aid	Description
Total cost estimator	Allows consumers to enter information to produce a personalized estimate of out-of-pocket expenses that adds the monthly premium to other expenses such as deductibles, coinsurance, and copayments (for information consumers are asked to enter and types of estimates provided by these tools, see the text)
Integrated provider lookup[a]	Allows consumers to determine whether their provider is included in each plan's network
Integrated drug lookup[a]	Allows consumers to determine whether their medications are included in each plan's formulary
Quality ratings	ACA-mandated system of quality and price ratings that must be displayed on the websites by 2016, generally as a star system
Pop-up definitions	Explanations that appear when a consumer hovers the cursor over or clicks on a term, such as *deductible* or *coinsurance*

SOURCE Authors' analysis of health insurance Marketplaces in the third open enrollment period, November 1–30, 2015. **NOTE** ACA is Affordable Care Act. [a]Websites that directed the consumer to another website or an external file were not classified as having an integrated decision aid.

sites even after using multiple coders and screenshots. However, if we did, those features were not located by multiple observers with experience in navigating the web portals and thus are unlikely to be readily apparent to the average consumer.

Second, we might not have captured changes made to the sites after our data collection period. For example, HealthCare.gov fully implemented a drug formulary lookup tool in December 2015.[20] We were unable to assess the choice environment for consumers who were reenrolling on the Marketplaces, nor could we systematically analyze the transition between window shopping and real shopping.

Finally, although we describe several elements that likely influence decision making, our findings do not necessarily indicate that the websites were effective at enrolling consumers who made efficient choices.

Study Results

PRESENTATION OF PLANS In the real-shopping experience, the majority of state-based Marketplaces (nine of thirteen) and HealthCare.gov presented plans in order of their premiums, from cheapest to most expensive (Exhibit 2). Two state-based Marketplaces (California and Kentucky) listed plans by estimated total out-of-pocket spending. Massachusetts listed plans in the silver tier first, with a message that read, "The plans shown here are some of our most popular plans and offer a good balance between monthly premiums and out-of-pocket costs." Minnesota listed plans in order of best fit, based on consumer preferences on the following variables: availability of a health savings account, wellness programs (for asthma care, diabetes care, fitness discount, healthy pregnancy, high blood pressure care, and weight loss), metal tier, and deductible amount.

Across all Marketplaces, consumers could use common features such as premium, deductible,

EXHIBIT 2

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

	Available on HealthCare.gov	Available on state-based Marketplaces		Functionalities on HealthCare.gov and state-based Marketplaces		
		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	—[a]	—[a]	—[a]
Estimated total out-of-pocket spending	No	2	CA, KY	—[a]	—[a]	—[a]
Best fit for consumer	No	1	MN	—[a]	—[a]	—[a]
Silver tier listed first	No	1	MA	—[a]	—[a]	—[a]
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	—[a]	—[a]	—[a]
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. [a]Not applicable.

metal tier, insurance carrier, maximum out-of-pocket spending, and plan type to sort information, filter it, or both (Exhibit 2).

For window-shopping consumers who did not qualify for premium tax subsidies, ten state-based Marketplaces and HealthCare.gov sorted plans by premium, while two states used estimated total out-of-pocket spending (Exhibit 3) (for more detailed window-shopping results, see Appendix Exhibit A2).[16] For window shoppers who qualified for premium tax subsidies (data not shown), plans were ordered by premium (in six Marketplaces) or estimated total out-of-pocket spending (two), or by placing silver plans first or displaying only silver plans (four).

If consumers qualified for plans with cost-sharing reductions, HealthCare.gov and nine state-based Marketplaces directed consumers toward silver plans. Four used a stronger nudge that listed silver plans first or showed consumers only silver plans, while six explained in text only that cost-sharing reductions were limited to silver plans (data not shown).

CONSUMER DECISION AIDS

▶ TOTAL COST ESTIMATORS: In the real-shopping experience, California and Kentucky had total cost estimators, whose estimates of total out-of-pocket spending included the monthly premium in addition to any cost sharing (that is, deductibles, copays, and coinsurance) (Exhibit 2). In the window-shopping experience, California did not provide a total cost estimator, but four additional Marketplaces—HealthCare.gov, Connecticut, the District of Columbia, and Minnesota—did (for more detailed window-shopping results, see Appendix Exhibit A2).[16]

The Marketplaces differed in the information they requested from consumers to produce the estimates of total out-of-pocket spending. A list of questions and answers that Marketplaces used to estimate this spending is provided in Appendix Exhibit A4.[16] For example, some Marketplaces asked about the consumer's estimated medical and prescription utilization (low, moderate, high, or very high), health (poor, average, or excellent), medical conditions (for example, high blood pressure, diabetes, thyroid disease, or lung cancer), expected medical treatments, and ongoing prescriptions.

HealthCare.gov asked, "Do you think your use of medical services in 2016 will be low (minimal other medical expenses), medium (2 doctor visits, 1 lab or diagnostic test, 2 prescription drugs, minimal other medical expenses), or high (10 doctor visits, 4 lab or diagnostic tests, 17 prescription drugs, 1 day in hospital, $7,600 in other medical expenses)?" (Appendix Exhibit A4).[16] Kentucky allowed consumers to adjust their expected number of visits and medical care use after answering a series of detailed questions (for lists of questions and utilization variables, see Appendix Exhibits A4 and A5).[16]

In the window-shopping experience, the estimated total out-of-pocket spending in the District of Columbia was presented as an average point estimate and as "cost in a bad year." The chance of having a bad year was also presented as a percentage, based on information the consumer provided about his or her health (for a figure illustrating the cost estimates, see Appendix Exhibit A6).[16] While Idaho did not provide specific estimates of total out-of-pocket spending, it did display flags for low, moderate, and high estimated expense levels, to indicate which plans might be more costly for consumers.

▶ PROVIDER AND DRUG LOOKUP TOOLS: Integrated tools to look up providers were found on HealthCare.gov and eight state-based Marketplaces in the real-shopping experience (Exhibit 2). The integrated search functionality was available for individual providers and for hospitals on four Marketplaces (data not shown). Consumers could sort plans by inclusion of providers in one Marketplace and could filter plans by inclusion of providers in two Marketplaces (Exhibit 2). Two Marketplaces provided an indication of provider network size: Massachusetts had a "network note" tag that indicated a narrow network, and Rhode Island listed the number of covered doctors and hospitals in the state (Exhibit 2).

EXHIBIT 3

Choice environments in the health insurance Marketplaces, by window-shopping and real-shopping context

	Number of Marketplaces (N = 14)	
	Window shopping	Real shopping
DEFAULT ORDER OF PLANS BY:		
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
CONSUMER DECISION AIDS		
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.

In the window-shopping experience, eight Marketplaces provided integrated provider look-up tools (Exhibit 3) (for more detailed window-shopping results, see Appendix Exhibit A2).[16] Six state-based Marketplaces allowed consumers to search for participating providers without having to provide a name in one or both types of experience—for example, by providing a radius around a ZIP code, a specialty, or a language spoken (data not shown). An integrated drug lookup tool was available only on Colorado's Marketplace and just for the window-shopping experience. The tool allowed consumers to enter the name of a medication and filter plans by coverage of that medication.

▶ QUALITY RATINGS: In the real-shopping experience, quality ratings were available on five sites; four of these allowed users to filter and sort by these ratings (Exhibit 2). The criteria used to create quality ratings varied. California based its ratings on members' experiences getting appointments and care, the care itself, the providers, and customer service (data not shown). Connecticut converted National Committee for Quality Assurance scores into star ratings, and Vermont used information from carriers and members about care and service.

▶ POP-UP DEFINITIONS: Pop-up definitions were available in the real-shopping experience on eleven of the thirteen state-based Marketplaces, but not on HealthCare.gov (Exhibit 2). They were available in the window-shopping experience on nine state-based Marketplaces and HealthCare.gov (Exhibit 3).

Eight Marketplaces indicated that the estimated maximum out-of-pocket expense applied only to in-network services (data not shown). All but two Marketplaces included a glossary of common health insurance terms.

▶ MISCELLANEOUS TOOLS: One state, Washington, asked consumers three questions to help narrow plan options in both the real- and window-shopping experiences. The questions were whether a consumer wanted to pay less for each visit and more for the monthly premium, if he or she preferred more choices of doctors, and if he or she wanted to pay more for each visit and less for the monthly premium. Responses activated filters on the deductible amount, plan type (health maintenance organization versus preferred provider organization), and plans with a health savings account, respectively.

Discussion

The ACA Marketplaces varied in how they displayed plan options and the tools they provided to help consumers select a plan. We found greater adoption of some decision support tools, such as

The different choice environments presented on the Marketplaces resulted in varying experiences for consumers.

total cost estimators and integrated provider lookups, in the third open enrollment period compared to the previous two periods.[15] However, a closer look at the total cost estimators revealed that an array of strategies was used to generate and present these estimates.

The functionality of integrated provider lookup tools also varied, as only some allowed consumers to sort or filter plans by their preferred providers. Finally, the tools available in the real- and window-shopping experiences differed, with some key tools available only to window shoppers. For example, total cost estimators were on five Marketplaces in the window-shopping experience but only on two in the real-shopping experience.

THIRD OPEN ENROLLMENT PERIOD VERSUS THE FIRST TWO The most notable additions in the third enrollment period compared to the first two periods were total cost estimators and integrated provider lookups.[15] In the window-shopping experience, for example, the number of Marketplaces that offered total cost estimators increased from zero in the first enrollment period to five in the third, including HealthCare.gov for the first time. More Marketplaces had integrated provider lookups (there were three in the first enrollment period and eight in the third) and pop-up definitions (five and nine, respectively).

Most sites have continued to list plans by the premium amount. However, compared to previous enrollment periods, in the third period more sites were experimenting with alternative orders, including by estimated total out-of-pocket spending or with best-fitting or silver-tier plans first—especially for consumers who qualified for tax credits and cost-sharing reductions.

CHOICE ENVIRONMENT AFFECTS CONSUMER EXPERIENCE The different choice environments presented on the Marketplaces resulted in varying experiences for consumers. On HealthCare.gov, for example, plans were presented in order

Selecting a health insurance plan on a state or federal Marketplace can be a daunting task for consumers.

of lowest to highest premium by default; a provider lookup tool was included; and the window- and real-shopping experiences had a similar visual style, although the real-shopping context lacked a cost calculator. To make the transition from window to real shopping, consumers were encouraged to write down their preferred plan name or print out the plan description.

In contrast, consumers in California were presented with plans listed in order of estimated total out-of-pocket expenses based on estimated medical and prescription usage in the real-shopping experience, but there was no integrated provider lookup tool. The real-shopping experience made multiple sorts and filters available to consumers. The window-shopping experience was quite different. After entering general location and income range information into a subsidy calculator in the window-shopping experience, consumers were presented with a fairly static page of plans divided into metal tiers and listed in order of their premiums, as opposed to the estimated total out-of-pocket expense in the real-shopping experience.

VARIATION IN TOTAL COST ESTIMATORS The total cost estimators found on HealthCare.gov and in California, Connecticut, D.C., Kentucky, and Minnesota gave consumers information about what they would pay in a year by adding their expected or estimated total out-of-pocket spending to the monthly premium. These estimates help consumers understand and compare the trade-offs between premiums and out-of-pocket expenses when care is needed and are intended to minimize consumers' surprise if they incur high out-of-pocket spending for care.[19]

Further research on the information used to produce these total cost estimates is needed, as is greater transparency about the information. Some sites, such as HealthCare.gov, asked consumers one or two simple questions to match themselves to a user profile (for example, some-

one with low, medium, or high use). Other sites provided extensive, sometimes overwhelming, lists of selectable conditions and treatments and then used probability to assign a consumer to a user profile. Some of the conditions and treatments listed (such as "diabetes" and "having a baby") are common, though the rationale behind including other choices (such as "manic depression" and "treatment of upset stomach") is more difficult to understand.

How the estimate algorithms differ and which method produces the most accurate estimate are still unknown. Because no gold standard or central authority exists for decision tools, consumers must rely on the Marketplaces to choose the best vendor to supply these tools. To calculate medical costs and therefore out-of-pocket spending, vendors are using a variety of databases such as those of the National Medical Expenditure Survey, Medicare, and private payer claims.[11]

There are no published studies to provide a basis for concluding which data source or algorithm is optimal. Validating these different decision support strategies will require providing researchers with data that most Marketplaces do not collect, such as web analytic records that are linked to plan choices or claims data. Even basic data such as deidentified individual-level enrollment data are not available to most researchers.

INSURANCE NETWORK TRANSPARENCY More Marketplaces, including HealthCare.gov, have integrated tools that allow consumers to see if their providers or hospitals are in a network, compared to the previous enrollment periods. These tools are important since insurers use narrow networks to control costs and since returning customers may consider changing plans.[18]

We found an indication of network size on just two Marketplaces. In one case, the choice of a narrow network flag may be too simplistic; in the other case, listing the number of providers may be too complicated for consumers to interpret.

Instead, Marketplaces could consider developing a simple network sizing algorithm (for example, one that would categorize networks as extra small, small, medium, large, or extra large) or a composite measure of "convenient access to care" that would account for the number of doctors, total network size, type of insurance product, and consumer satisfaction.[19,21] These types of indicators would allow consumers—particularly those who do not have preferred physicians or hospitals—to choose a plan based on network size versus affordability and would minimize surprises when seeking care.

Additionally, consumers need more explicit explanations that maximum out-of-pocket spending applies only to in-network services.

Similarly, prescription drug coverage is an important feature for many consumers, but only Colorado included an integrated drug lookup tool in its window-shopping experience. The well-established formulary tool for Medicare plans could serve as model for exchange plans.[22]

DIFFERENCES BETWEEN WINDOW AND REAL SHOPPING Certain key tools were available only in the window-shopping context for some Marketplaces. For example, HealthCare.gov's total cost estimator was available for window shoppers but not for real shoppers. It may be easier to implement decision support tools in the window-shopping experience than in the real-shopping one since linkage to secure databases for identity verification is not required for window shoppers.

Window shopping is a common entryway into the Marketplaces for many consumers, so highlighting plan affordability—particularly for consumers who qualify for tax credits and cost-sharing reductions—is important as a way to demonstrate the value of Marketplace plans. However, for consumers who start as real shoppers and for Marketplaces where the transition between window and real shopping is cumbersome, providing tools in both contexts would be helpful. In addition, at least some Marketplaces use different vendors for coding real-shopping and window-shopping experiences. In informal discussions with Marketplace officials and vendors, we found no indication that the decision to offer different choice environments for the two groups of shoppers was based on evidence—or even belief—that such an approach was optimal.

Further refinements are needed to improve the default order of plans. As in previous enrollment periods, in the third period most sites organized plans according to a single attribute: the monthly premium. Although sorts and filters are available for consumers, the default order has a strong influence on consumers.[17] To nudge consumers toward plans that may be better choices, Marketplaces could consider presenting plans in more sophisticated default orders, such as in order of total estimated out-of-pocket spending or best fit, or using a "smart default" (that is, a preselected cost-effective option based on the consumer's estimated usage, preferences, or both).[11,13,15,23]

Conclusion

Selecting a health insurance plan on a state or federal Marketplace can be a daunting task for consumers. Tools such as total cost estimators and provider lookups give consumers additional information up front as they shop and should help prevent consumers from being unpleasantly surprised when they use their insurance, which has sometimes led to attrition.

Some states, including those with Marketplaces that experienced fewer technical challenges in the first two enrollment periods (such as Connecticut, Kentucky, and Washington), have been able to develop their choice architecture more than other states. Larger states with their own Marketplace that assess a per plan surcharge, such as the one in California, may also have more resources available to improve their decision support, compared to smaller states. Some states may be selecting vendors that place more emphasis on choice tools than other vendors do.

While states that seem to have more sophisticated choice architecture could serve as models for other states and HealthCare.gov, further research is needed to discern the value and impact of different choice environments and demonstrate which tools are most effective in helping consumers pick the optimal plan, or at least avoid a poor choice. Researchers will need access to more data from the Marketplaces—ideally including consumers' enrollment choices linked to other data such as claims and web analytics—as they conduct experiments, potentially both on the Marketplace websites and in the laboratory. Ultimately, understanding what helps improve consumers' insurance choices on the Marketplaces will benefit not only the consumers themselves but also the federal and state governments that subsidize the insurance purchases. ∎

> States that have more sophisticated choice architecture could serve as models for other states and HealthCare.gov.

NOTES

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16 To access the Appendix, click on the Appendix link in the box to the right of the article online.

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