

of the time consumers spend in search for groceries and other household purchases (including durable goods). We assumed that the search time for these products was related to shopping time. Because search costs include the costs of evaluating magazine articles or brochures, the costs of obtaining a friend's advice, and the costs of instore product comparisons, our estimates will not correspond precisely to the actual costs of search for these products (Ref. E35). We believe, however, that the measure will be a reasonable approximation. Although search time often takes place outside of measured shopping time, measuring search time as some proportion of total shopping time should generate a plausible if not a precise estimate.

We generated three models of search time for dietary supplements, based on three separate studies of shopping time:

- Drug Store.
- Use of Time.

- Grocery Store.

We used three models based on different assumptions because using a range of studies reduced the likelihood of systematic bias in our analysis.

The drug store model. The drug store study recorded the amount of time people spent looking at an item on the shelf before making a purchase (Ref. E36). Customers, on average, spent 3.75 minutes studying a product before purchasing it. Although there are quality standards in place for over-the-counter drugs and not for dietary supplements, we assumed that this represented a measure of the amount of time the sophisticated consumer might spend searching for a product with the desired quality.

The use of time model. The Americans' Use of Time Project (Ref. E37) used time diaries to study how adults spent all of their time. The study collected data from over 3,500 adults on use of time. Data from these time diaries

reveal that adult Americans spent about 364 minutes per week shopping for personal consumption items, such as groceries and other household products.

The grocery store model. In the grocery store study, hidden observers tracked and recorded shopping time in the store (Ref. E38). The study found that people on average spent about 21 minutes shopping in the grocery store. By combining estimated time per trip with the Food Marketing Institute's (Ref. E10) finding that consumers average about 2.2 grocery shopping trips per week, we generated an estimate of search time for all grocery store purchases of 46.2 (= 2.2 × 21) minutes per week.

For each of the models, we needed to make assumptions to convert shopping time for other commodities into search time for dietary supplements. Table 11 of this document shows the assumptions and information used in each model.

TABLE 11.—THREE MODELS OF SEARCH TIME: ASSUMPTIONS USED IN SIMULATIONS

Variable	Value or distribution	Source and notes
Drug Store Model		
Search time in minutes per item	3.75	Ref. E30.
Number of products per person per year	6.57	Ref. E4.
Average wage rate	\$15.65 per hour, or \$0.26 per minute	Ref. E42.
Population	273 million	Ref. E19.
Fraction of search time devoted to searching for quality.	0.2 (based on uniform distribution, 0.1 to 0.3)	Based on number of attributes consumers search for.
Use of Time Model		
Weekly shopping time for all items in minutes ..	346	Ref. E37.
Fraction percent of budget spent on supplements.	\$15.5 billion/\$6,250 billion	Ref. E4 and E19.
Average wage rate	\$15.65 per hour, or \$0.26 per minute	Ref. E42.
Adult population	205 million	Ref. E19.
Ratio of search time to shopping time	0.7 (based on uniform distribution, 0.4 to 1.0)	Based on descriptions of shopper behavior.
Fraction of search time devoted to searching for quality.	0.2 (based on uniform distribution 0.1 to 3.0)	Based on number of attributes consumers search for.
Potential reduction in search time attributable to CGMP regulations.	33% most likely (could be between 15 and 50%).	Based on likelihood of problem and likelihood that search will decline proportionally, and the expert opinion of pharmacists.
Grocery Store Model		
Weekly shopping time for groceries in minutes	46.2	Ref. E38.
Ratio of supplement expenditures to grocery expenditures.	\$15.5 billion/\$710 billion	Ref. E38.
Average wage rate	\$15.65 per hour, or \$0.26 per minute	Refs. E4 and E19.
Adult population	205 million	Ref. E19.
Ratio of search time to shopping time	0.7 (based on uniform distribution, 0.4 to 1.0)	Based on descriptions of shopper behavior.
Fraction of search time devoted to searching for quality.	0.2 (based on uniform distribution, 0.1 to 0.3)	Based on the number of attributes that consumers search for.
Potential reduction in search time attributable to CGMP regulations.	33% most likely (could be between 1% and 50%).	Based on likelihood of problem, the likelihood that search will decline proportionally, and the expert opinion of pharmacists.

The drug store data generated a direct estimate of search time. In the drug store model we assumed that the time spent standing in front of the drug product

could be used to estimate the time searching for dietary supplements. We then used data on the number of products purchased per person and the

total U.S. population to generate an estimate of annual search time for dietary supplements.