

Choosing the Right Medicare Prescription Drug Plan: The Effect of Age, Strategy Selection, and Choice Set Size

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Objective: The Medicare Modernization Act of 2003 (better known as Medicare Part D) represents the most important change to Medicare since its inception in the mid-1960s. The large number of drug plans being offered has raised concern over the complex design of the program. The purposes of this article are to examine the effect of age and choice set size (3 vs. 9 drug plans) on decision processes, strategy selection, and decision quality within the Medicare Part D program. **Method:** One hundred fifty individuals completed a MouselabWeb study, a computer-based program that allowed us to trace the information acquisition process, designed to simulate the official Medicare Web site. **Results:** The data reveal that participants identified the lowest cost plan only 46% of the time. As predicted, an increase in choice set size (3 vs. 9) was associated with 0.25 times the odds of correctly selecting the lowest cost plan, representing an average loss of \$48.71. Older participants, likewise, tended to make poorer decisions. **Conclusion:** The study provides some indication that decision strategy mediates the association between age and choice quality and provides further insight regarding how to better design a choice environment that will improve the performance of older consumers.

Keywords: attribute/alternative processing, choice, prescription drugs, Medicare, older adults

The Medicare Modernization Act of 2003 (better known as Medicare Part D) represents the most important change to Medicare since its inception in the mid-1960s. The program offers millions of older adults the ability to purchase subsidized prescription drug coverage. One feature that has attracted much attention (Hanoch & Rice, 2006) is the large number of drug plans being offered (a median number of 48 among the states; Kaiser Family Foundation, 2009). This large choice set, however, is only one factor rendering the Medicare Part D program one of the most

complex health decision environments ever designed (Frank, 2004). Because drug plans can also differ in their key features, such as which drugs are included in the formulary, premiums, and cost-sharing requirements, beneficiaries find it difficult to choose among the dozens of drug plans available.

The purposes of this article are to examine the effect of age and choice set size (3 vs. 9 drug plans) on decision processes, strategy selection, and decision quality by using a process-tracing method, Mouselab (Bettman, Johnson, & Payne, 1990; Payne, Bettman, & Johnson, 1993). Mouselab allows us to examine the information being sought, the time spent on each piece of information—both the total amount of information and the order in which information is acquired—as well as how age and the decision environment (3 vs. 9 plans) affect the decision strategy. Using Mouselab allow us to have better understanding of how consumers navigate this decision environment and what decision strategies they employ to pick a Medicare drug plan.

Age, Decision Making, and Strategy Selection

A growing body of evidence suggests that age effects are most likely to emerge on deliberative-type tasks (Hanoch, Wood & Rice, 2007), especially ones that are cognitively demanding or lack a fit between the person and the decision environment (Finucane, Mertz, Slovic, & Schmidt, 2005; Yoon, Cole, & Lee, 2009). Furthermore, aging is associated with declines in fluid abilities,

This article was published Online First May 23, 2011.

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This work was supported by a Robert Wood Johnson Foundation Investigator Award in Health Policy Research. We thank Martijn Willemsen for great advice about MouselabWeb, Mark Cooper for assistance in programming, and Anita Todd for editing.

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speed of processing, working memory, and executive functioning (Schaie & Willis, 2002). Thus, one might wonder how age and cognitive changes affect decision-making abilities and strategy selection.

One area that has attracted much attention is older adults' medical decision-making abilities. In one study, researchers (Hibbard, Slovic, Peters, Finucane, & Tusler, 2001) investigated older and younger adults' abilities to understand the health and financial information of health care plans. They found that older individuals were significantly more likely to make errors compared with younger adults. Others (Finucane et al., 2005) examined the link between age and competence by increasing the complexity of tasks concerning health, financial, and nutritional information. The results indicated that as the complexity of the task increased so did the number of errors, with older adults faring worse than their younger counterparts.

Do older and younger adults also differ in decision strategy selections and are they equally able to adjust their decision strategies to changing environmental structures? Johnson (1990, 1993) has provided evidence that when asked to select an apartment or a car older adults examined less information, reevaluated information more frequently, reviewed the information for longer time periods, and used more simplified search strategies. Others (Mata, von Helversen, & Rieskamp, 2010; Mata, Schooler, & Rieskamp, 2007) have investigated the effect of aging on the ability to select adaptive decision strategies in relation to different environmental structures. Their results show that older adults tend to use less information and take longer to process it, and they rely more often on simpler decision strategies because they lack the cognitive resources to use the more demanding ones. A meta-analysis (Mata & Nunes, 2009) evaluating age differences in predecisional information search found that old age is associated with a moderate tendency to search for less information (Löckenhoff & Carstensen, 2007). Given the literature discussed previously, it was predicted that, all things being equal, older adults will tend to use a more simplified decision strategy—that is, attribute (vs. alternative) base processing—especially as cognitive demands increase.

Too Much Choice and Medicare Part D

When designing the Medicare Part D program, policymakers assumed that offering older adults a wide range of drug plan choices would be beneficial. Offering more choice, however, often increases task complexity, time demand, and cognitive load (Jacoby, 1984). It can also lead to a greater sense of regret and dissatisfaction with one's decision (e.g., Iyengar & Lepper, 2000; Schwartz, 2004; Schwartz et al., 2002). In one illustrative study (Iyengar, Huberman, & Jiang, 2004) that examined the 401(k) retirement plan data of close to 800,000 employees, researchers found a negative relationship between the number of choices available and the probability that an employee would join a retirement plan.

The Medicare Part D program offers a natural setting to examine this notion. Indeed, a number of earlier studies have extended this line of thinking to the Medicare Part D program. One investigation (Bundorf & Szrek, 2010) has shown that increasing the number of drug plans available (2, 5, 10, and 16) boosted participants' satisfaction with their choice; however, it also amplified their desire to see fewer options on the menu. Another study (Hanoch, Rice,

Cummings, & Wood, 2009) found that larger drug plan choice-set size (10 and 20 compared with 3) reduced both older and younger participants' performance. It is perhaps not surprising, then, that earlier surveys found that the majority of older adults thought the Medicare Part D program was too complicated (Kaiser Family Foundation, 2006) and had too many choices (Cummings, Rice, & Hanoch, 2009).

While the above studies examined the effect of increasing choice size on performance, their research design precluded them from evaluating how it might determine strategy selection. This is an important omission because the strategies employed could have important implications with regard to performance (Payne, Bettman, & Johnson, 1993). Previous investigations have demonstrated that as task complexity (e.g., Payne, 1976) and time pressure increase (Dhar, Nowlis & Sherman, 2000; Payne, Bettman, & Johnson, 1988) individuals tend to use noncompensatory decision strategies and fail to make trade-offs among pertinent decision information. What results from this attempt to reduce decision demands is a heavier reliance on attributes, rather than alternatives, during decision making (Payne, Bettman, & Johnson, 1988).

Shifting decision strategies in response to greater cognitive demand has been placed within a cost-benefit framework (Einhorn & Hogarth, 1981; Payne et al., 1993; Reutskaja & Hogarth, 2009), where the decision maker's expected gains and expected costs determine their chosen strategy. Viewed from this framework, the benefit of having more choice rests with the ability to find a better option. It is, however, costly, because it creates a greater demand on the cognitive system. Thus, one would expect that increasing the number of drug plans from 3 to 9 would not only alter the amount and rate of information acquisition, but, more importantly, change the decision strategy utilized from alternative base to attribute based.

Aside from looking at a real-world and topical problem, the present study augment previous research by (a) varying the number of Medicare drug plans participants evaluated (either 3 or 9) and (b) including objective outcome criteria—namely, whether the participant chose the plan with the lowest estimated annual cost and the amount of money lost if a higher cost plan was chosen. These changes allowed us to investigate several hypotheses. Specifically, it was predicted that increasing age would be associated with (a) acquisition of less information; (b) reliance on attribute decision strategies; and (c) poorer decision quality. It was also hypothesized that more drug plan choice would be linked to (d) acquisition of a lower proportion of available information; (e) utilization of attribute decision strategies; and (f) poorer decision quality for both younger and older adults. Finally, the study tested the mediation hypotheses that (g) poor decision quality associated with increasing age is mediated by decision strategies; and (8) poor decision quality associated with the number of choices is mediated by decision strategies.

Method

Participants

One hundred fifty individuals participated in the study. Aiming to recruit a sample across life span, older participants were recruited from an existing senior participant pool and through advertisements at senior centers in Claremont, California. Younger