Quality Elasticity of Demand in Healthcare: Unraveling the Puzzle

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ABSTRACT

The goals of this paper are: to identify key issues concerning quality elasticity of demand in healthcare and, to identify pertinent findings from the theoretical and empirical literature on this topic. The theoretical economics literature on quality elasticity, and the theoretical health economics literature on this topic are reviewed. The empirical findings are surveyed and assessed.

Measuring quality elasticity in healthcare is difficult. Quality is usually defined in terms of the characteristics of goods other than the physical units in which the goods are priced. Nursing homes price their services in terms of patient days but provide a package of commodities and services that include medical care, social activities, and room and board. Note that, “patient days” is a measure of quantity, and the package of commodities and services are quality characteristics. Additionally, the number of quality characteristics may well be quite large and difficult to measure. One study identified 383 discrete quality indicators currently in use. Most often no single commonly accepted indicator captures all the dimensions of care quality.

As a result, empirical researchers have needed to intuitively construct techniques to measure quality elasticity. One study models quality elasticity such that it requires no explicit specification of a quality measure. Instead, income and quantity elasticities are first estimated, and the quality elasticity is then derived as the difference between the two. Yet a different approach used to understand quality elasticity of demand is through the lens of the structure of production: economies of scale and average and marginal cost curves. Here findings suggest that quality elasticity is solely a function of the economies of scale in quality regardless of the cost.

Quality elasticity of demand has also been measured by stated preference theories like contingent valuation (CV). Because it creates a hypothetical marketplace where no actual transactions are made, CV has been successfully used for commodities that are not exchanged in regular markets, or when it is difficult to observe market transactions under the desired conditions.

Shadow prices can be derived for quality attributes. The term “shadow price” refers to monetary values assigned to currently unknowable or difficult to calculate costs. Informally, a shadow price can be thought of as the cost of decisions made at the margin without consideration for the total cost. More formally, the shadow price is the Lagrange multiplier at the optimal solution in a producer efficiency model.

The authors note that economic theory does not provide an unambiguous model of quality discrimination in healthcare, but it does provide guidance for thinking about the issue.

Keywords: Quality Elasticity, Healthcare, Elasticity Decomposition
INTRODUCTION

Economists are bothered by quality differences because they introduce into data, noise that interferes with the estimation of elasticities, price indexes or other economic parameters. Quality bias in price indices occurs when an index ignores changes in the quality of the goods it measures. An example would be enhanced performance of personal computers. Because greater speeds and features have become available without substantial price increases, quality bias can cause a consumer price index to be overestimated. However, the theoretical value of changes in quality, as other than a nuisance in empirical measurement, appears to have been neglected. The model of price discrimination across markets has existed for a long time. The possibility of discrimination by quality is analyzed less frequently.

Perhaps the major reason that quality is often ignored in cost function estimation is a problem with measurement. Lancaster (1966) developed what he called a “new theory of consumer demand”, in which he stipulated that what consumers are seeking to acquire is not the goods themselves, (e.g., cars) but the characteristics they contain (e.g., transport from point A to point B). Quality is usually defined in terms of the characteristics of goods other than the physical units in which the goods are priced. For example, nursing homes price their services in terms of “patient days” and provide patients with a package of commodities and services that include medical care, social activities and room and board. Therefore, “patient days” is the measure of quantity, and the components of the package of commodities and services are the quality characteristics. In the nursing home industry, as well as many others, especially in the service sector, the number of quality characteristics is quite large and difficult to measure.

Discussion of the decomposition of income elasticities exists in areas other than healthcare. Hicks and Johnson (1968) estimated the quantity and quality components for income elasticities of demand for food by using country level cross-sectional data. They used calories in the diet as the quantity measure and the ratio of calories from non-starchy foods to calories from starchy foods as the quality measure. Moreover, other studies in agricultural economics literature on Engel expenditure curves, which describe how household expenditures vary with household income, yielded insights into modeling the relationship between expenditures and income using price, quality, and quantity effects (e.g., Deaton, 1988; Bils and Klenow, 2001; Gale and Huang, 2007). Archibald and Gillingham (1981) studied the decomposition of price and income elasticity of demand for gasoline.

LITERATURE REVIEW

In this paper, we sought to identify research in the economics or healthcare literature that contribute to the state of knowledge involving quality elasticity of demand in healthcare. For this reason, we employed a broad search strategy of computerized databases using the key words “quality elasticity” and “healthcare”. Further studies were found by examining bibliographies. Also included were technical reports or government publications.

Recent studies on the determinants of US national healthcare expenditures (HEXP) have investigated income elasticities. Newhouse (1977) suggests the magnitude of income elasticity in healthcare expenditures depends on the data aggregation level. Getzen (2000) advises that individual income elasticities are close to zero (inelastic), while national healthcare expenditures are frequently greater than one (elastic). The idea is that health status plays an important role in individual healthcare spending, but this phenomenon diminishes at the macro level. Separately, Paluch (2012) concludes that
the aggregate elasticity can be very different from the mean of the individual elasticities. The difference depends on the heterogeneity of the population. The magnitude of the difference varies from commodity to commodity.

Even at the same data aggregation level, however, the income elasticities can be very different depending on other attributes of the data and research methodology. The estimated state-level income elasticities of healthcare expenditures in the existing literature range from 0 to 1 or more (Di Matteo, 2003). Chernew (2012) claims that studies using long time-series or panel data consistently report higher income elasticities. Income elasticity estimates in past studies appear sensitive to the data structure (cross-sectional, time-series, and panel), regression model specification (functional forms, included and excluded independent variables), and model estimation methods.

Quality-Quantity Decomposition of Elasticity
Measuring quality in healthcare is difficult because it is a multi-dimensional concept (Sloan and Hsieh, 2012). Although there is no lack of hospital-level or disease-specific quality measures, no single commonly accepted quality indicator captures all the dimensions of care quality. Copnell (2009) identified 383 discrete indicators currently in use to measure the care quality provided by hospitals. Processes of care were measured by 54.0% of the indicators, and outcomes by 38.9%. Safety and effectiveness were the domains most frequently represented. Given the controversy on quality measures, Chen (2014) models it in a way that requires no explicit specification of a quality measure. Instead, income and quantity elasticities are first estimated, and the quality elasticity is then derived as the difference between the two. Rather than Health Expenditures (HEXP), Chen focuses on the income elasticity of Hospital care expenditure (HOCEXP), the largest component of (HEXP). Chen justifies this approach by suggesting that aggregate HEXP is a largely heterogeneous construct. Consequently, for a sound quality and quantity decomposition, focusing on a major expenditure category and using appropriate quality and quantity measures should enhance the reliability and applicability of the findings.

Decomposing the income elasticity of HOCEXP starts by identifying that expenditures on hospital care HOCEXP are equal to price P times quantity Q.

\[ \text{HOCEXP} = P \times Q \]  

(1)

Quantity \( Q \) represents the volume of purchased hospital services. Price \( P \) is an average price paid for all hospital services used. Following the existing literature on Engels curves, it is assumed that “quality” comes into play through the unit value \( P \). The unit value can increase either because prices of items in a fixed basket rise or because different and higher quality (usually more expensive) items are now in the basket. Denoting hospital quality of care as “\( v \)” we model this relationship.

\[ P = Pf \times v \]  

(2)

Plugging Eq. (2) into the HOCEXP Eq. (1), one obtains

\[ \text{HOCEXP} = Pf \times v \times Q \]  

(3)

These variables can be expected to change along with income \( y \), therefore, each is a function of \( y \). The model controls for factors other than income that affect these variables. Denoting a vector of such factors as \( X \) and \( X = (X_p, X_v, X_q) \), where \( X_p, X_v, \) and \( X_q \) represent the factors that affect \( P, v, \) and \( Q \) respectively, the HOCEXP equation can be written as

\[ \text{HOCEXP}(y,X) = Pf(y,X_p) \times v(y,X_v) \times Q(y,X_q) \]  

(4)

Taking the logarithm of both sides of the equation gives

\[ \ln \text{HOCEXP}(y,X) = \ln Pf(y,X_p) + \ln v(y,X_v) + \ln Q(y,X_q) \]  

(5)
Or,
\[
\ln \text{HOCEXP}(y,X) = \ln v(y,X_v) + \ln Q(y,X_Q) + \ln P_f(y, X_p)
\]  
(6)

The left-hand side in Eq. (6) is simply the log of hospital expenditures adjusted by the price index of a fixed basket of hospital care services.

The rationale for moving \( P_f(y, X_p) \) to the left-hand side is that (i) combining HOCEXP and \( P_f \) into one variable HOCEXP / \( P_f \) gives a relation of elasticities among three variables rather than four, and (ii) the quality elasticity may be derived if the expenditure elasticity and quantity are known.

Taking the derivative of Eq. (6) with respect to \( \ln y \) on both sides, the income elasticity of adjusted HOCEXP has two components
\[
\frac{\partial \ln \text{HOCEXP}}{\partial \ln y} = \frac{\partial \ln v}{\partial \ln y} + \frac{\partial \ln Q}{\partial \ln y} + \frac{\partial \ln P_f}{\partial \ln y}
\]  
(7)

Denote the income elasticity of adjusted HOCEXP as \( \varepsilon \). It is the sum of the quality elasticity, \( \theta \), and the quantity elasticity, \( \eta \).

\[
\varepsilon = \theta + \eta
\]  
(8)

Consequently, if the expenditure and quantity elasticities are known, the quality elasticity is then the difference between them, as follows:

\[
\theta = \varepsilon - \eta
\]  
(9)

By using a 1999-2008 panel dataset of the 50 US states, Chen reveals the income elasticity of HOCEXP to be 0.427, with about 0.391 arising from care quality improvements and 0.035 emanating from the rise in usage volume. The research findings suggest (i) almost the entire income-induced rise in hospital expenditures comes from care quality changes, and (ii) the quantity part of hospital expenditures is inelastic to income change.

Chen finds there are extremely few studies focusing on the hospital sub-category HOCEXP for comparison. None focused on decomposing the income elasticity into its quality and quantity components. One study on the determinants of HOCEXP (Acemoglu, 2012) estimated the income elasticity to be 0.568. Despite differences in methodological approaches, the difference in the estimated income elasticity of HOCEXP is quite small.

Studies which focus on total HEXP find elasticity estimates which range considerably from 0 to significantly greater than 1. Costa-Font (2011) use a meta-regression analysis to control for publication selection and aggregation bias and finds the corrected estimates range from 0.4 to 0.8. Chen’s estimate, based on modeling the HOCEXP sub-category data, falls in the lower portion of this range. This suggests that hospital care is a stronger necessity than aggregated healthcare (HEXP).

### Exogenous versus Endogenous Estimates of Quality Elasticity

Many cost function studies, including healthcare cost function studies, have treated quality as an exogenous and unobserved factor that is assumed to be uncorrelated with other exogenous variables. This research generally uses reduced-form cost function estimates where quality is excluded from the set of explanatory (regressor) variables (e.g., Noether 1988; Zwanzinger and Melnick 1988; Robinson and Phibbs 1990).

If quality is indeed exogenous and uncorrelated, standard cost function analyses produce consistent estimates of important parameters. Gertler (1992) insists this assumption is almost surely incorrect in many cases. He proposes a distinctive method that treats quality as endogenous (within the model) and unobserved. He characterizes the cost versus quality tradeoff in terms of an elasticity that measures the
relative change in quality compared to costs for a given shift in health policy. He demonstrates that this
elasticity is solely a function of the economies of scale in quality regardless of the specific policy.
Further, these economies of scale can be obtained only through knowledge of the healthcare production
structure. This point is illustrated in Figure 1, where two cost functions are graphed against quality with
quantity held constant: one exhibits increasing returns to scale in quality (IRTS) and the other exhibits
decreasing returns to scale in quality (DRTS). Suppose that an increase in competition is observed to
decrease costs from C0 to C1 after one controls for quantity. This fall in costs is associated with a fall in
quality from Q0 to QD1 under DRTS, but under IRTS it is associated with a fall in quality from Q0 to
QI1. The point is that if the healthcare production structure exhibits DRTS, then competition can achieve
cost savings without large reductions in quality. However, if the healthcare production structure exhibits
IRTS, competition can achieve cost savings only with large reductions in quality. In the quality-
exogenous models mentioned above, the estimated impacts on quality and costs are proportional only if
the healthcare production structure exhibits constant returns to scale in quality.

![Figure 1](image)

In order to quantify the cost-quality tradeoff, Gertler constructs the following simple elasticity.
Define the cost elasticity of quality as

$$E = \frac{\partial \log Q}{\partial \log Z}$$  \hspace{1cm} (10)

This elasticity measures the rate at which quality is traded off for cost for a given change in policy.
It is the ratio of two other elasticities: The numerator is the percentage change in quality with respect to a
1 percent change in policy variable $Z^2$, and the denominator is the percentage change in costs with respect
to the same policy change. The total ratio measures the percentage change in quality with respect to a 1
percent change in costs associated with a specific change in the policy variable.

The elasticity $E$ is related to economies of scale in quality. Analogous to economies of scale in
quantity, economies of scale in quality are measured by

$$\eta_{aq} = 1 - \frac{\partial \log C}{\partial \log Q}$$  \hspace{1cm} (11)

Since by the product rule $E = 1/(\partial \log C/\partial \log Q)$, the policy-cost elasticity of quality can be written
simply as

$$E = 1/1-\eta_{aq}$$  \hspace{1cm} (12)
The relationship between returns to scale and the cost elasticity of quality is summarized in Table 1. Under decreasing returns to scale, a change in $Z$ produces proportionally larger changes in cost than in quality (i.e., quality inelastic); under constant returns to scale, a change in $Z$ produces equal percentage changes in cost and in quality (quality unit elastic); and under increasing returns to scale, a change in $Z$ produces proportionally smaller changes in cost than in quality (quality elastic).

<table>
<thead>
<tr>
<th>Returns to Scale in Quality</th>
<th>Policy-Cost Elasticity of Quality ($E = 1/(1 - n_{cq})$)</th>
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</thead>
<tbody>
<tr>
<td>Decreasing Returns ($n_{cq} &lt; 0$)</td>
<td>Quality inelastic ($E &lt; 1$)</td>
</tr>
<tr>
<td>Constant Returns ($n_{cq} = 0$)</td>
<td>Quality unit elastic ($E = 1$)</td>
</tr>
<tr>
<td>Increasing Returns ($n_{cq} &gt; 0$)</td>
<td>Quality elastic ($E &gt; 1$)</td>
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Gertler uses New York State nursing homes to further compare the quality-exogenous and quality-endogenous methods. He finds a meaningful difference in estimates of the structure of production: economies of scale and average and marginal cost curves. Figure 2 graphs the average cost per patient day for both models. The quality-exogenous average cost curve is downward sloping, indicating economies of scale. Three quality-endogenous average cost functions are drawn: one for a low-quality nursing home, a second for an average-quality nursing home, and a third for high-quality nursing home. The average cost curve for the low-quality home is downward sloping, indicating economies of scale; for average quality, the curve is flat, indicating constant returns to scale; and for high quality, the curve is rising, indicating diseconomies of scale. Note that as the nursing home quality rises, the slope of the average cost curve increases. This fanning of the average cost curves in the quality-endogenous model is missed in the quality-exogenous model. The results demonstrate that a quality-exogenous cost function yields seriously misleading estimates of the structure of production.

Gertler uses the quality-endogenous approach to quantify the cost-quality trade-off in nursing home regulatory policy. He finds that the estimated nursing home cost function exhibits diseconomies of scale in quality, with a 0.13 policy-cost elasticity of quality. This implies that policies designed to reduce costs can do so with small reductions in quality.
Contingent Valuation of Quality Elasticity

Quality elasticity of demand can be estimated using Contingent Valuation. Contingent Valuation (CV) is a survey-based economic method for eliciting market valuation of a non-market good. First proposed in theory by S.V.Ciriacy-Wantrup (1947), the method rose to high prominence in the 1980s when government agencies were given the power to sue for environmental resources over which they were trustees. The types of damages which they were able to recover included non-use or existence values. Existence values were unable to be assessed through market pricing mechanisms, so contingent valuation surveys were suggested to assess them. The Exxon Valdez oil spill in Prince William Sound was the first case where contingent valuation surveys were used in a quantitative assessment of damages. Use of the technique has spread from there. Because it creates a hypothetical marketplace in which no actual transactions are made, contingent valuation has been successfully used for commodities that are not exchanged in regular markets, or when it is difficult to observe market transactions under the desired conditions. Many economists have questioned the use of stated preference surveys to determine willingness to pay for a good or quality improvement, preferring to rely on people's revealed preferences in binding market transactions. In response to criticism of contingent valuation surveys, a panel of high-profile economists (chaired by Nobel Prize laureates Kenneth Arrow and Robert Solow) was convened under the auspices of the National Oceanic and Atmospheric Administration (NOAA) in 1993. The panel recommended a set of reference surveys which future surveys could be compared to and calibrated against. Subsequent to NOAA, Denier (1997) observes that the number of healthcare CV studies is growing rapidly.

Numerous health care CV studies have attempted to measure health care demand and to estimate price-elasticity. Many have used stated preference techniques to elicit consumer behavior regarding different pricing strategies (Gyldmark, 2001; Whittington, 2002; Forfeit, 2003). These studies were designed to measure consumer willingness to pay (WTP) for certain types of healthcare or for certain quality improvements. The implicit objective of these studies is to measure the underlying healthcare demand function. As defined by Klose (1999), CV is a direct hypothetical survey technique used to assess the maximum amount of money a respondent would be willing to pay for the commodity in question; i.e., its value. From a microeconomic perspective, this represents the height of the inverse demand curve (Varian, 2000). The authors in these studies had either analyzed the determinants of stated WTP values (Weaver, 1996; Onwujekwe, 2001), or used simple descriptive analysis based on the percentage stating a WTP value higher than a certain hypothetical user fee (UF) to sketch the demand curve for the quality-improved care (Whittington, 2002; Forfeit, 2003).

In one study, Mataria (2007) uses contingent valuation (CV) to assess demand and price-elasticity based on patient’s stated willingness to pay (WTP) values for health care quality improvements. He specifies a probability density function of stated WTP values to model a demand function for quality-improved healthcare, using a parametric survival approach. The demand function for the quality-improved service is specified as a discrete demand function. The consumer continues to purchase improvements in healthcare quality as long as the WTP value for the quality-improved care exceeds the opportunity cost of the user fee increment (UFI)

\[ WTP > UFI \]  
(13)

Quality was assessed using a multi-attribute approach including seven specific quality improvements (i.e. waiting time). Price-elasticity was calculated for each quality attribute. Results suggest that price-elasticity is an increasing function of UFI. Consistent with economic theory, results suggest an inelastic demand when user fees are low and when a price-increase is accompanied by substantial quality improvements. As Figure 3 portrays, demand becomes more and more elastic as user fees continue to rise and varies according to the patients’ level of income.
Shadow Prices for Quality

Shadow prices can be derived for quality. The term “shadow price” refers to monetary values assigned to currently unknowable or difficult to calculate costs. Informally, shadow price can be thought of as the cost of decisions made at the margin without consideration for the total cost. For instance, consider a trip in your car. You might estimate the shadow price of that trip by including the cost of the gas; but you are unlikely to include wear on the tires or the cost of the money you might have borrowed to purchase the car. More formally, the shadow price is the Lagrange multiplier at the optimal solution, which means that it is the infinitesimal change in the objective function arising from an infinitesimal change in the constraint. One value of the shadow price is that it can provide decision-makers with insights into problems. For instance, if a constraint limits the amount of labor available to you to 40 hours a week, the shadow price will tell you how much you should be willing to pay for an additional hour of labor. Eckermann (2008) proposes a method where shadow prices can be derived for quality attributes. Quality attributes have been incorporated in healthcare efficiency analyses in various ways. Zuckermann (1994) attempts to model quality with exogenous variables. Dawson (2005) attempts to model quality with utility bearing output variables. Arocena and Garcia-Prado (2007) have specified quality as a utility reducing “bad output”. The Eckermann approach involves including quality variables as input variables in the efficiency model.

The logic associated with treating quality as an input variable can be illustrated using Figure 4. Here we present a diagram of a production frontier where one axis represents inputs (x, e.g., staff) and the other a quality variable (z, e.g., infection rate). For purpose of the illustration we assume that there is only one input and that all firms produce the same amount of output (y, e.g., admissions). The boundary of the production technology is defined by the isoquant FABCE. Points on this isoquant (e.g., point B) are technically efficient while those to the north east (e.g., point D) are technically inefficient. The basic notion is that the hospital attempts to minimize the use of inputs (staff) and maximize quality (reduce infection) for a given level of output (admissions). If the hospital faces no penalty for poor quality, then one could argue that the “price” of quality is zero and the optimal (cost minimizing) point of operation is on the vertical portion of the isoquant. However, improving quality by a reduction in z clearly has value.

Figure 3

![Figure 3: Demand / Elasticity](image-url)
In Figure 5, we have inserted an iso-cost line which has slope equal to \(-w/v\) (which reflects the relative prices of input “w” and of quality effect “v”). For firm D, the minimum quality inclusive cost (QIC) is obtained at point C, which is the point of tangency between the iso-cost line and the isoquant. Provider C is operating at a point of minimum QIC, given the specified price ratio (reflected in the slope of the iso-cost line). Note that providers A, B, and D would be considered to be inefficient if they also faced this same specified price ratio. There is, however, an efficient price ratio for each provider. The subsequent efficient price ratio obtained for each particular provider is said to be an estimate of its Shadow Price Ratio \((w^s/v^s)\), where “s” is a vector of quality outcomes. If one knows the price of the input (staff), then one can calculate an estimate of the shadow price of quality as \(V_s = w/(w^s/v^s)\). Hence, the shadow price for quality can be estimated in the absence of prices for output “y” (e.g., admissions).
Note that shadow prices look at the price of quality from the producer perspective (i.e., the hospital). They ask the question: how much a producer is willing to pay for a single quality attribute or for a bundle of quality attributes. Shadow prices therefore consider the producer’s estimate of how much the consumer is willing to pay for quality. That is, the producer must estimate the quality elasticity of demand from the perspective of the consumer. Eckermann does an analysis of 45 public hospitals to illustrate his method. The empirical example includes one output variable (patients admitted with a type of respiratory infection), one quality variable (mortality) and one input variable (cost). In this application, the shadow price of quality for each hospital can be interpreted as the amount of money needed to avoid one mortality if it were technically efficient. The estimated shadow prices differ according to which part of the frontier the hospital is projected onto. For individual hospitals, they range from $0 (where hospitals are projected onto the horizontal part of the frontier) to more than $24,356 (i.e., arbitrarily large) where hospitals are projected onto the vertical portion of the frontier.

The producer has reason to believe the consumer is willing to pay for quality. An article by Goodman (2012) discusses the web site of the Detroit Medical Center (DMC). One of the more prominent aspects of the web site is an estimate of the waiting times at each of the four DMC emergency rooms. If that is not convenient, you can text message to get regular updates. You will also learn that the DMC has some of the “best” heart doctors; it is “tops” in cancer care; and it ranks among the “nations safest hospitals”. Lest you doubt that the Detroit Medical Center is competing for its patients based on quality, the site informs you that the DMC “is dedicated to staying ahead of the crowd when it comes to the quality of our care.” Goodman (2012) also advises that some hospitals in India, Thailand and Singapore, for example, disclose their infection, mortality and readmission rates and compare them to such U.S. entities as the Cleveland Clinic and the Mayo Clinic.

FUTURE RESEARCH

One issue in particular warrants further investigation in order to provide a more complete understanding of the quality elasticity of demand in healthcare.Whenever possible, future studies should endeavor to define quality of care consistently and use validated measures so that results of different studies can be compared. Where a consistent definition of the quality dimension is lacking it may be best left to the perception of the consumer without specificity. Thus, the research subject can be asked to quantify their perception of the importance of “quality” to their purchase decision. It is also possible to use a scaler measure (1 to 10) of importance. This would be helpful if the research is attempting to determine the relative importance of quality elasticity versus price elasticity to the purchaser for a given product category.

In rural communities the regional impact of large national retailers entering local markets utilizing a low consumer price model has been substantial. One possible response available to the smaller, local, businesses that are unable to match the wholesale purchasing power of these national competitors is to focus on relationship marketing and the quality of service support the local businesses can provide. For this to be successful, however, the product categories must be those where quality elasticity exceeds price elasticity. For example, consider a small local pharmacy’s effort to compete with a newly arrived Walmart’s pharmacy. The survivability of the local pharmacist may well depend upon their ability to provide a higher level of care, knowledge, and support, especially in those product categories, where they exist, that quality elasticity is higher than price elasticity.
Finally, this article, due to the greater availability of existing prior research in the healthcare category, has focused on quality elasticity in that field. There is a need for more consideration of the topic across the much broader question of quality elasticity in other product/service categories in general.

**CONCLUSION**

It has been the authors’ goal to leave the reader with an awareness of the literature pertaining to the quality elasticity of demand in healthcare. We try to categorize and explain that body of knowledge. We endeavor to identify key issues and assess pertinent findings from the theoretical and empirical work on this topic. The authors note that economic theory does not provide an unambiguous model of quality discrimination in healthcare, but it does provide guidance for thinking about the issue.

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74 The Journal of International Management Studies, Volume 13 Number 2, August, 2018 issue


