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Most Americans Do Not Believe That There Is An Association Between Health Care Prices And Quality Of Care

DOI: 10.1377/hlthaff.2015.1334
HEALTH AFFAIRS 35,
NO. 4 (2016): 647–653
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Foundation, Inc.

ABSTRACT Many organizations are developing health care price information tools for consumers. However, consumers may avoid low-price care if they perceive price to be associated with quality. We conducted a nationally representative survey to examine whether consumers perceive that price and quality are associated and whether the way in which questions are framed affects consumers' responses. Most Americans (58–71 percent, depending on question framing) did not think that price and quality are associated, but a substantial minority did perceive an association (21–24 percent) or were unsure whether there was one (8–16 percent). Responses to questions framed in terms of high price and high quality differed from responses to questions framed in terms of low price and low quality. People who had compared prices were more likely than those who had not compared prices to perceive that price and quality were associated. We explore implications of these findings, including how behavioral economics can inform approaches to helping consumers use price and quality information.

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Governments, insurers, and other companies are pursuing a variety of approaches to make health care prices and quality more transparent, so that consumers can use price and quality information to choose high-value providers and services.^{1–5} However, observers often assume that consumers believe that health care price and quality are associated, which they suggest could create unintended consequences for price transparency initiatives. For example, Anna Sinaiko and Meredith Rosenthal write that consumers may use price as a proxy for quality and will therefore assume that high-price providers also are of high quality.⁶ Similarly, others note that providing price information may prompt consumers to choose higher-price providers instead of less expensive ones.⁷

We examined whether consumers indeed perceive the price of health care to be associated

with its quality, as well as demographic and other possible predictors of their perceptions. Understanding how consumers perceive the relationship between price and quality is important because using price as a proxy for quality could drive up spending without a commensurate increase in value. We also examined whether consumers' reported perceptions changed depending on whether questions were framed in terms of high price/high quality or low price/low quality. Specifically, we tested the hypotheses that consumers perceive that price and quality are associated and that question framing changes their reported perceptions. This study is based on an examination of questions that were part of a larger nationally representative survey of how Americans seek and use health care price information (a summary of the survey results has been reported elsewhere).⁸

Many studies have documented wide variations in prices across and within regions, with

limited evidence that higher prices are associated with higher quality or better health outcomes.⁹ A systematic review found inconsistent evidence regarding both the direction and the magnitude of the association between health care price and quality,¹⁰ and several studies found that when insured people were given price information, they chose relatively low-price care.¹¹⁻¹⁴

In this study we did not examine whether price and quality are actually associated, nor do we assert that people who believe that price and

quality are associated are necessarily misguided. However, understanding what consumers perceive and the factors associated with those perceptions is critical for designing effective initiatives to increase the use of price and quality information.

Outside of health care, people's views on the relationship between price and quality depend on factors such as the type of good in question, consumers' expectations, and the information available.¹⁵⁻¹⁷ Exhibit 1 details four key studies (including the larger nationally representative

EXHIBIT 1

Studies examining consumers' perceptions of price and quality in health care

Study	Objective	Method	Date	Population sampled	Sample size	Relevant results
Associated Press-NORC Center for Public Affairs Research, 2014 (Note 18 in text)	Understand perceptions of health care provider quality and of relationship between quality and cost	Survey with split sample for price and quality questions	2014	Telephone survey weighted to be generalizable to the US population	1,002	Americans are divided over whether they think high-quality health care has a high cost or not Americans' perceptions of the connection between cost and quality vary depending on how the question is framed
Schleifer et al., 2015 (Note 8 in text)	Examine use and perceptions of health care price information	Survey with split sample for price and quality questions	2014	Telephone and online survey weighted to be generalizable to US population	2,010	Most Americans do not think that higher-price care is necessarily of higher quality
Hibbard et al., 2012 (Note 19 in text)	Examine how different presentations of information affect likelihood that consumers will make high-value choices (lower cost and better quality)	Experiment using online survey	2011	Convenience sample of insured adults employed by two firms; disproportionately male, white, highly educated	1,421	A substantial minority of respondents shied away from low-cost providers; consumers who paid a large share of their health care costs were likely to equate high cost with high quality Consumers were more likely to make high-value choices when cost data were presented alongside easy-to-interpret quality information and when high-value options were highlighted
Carman et al., 2010 (Note 20 in text)	Determine how the concept of making health care decisions based on evidence of effectiveness could be translated into language that consumers would understand and embrace	Focus groups, cognitive interviews, online survey	2007	Online convenience sample of employed, insured respondents ages 22-69 who were key health care decision makers for their household	1,558	A substantial portion of participants expressed the view that "you get what you pay for," and one-third agreed with the statement that "medical treatments that work the best usually cost more"

SOURCE Authors' analysis of data from the items cited.

survey on which this study is based) about perceptions of the association between price and quality in health care. The study conducted by the Associated Press–NORC Center for Public Affairs Research, using a nationally representative sample, found that most Americans believed that there was no association between price and quality or did not know if there was such an association.¹⁸ Judith Hibbard and colleagues, using a convenience sample of insured adults, found that many respondents perceived low-price providers to be of low quality but that providing well-designed price and quality information could help consumers choose high-value care.¹⁹ Kristin Carman and colleagues, also using a convenience sample of insured adults, found that 33 percent of survey respondents agreed that the most effective treatments are usually more expensive than less effective treatments. However, 27 percent of respondents disagreed with that statement, and 40 percent of respondents (the largest proportion) were unsure.²⁰

The Associated Press–NORC survey asked respondents whether higher-quality health care usually comes at a higher cost and whether lower-quality care comes at a lower cost. The study found that reframing the question yielded different results. More people stated that high price was associated with high quality than stated that low price was associated with low quality ($p < 0.05$).¹⁸

Standard economic theory would assume that responses to a question about high price and high quality would be identical to responses to a question about low price and low quality, because people would respond “rationally” to the information available to them.^{21,22} However, behavioral economics suggests that people’s responses to information depend on how the information is framed. For example, Peter Ubel notes that people may think more favorably of a surgical procedure with a 90 percent survival rate than of one with a 10 percent mortality rate.²³ Although those rates are identical, framing the outcome in terms of mortality rate triggers people’s aversion to loss.

Study Data And Methods

Our findings are based on a nationally representative survey of 2,010 adults (ages eighteen and older) that was fielded in 2014 and funded by the Robert Wood Johnson Foundation.⁸ Survey questions were developed based on a literature review and three focus groups conducted in 2014 (details are available in the online Appendix).²⁴

The survey was conducted through a combination of random-digit-dialed telephone surveys (including landline and mobile phones) and a

nonprobability online panel. Interviews were conducted in English or Spanish. Phone and online survey data were combined using propensity score matching so that the final sample was nationally representative. The final sample was also made nationally representative by weighting to correct for variance in the likelihood of selection for a given case and balancing the sample to known population parameters to correct for systematic under- or overrepresentation of meaningful social categories.

The survey included two pairs of questions about the association between price and quality. One pair of questions referred to medical care in general, and the other referred to doctors, whose prices and quality can vary. One question in each pair asked about high price and high quality, and the other asked about low price and low quality. Survey respondents were asked one question from each pair.

We used a randomized split-sample design for each of the two pairs of questions, so that the sample was independently randomly divided in half twice, as follows: first, to be asked questions either about medical care or about doctors; and second, to be asked questions framed in terms of either high price and high quality or of low price and low quality. Postsurvey analyses indicated that the randomization processes produced valid sample distributions.

We used frequencies and chi-square analyses to examine question response patterns and to test for differences in responses across framing conditions. We used the same types of statistics to examine differences in people’s responses to each of the price and quality questions based on subgroups defined by differences in consumer knowledge about price variation in health care, salience of price information in people’s decisions about health care, and respondents’ sociodemographic characteristics and insurance status. Since the examination of subgroup differences was exploratory, we limited it to unadjusted bivariate analyses.

Study Results

MOST CONSUMERS DO NOT ASSOCIATE PRICE WITH QUALITY Across all questions, a majority of consumers (58–71 percent) stated that they did not believe that price and quality are associated, which refuted our first hypothesis (Exhibit 2). However, a substantial minority of respondents either believed there was an association between price and quality (21–24 percent) or said they did not know if there was such an association (8–16 percent).

QUESTION FRAMING AFFECTS RESPONSES The framing of questions (in terms of either high

EXHIBIT 2

Survey responses to questions on the association between price and quality

Survey question	Response		
	No	Yes	Don't know
Would you say higher prices are typically a sign of better quality medical care or not?	71%	21%	8%
Would you say lower prices are typically a sign of lower quality medical care or not?	63	22	14
If one doctor charged more than another doctor for the same service, would you think that the more expensive doctor is providing higher quality care or would you not think that?	67	23	9
If one doctor charged less than another doctor for the same service, would you think that the less expensive doctor is providing lower quality care or would you not think that?	58	24	16

SOURCE Authors' analysis of data from Schleifer D, et al. How much will it cost? (Note 8 in text). **NOTES** There were 1,008 respondents to the first and fourth questions and 1,002 to the second and third questions. "Don't know" was a response that participants could volunteer. Percentages may not sum to 100 because of rounding and the fewer than 1 percent of respondents who refused to answer the question and are not represented in the table.

price/high quality or low price/low quality) significantly shifted the distribution of responses across both pairs of questions, which supported our second hypothesis. Respondents who were asked about high price and high quality were consistently more likely to say that price and quality were not related, compared to respondents who were asked about low price and low quality. In addition, respondents who were asked about low price and low quality were consistently more likely to say that they did not know when asked about the relationship between price and quality, compared to their counterparts an-

swering the high price and high quality questions ($p < 0.001$).

PREDICTORS OF BELIEFS THAT PRICE AND QUALITY ARE ASSOCIATED Respondents who reported that they had compared prices before getting care were more likely to think that higher prices are related to higher quality medical care, compared to people who had not tried to find price information before getting care (37 percent versus 12 percent) (Exhibit 3). People who had compared prices were also more likely than those who had not sought price information to think that lower prices are related to lower-quality care

EXHIBIT 3

Significant predictors of beliefs about the association between price and quality

Variables	High price associated with high quality in medical care? ^a			Low price associated with low quality in medical care? ^b			High price associated with high-quality doctors? ^b			Low price associated with low-quality doctors? ^a		
	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know
All respondents	21%	71%	8%	22%	63%	14%	23%	67%	9%	24%	58%	16%
RACE/ETHNICITY												
Black	32	57	11 ^{****}	34	58	8 ^{****}	35	58	7 ^{****}	29	61	10 ^{***}
White	14	79	8	18	67	14	14	76	10	21	62	17
Hispanic	36	56	8	33	52	15	44	49	7	31	45	24
AGE (YEARS)												
Under 30	32	57	11 ^{***}	30	58	12 ^{***}	38	50	13 ^{****}	39	53	8 ^{****}
30 to 64	19	75	6	22	64	14	22	70	8	21	60	19
65 and older	12	78	11	15	69	16	11	80	9	20	63	18
MAKES HEALTH CARE DECISIONS FOR ADULT FAMILY MEMBER?												
Yes	30	65	5 ^{****}	34	61	5 ^{****}	33	61	6 ^{****}	36	51	13 ^{****}
No	16	75	9	18	67	15	18	73	9	20	64	16
PRICE INFORMATION SEEKING BEFORE GETTING CARE												
Has not sought price information	12	75	13 ^{****}	17	65	18 ^{****}	16	71	12 ^{****}	22	58	20 ^{****}
Has checked prices	21	74	5	21	66	13	22	71	7	19	67	14
Has compared prices	37	60	4	39	58	2	39	55	6	40	52	8

SOURCE Authors' analysis of data from Schleifer D, et al. How much will it cost? (Note 8 in text). Percentages were weighted to be representative of the US adult population. Percentages may not sum to 100 because of rounding and the fewer than 1 percent of respondents who refused to answer the question and are not represented in the table. "Don't know" was a response that participants could volunteer. Bolded percentages indicate significant ($p < 0.05$) between-group differences within a variable in cases where the overall chi-square test was significant ($p < 0.05$). ^a1,008 respondents. ^b1,002 respondents. ^{***} $p < 0.01$ ^{****} $p < 0.001$

Price and quality transparency initiatives and policies need to consider the potential impact of framing.

(39 percent versus 17 percent). The results were similar for the association of price and quality of doctors.

We also found a similar pattern across questions according to whether or not people make health care decisions for an adult family member: People who made such decisions—and thus for whom price information may be more salient—were more likely to believe that quality and price are associated than were people who did not make such decisions.

Race or ethnicity and age were also associated with perceiving that price and quality are related. Blacks and Hispanics and younger people were somewhat more likely than whites and older people, respectively, to believe that there was such an association. We did not find any significant differences or a clear pattern of differences across the questions when we compared respondents according to their income, education, employment status, or insurance status (see Appendix Exhibits 1–4).²⁴

Discussion

Using a nationally representative sample, we found that most Americans do not perceive the price and quality of health care to be associated. However, a substantial minority of Americans believe that there is an association or do not know if there is one. Importantly, we found that the framing of questions consistently affected people's responses. People were more likely to state that price and quality are not associated, and less likely to say that they did not know if there was an association, in response to questions about high price and high quality than in response to questions about low price and low quality.

The Associated Press–NORC survey also found that question framing affected responses and that a majority of consumers believed there was no association between price and quality or did

not know if there was such an association.¹⁸ However, 48 percent of respondents in that survey stated that high quality and high price are associated—a share substantially higher than the 21 percent of our respondents who perceived an association between higher price and higher quality. The variance may be a result of differences in question wording and response categories.

IMPLICATIONS FOR TRANSPARENCY INITIATIVES AND POLICIES Our results have several implications for price and quality transparency initiatives and related policies. First, the finding that most people do not believe that price and quality are associated means that providing price information will not necessarily prompt consumers to choose higher-price providers instead of lower-price ones. We also found that a substantial minority of people do associate price with quality, even though empirical evidence about this association is not consistent. Both findings underscore the need to report quality information alongside price information, so that consumers have some basis on which to differentiate between services and providers.

Possible explanations for why people do not perceive an association between price and quality emerge from the focus groups that two of the authors conducted in preparation for fielding this survey (details are available in the online Appendix).²⁴ Focus-group participants often described prices as both too high and irrational, noting that prices varied within their regions for unknown reasons. They often expressed the view that providers and insurers set prices that do not reflect either the quality or the cost of goods and services. For example, participants attributed high prices to spending on features such as high-technology devices and new buildings. They were skeptical about whether such features actually produce better care, and they put a higher value on having physicians who listen and shorter wait times than on such devices and buildings.

A second implication is that price and quality transparency initiatives and policies need to consider the potential impact of framing. Transparency initiatives are arguably based on the standard economic theory that people will use information in ways that optimize the ratio between what they spend and what they gain. But as noted above, behavioral economics takes a more complex view of consumers' preferences and choices. In particular, behavioral economics research has found that people are more sensitive to losses than to gains and thus will be more concerned about avoiding losses than they are about realizing equivalent gains. For example, people are more unhappy about losing \$100 than

they are elated at winning \$100.²⁵ People are particularly susceptible to framing effects in the presence of uncertainty.²⁶ Consistent with this research, we found that the framing of information matters, which suggests that price and quality transparency initiatives need to consider how price and quality information are communicated.

Third, these initiatives also need to consider how perceptions of the relationship between price and quality may vary among subgroups of consumers, and specifically whether comparing and using price information increases the likelihood that someone will perceive an association between price and quality. Such an effect could pose a challenge to the success of the initiatives.

We found that people who reported having compared prices were more likely to perceive that price and quality are associated than were people who had not tried to find price information before getting care. We do not know whether there is any causal relationship or, if there is one, what its direction may be. If comparing prices causes people to perceive that price and quality are associated, then developers of transparency initiatives must grapple with the question of whether that perception is justified, and how to address the perception if it is justified or counter it if it is not.

Our subgroup findings are exploratory and based on bivariate associations. Therefore, the effects of subgroup characteristics on perceptions could be conflated in our study.

FUTURE RESEARCH One important area for future research is the variation in subgroups. For example, studies should investigate whether people with different diagnoses hold different views on the association between price and quality and how those views may differ across different medical goods and services, such as primary care, acute care, imaging tests, and pharmaceuticals. Further studies could also test the effects of different framings using a within-subjects survey design, in which all respondents answer all questions about price and quality.

IMPROVING PRICE TRANSPARENCY TOOLS AND POLICIES More generally, our results suggest that

People who reported having compared prices were more likely to perceive that price and quality are associated.

theories and findings from behavioral economics could be applied more widely to the tools and policies intended to help health care consumers make purchasing decisions. One of the authors and Anna Labno found considerable variability in how such tools define, label, and present price and quality information to consumers.²⁷ Findings from behavioral economics about how consumers think about the concepts of *price* and *cost* could inform the appropriate and consistent use of these terms in consumer decision tools.²⁸ In addition, insights about loss aversion could be considered in the framing of price and quality information,²⁹ the power of “status quo” bias should be carefully considered when using default choices,³⁰ the risk of cognitive overload should be considered in determining the number of choices that consumers see,³¹ and tools should include information about quality in addition to price.¹⁹

Conclusion

Most Americans do not believe that price and quality of health care are associated. Price and quality information should be presented in ways that consider the complexity of people’s responses to different framings of information. Price and quality transparency initiatives should also consider how to address variations in perceptions across demographic and other subgroups of consumers. ■

The Public Agenda survey was funded by a grant to Public Agenda from the Robert Wood Johnson Foundation. Kathryn Phillips’s work was funded by the National Institutes of Health (NIH) (Grant No. R01 HG007063) and the National Center for Advancing Translational Sciences of the NIH (through Grant No. UL1 TR000004 to the University of California, San

Francisco, Clinical and Translational Science Institute). The article’s contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH or the Robert Wood Johnson Foundation. The authors acknowledge Michael Douglas, UCSF, for editorial assistance; R. Adams Dudley, UCSF, for helpful comments on the preparation of the

manuscript; Chloe Rinehart, Public Agenda, for assistance in survey development and analysis; Steve Schoenbaum of the Josiah Macy Jr. Foundation for his comments on the manuscript; and Andrea Ducas and her colleagues at the Robert Wood Johnson Foundation and Bonnie J. Austin and Megan Collado at AcademyHealth for their support throughout this research.

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