Hedonic and Utilitarian Value and Patient Satisfaction

Perceptual Differences between Patients and Providers

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Healthcare is continually evolving to meet changing governmental regulations and a new emphasis on patient perceptions of quality care. Governmental mandates create a shift in focus from volume-based to value-based reimbursement for providers. The purpose of this article is to identify satisfaction drivers with particular emphasis on similarities and differences between the perceptions of hospital patients and providers. A combination of quality-based healthcare, stakeholder theory, and services literature points to key service outcomes including expectations, quality, value, and satisfaction. Multiple group structural equations modeling provides a vehicle for examining differences in relationships among these constructs between these two key stakeholders, patients and providers. Results suggest that utilitarian value is central to successful healthcare service experiences. But, the results also suggest differences between patients and providers in the way they believe utilitarian value affects outcomes; the results suggest that healthcare providers may underestimate utilitarian value's role relative to patient perceptions.

- Healthcare
- Value drivers
- Satisfaction
- Perceptions
- Hospitals

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Introduction and contribution

Healthcare is arguably the single most important service experience because it impacts one's quality of life and physical well-being. Healthcare services today also are continually evolving to meet changing governmental regulations. When the Affordable Care Act (ACA) was signed into law in 2010 (Department of Health & Human Services, 2015), healthcare in the U.S. significantly changed. The increasing role of quality measures that influence reimbursement payment models continues to evolve and impact physician practices and hospitals. The ACA now establishes a value-based payment modifier, which provides for differential payments based upon the quality of care furnished. Additionally, providers must "report quality measure of process, structure, outcome, patients' perspective on care, efficiency, and costs of care that relate to services furnished" (U.S. Congress 2010, p. 286) for each patient experience. Hospital performance is publicly reported and includes both outcomes and patients' perceptions of care received. In light of healthcare reform, researchers have called for further study of patient quality perceptions (Scammon *et al.*, 2011).

Although the primary role of healthcare providers is to deliver quality care to patients, there is growing interest from providers to possess an understanding of patients' expectations and perceptions of quality, value, and satisfaction as evidenced by the standardized Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey now used to assess patient hospital experiences (Elliot *et al.*, 2015; Vogus and McClelland, 2016). The HCAHPS includes questions on nurse and doctor communication, responsiveness of hospital staff, cleanliness and quietness of the hospital environment, overall hospital rating, and the patient's willingness to recommend the hospital (Department of Health & Human Services, 2015).

The purpose of this article is to identify and assess perceptual differences between patients and providers with respect to expectations, quality, value, and satisfaction in a hospital setting by testing relationships between various outcome variables across a group of patients and providers. To assess whether or not healthcare providers (nurses, physician assistants, physicians, etc.) have an accurate perception of patient satisfaction drivers, we surveyed providers who currently work in hospitals as frontline service providers as to their opinions regarding their patients' satisfaction with their hospital experiences. We operationalize value by using utilitarian value (efficiently completing the task) and hedonic value (emotions and positive feelings from the task). This research not only sheds further light on antecedents to patient satisfaction, but also explores the level of congruence between patients and providers. We conclude with managerial implications for better understanding patient satisfaction, especially considering the current emphasis of value-based reimbursements and the importance of patient satisfaction scores. The importance of research in the healthcare sector is stated, "No other service sector affects the quality of life more than healthcare" (Berry and Bendapudi, 2007, p. 121).

Theoretical framework

Stakeholder theory posits that a broader view of and understanding of participants' perspectives is necessary to fully understand and deliver value via exchange relationships. A stakeholder could be a customer (patient) or supplier (employee) (Hult *et al.*, 2011). Previous research suggests providers and patients are disconnected and suggests quantitative work is necessary comparing multiple groups including patients and providers (Gill *et al.*, 2011). Despite this call, the vast majority of papers examine each stakeholder's perspective in isolation focusing only on patients. For this reason, the present research examines healthcare providers and patients in tandem. A patient is a respondent who has recently received hospital care, while a provider in this context interacts directly with the patient to provide the operant resources germane to the hospital service experience (Vargo and Lusch, 2004).

Service quality

Several research studies examine patients' perceptions of service quality (Abuosi, 2015; Clemes *et al.*, 2001; Marciarille, 2012; Murti *et al.*, 2013). In a New Zealand study (Clemes *et al.*, 2001, p. 17) the authors suggest that healthcare patients perceive "the core product in healthcare delivery (outcome, reliability and assurance) as more important than the service quality dimensions relating to the peripheral product in healthcare delivery (food, access and tangibles)." Marciarille (2012) measures patient-generated online reviews of physicians and posits patients assess physician quality by valuing environmental and humanistic elements rather than solely physicians' clinical skills. Murti *et al.* (2013) propose a direct relationship between service quality and behavioral intentions and an indirect relationship mediated by patient satisfaction. However, Ladhari and Rigaux-Bricmont (2013) make a compelling argument that quality affects satisfaction through both positive and negative emotions, thus making a strong argument that quality does not have a direct effect on satisfaction.

As value-based reimbursement models continue to expand and include patients' perceptions of quality healthcare, it is important for providers to understand how their patients determine value in healthcare service experiences. Using the current single item measure of recommendation ignores valid measurement theory (Hair *et al.*, 2010). Gaur *et al.* (2011) confirm that the importance of the doctor–patient relationship is positively influenced by the behavior of providers, but the research is constrained to healthcare in India. Limited research exists evaluating providers' perceptions of the patient experience. In the study by Kirby *et al.* (2014), Australian providers and patients with chronic obstructive pulmonary disease were interviewed to ascertain how patients manage their disease. Differences between provider and patient perceptions existed, but the small sample size of six providers limits the generalizability. Abuosi (2015) posited differences between provider and patient perceptions of

quality of care; however the research was limited to hospitals in Ghana. Thus, the research question of whether or not healthcare providers maintain accurate perceptions of their patients' perceptions remains in need of further study. Both researchers and practitioners need to better understand the drivers which affect whether or not patients are satisfied with their hospital experience. If perceptual gaps continue along with measurement shortcomings, hospitals simply will continue creating ineffective policies with respect to patient satisfaction.

Value, expectations, and quality in business literature

These studies range from purely conceptual in nature to studies including empirical results. Value as an outcome variable resulting from service consumption experiences is a well-developed notion (Babin and James, 2010; Babin et al., 1994; Holbrook and Hirshman, 1982; Zeithmal et al., 1993). Holbrook and Hirshman (1982) present the experiential perspective in conjunction with the utility viewpoint and include entertainment as relevant beyond the goods versus services dichotomy. Babin et al. (1994) take value derived from shopping experiences and break it into two components: utilitarian and hedonic value. Utilitarian value represents the ability to complete efficiently the service task while hedonic value represents the emotions and positive feelings generated from the experience itself. Consistent with the notion of hedonic value as relevant to healthcare services, Essen and Wikstrom (2008) suggest that, for patients in long-term residential care, the only service dimensions that influenced patients' perceptions of service quality were those that influenced emotion.

Evidence suggests that hedonic and utilitarian value exhibit a modest, positive correlation with each other across a wide range of services contexts (Babin and James, 2010). Net value then results as one weighs benefits received from service against the resources needed to receive the service. In this get versus give trade-off, the greater the customer involvement, the greater the chances the customer will derive more from the get component, all things being equal, and the more one is willing to give. Further, if the experience can be enhanced to somehow counteract the anxiety that surrounds high risk service encounters, the consumer value equation enhances through hedonic value.

From a hypothesis development point of view, Gallarza et al. (2011) offer a causal model to explain the relationship between quality, value, and satisfaction and examine hundreds of papers testing and validating the model from a service provider perspective. In the paper, the authors explain the difficulty in measurement, consistency, and often high redefinition of the same term or terms over time. Some items became clear however. From a theoretical viewpoint, quality is related to value and value is related to satisfaction. Also, expectations often enter the model and can be defined as the attributes desired and the performance desired (Fornell et al., 1996). Expectations are positioned as exogenous to any particular service encounter and are linked strongly both theoretically and empirically to service quality (Zeithaml et al., 1993). The expectations–quality

relationship can be viewed from multiple theoretical perspectives. One perspective, consistent with disconfirmation bias theories such as SERVQUAL, suggests that once high expectations are established, the perceived performance will become unlikely to live up to those high expectations. Likewise, low expectations are easy to surpass. Thus, the contrast perspective suggests a negative expectations–quality perspective. However, the possibility exists, particularly in either low or extreme levels of consumer involvement, that a confirmation bias may occur consistent with an assimilation effect (Ofir and Simonson, 2007). Under assimilation perspective, once high expectations are set, perceived quality is set through that lens such that a positive expectation–quality relationship emerges. Given the relatively high level of involvement expected, the latter perspective seems more likely (Hamer, 2006). However, if the providers believe patient expectations are inaccurate, a different relationship may emerge more consistent with a contrast effect. The providers may well believe the inaccuracies are such that patients have unrealistically high standards for the service they will receive. Thus we will offer the basic premise that:

> H1: Expectations will be positively related to quality.

Although value research is well-established in business literature and is emerging as paramount in importance, because healthcare organizations experience unique challenges due to the complexity of service encounters, co-production, and the intangibility of the service offering (Vogus and McClelland, 2016), it is important to gain a better understanding of how patients determine satisfaction. We will now discuss the interplay between quality and value.

Quality and value

The understanding of value as it relates to patients and healthcare providers can be characterized as in flux. A review of the literature suggests that researchers assess and define value with a variety of models. For instance, Austuti and Nagase (2014) examine relationship marketing as a value element within the satisfaction to loyalty relationship structure. Chahal and Kumari (2011) propose customer perceived value (CPV) as a combination of touch points including acquisition value, transaction value, efficiency value, aesthetic value, social interaction value, and self-gratification value. While the work has merit and rigor, a six factor solution lacks parsimony and some of the items fit better with satisfaction or service quality rather than value. The work highlights the importance of understanding how value, satisfaction, quality, and expectations fit together in a theoretical viewpoint from the patients' and providers' perspective.

Chalamon *et al.* (2013) study value from a segmentation standpoint via different patient typologies. The four quadrant approach includes functional, hedonistic, trustfuls, and consumerists. The typology treats personal values as motivational individual difference traits that are exogenous to service outcomes (Rokeach, 1972). In contrast, value remains a key outcome of the consumption

process that drives performance (Babin and James, 2010; Chahal and Kumari, 2011; Hult *et al.*, 2011). A hedonic component exists in practically all consumption experiences and that includes healthcare settings. Indeed, hospital architecture takes the immediate response to the environment as a primary concern in shaping the healthcare atmosphere (Harris *et al.*, 2002). Lim and Ding (2012) acknowledge the role of value in patient satisfaction as an antecedent and call for more survey research in examining the relationship of value and satisfaction from both a patient and provider point of view. From this brief review, we surmise that value research in healthcare is developing. The fact that little research on value in healthcare exists is troubling because of the importance placed on the value-based modifier which is now used in calculating reimbursements to hospital providers and systems (Elliot *et al.*, 2015; Vogus and McClelland, 2016).

The final hypotheses build from SERVQAL, the satisfaction paradigm, and Gallarza *et al.* (2011). The focus is the relationship between quality and value. Quality can be formally defined as the consumer's judgment about a product's overall excellence or superiority (Zeithaml, 1988). Quality is a cognitive concept whereas value and satisfaction are both cognitive and affective. Also, from the get versus give definition of value, quality is often one of the strongest predictors of value (Zeithmal, 1988; Babin and James, 2010). Based on the strong precedent, we offer the following hypotheses:

> H2: Quality will be positively related to utilitarian value.

> H3: Quality will be positively related to hedonic value.

The satisfaction paradigm and value

The satisfaction paradigm has received ample attention over the years (Dixon *et al.*, 2010; Zeithaml *et al.*, 1993). More recently, Vogus and McClelland (2016) provide an overview of healthcare research on patient satisfaction and service quality and call for further research on factors which improve the patient experience. The Consumer Satisfaction Index is one of the more well-known indexes in use to determine industry and company health (Fornell, 1992; Fornell *et al.*, 1996). The index measures satisfaction by asking respondents three questions regarding expectations, satisfaction with service delivery, and the company's performance relative to competitors (Anderson *et al.*, 1994). The Consumer Satisfaction Index captures antecedents to satisfaction including value, quality, and expectations while using a proprietary weighting technique to derive their final benchmarks including satisfaction and loyalty (see theacsi.org) in many industries including healthcare. Recent government actions linking hospital reimbursement to customer satisfaction scores highlight the importance of the topic and the measurement struggle.

Many hospital satisfaction surveys do not include the much used satisfaction scale or traditional dependent (i.e. satisfaction and value) variables necessary for valid measurement (Hair *et al.*, 2010) and rely solely on a single-item

recommendation question. The actual value delivery encompasses hedonic and utilitarian value components which occur prior to the ultimate judgment of satisfaction or dissatisfaction. This research uses utilitarian and hedonic value to measure value in a hospital delivery setting. Hedonic value can be defined as the net positive outcome from the consumption experience in terms of the extent to which it is gratifying because some goal is accomplished and because of the gratifying nature of the experience itself (Babin *et al.*, 1994). While the original scale is 14 items, an examination of the items reveal that some are inappropriate for the hospital setting. Thus, after reviewing the items, four items seem particularly appropriate for the healthcare setting. The hedonic elements chosen capture any sense of emotion or positive experience involved in the service delivery by asking questions like this visit was better than otherwise, this visit helped me get past my problems, this visit has some sense of excitement, and this visit felt like an escape from reality. Prior research asserts that healthcare is predominantly a utilitarian value dominant industry (Cronin *et al.*, 2000). Goetzinger *et al.* (2007) use utilitarian value in an e-health online search component and find utilitarian value as a key driver of satisfaction. In a hospital service delivery setting, hedonic value may fail to be realized as valuable, and patients may seek only an expedient process where a task can be accomplished. However, Osei-Frimpong *et al.* (2015) find through qualitative research based in Ghana that accomplishing the task of healthcare was not the sole outcome that patients consider. As such, experiential elements could have a place in the satisfaction equation. Further, prior research investigating emotion uses terms such as happy, pleasant, joyful, delighted, and surprised to represent positive emotions within a public hospital setting (Ladhari and Rigaux-Bricmont, 2013). If such emotional experiences exist within a hospital setting, it is logical further to conclude hedonic outcomes are possible and expected. However, the extent to which utilitarian or hedonic value actually drives satisfaction remains unexplored. Given the recent emphasis on satisfaction drivers within healthcare, this gap can no longer afford to go unanswered. Utilitarian value to patients is being able to accomplish a task. As such, the questions chosen to capture utilitarian value from both customer and provider perceptions involve task-oriented questions. Therefore, we offer the following hypotheses:

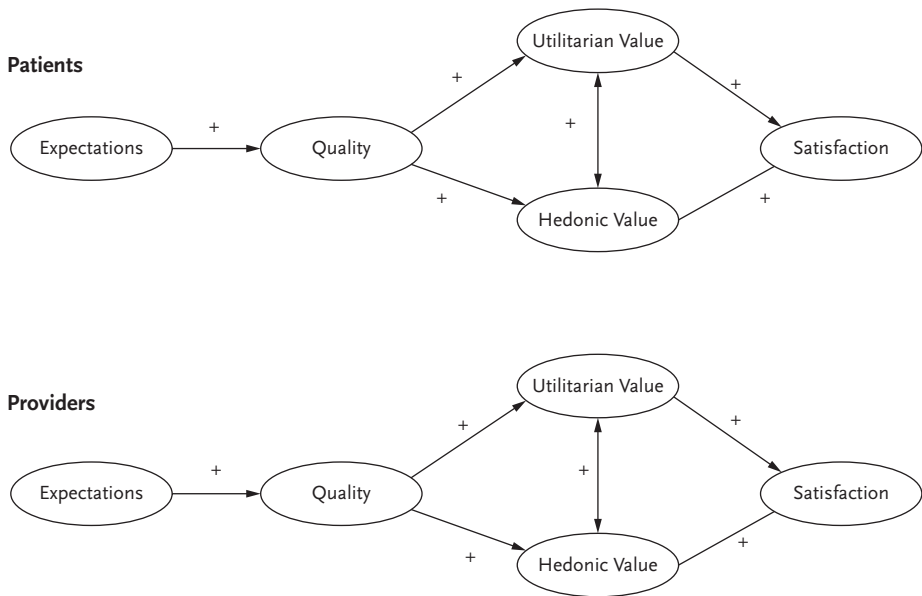H4: Utilitarian value is positively related to satisfaction.

H5: Hedonic value is positively related to satisfaction.

Research framework

Based on the above review, we next test the model using a sample of hospital providers and hospital patients. To do so, patients provide their perception of the outcome measures including expectations, utilitarian and hedonic value, satisfaction, and quality that they believe emerge from interactions with healthcare professionals within a hospital context. Providers also respond based on

what they believe patients receive from their service experience. The model displaying the constructs for testing is shown in Figure 1.

Figure 1 Research Models

Patients

Expectations → (+) → Quality
Quality → (+) → Utilitarian Value
Quality → (+) → Hedonic Value
Utilitarian Value ↔ (+) ↔ Hedonic Value
Utilitarian Value → (+) → Satisfaction
Hedonic Value → (+) → Satisfaction

Providers

Expectations → (+) → Quality
Quality → (+) → Utilitarian Value
Quality → (+) → Hedonic Value
Utilitarian Value ↔ (+) ↔ Hedonic Value
Utilitarian Value → (+) → Satisfaction
Hedonic Value → (+) → Satisfaction

Given the lack of agreement on basic definitions of healthcare value (Chahal and Kumari, 2011; Lim and Ding, 2012), and the conceptual infancy of research within healthcare regarding a stakeholder perspective in which multiple stakeholders are studied simultaneously (Hult *et al.*, 2011; Wicks *et al.*, 2007), we expect differences to exist between patients and providers. To the extent that differences do not emerge, one can infer that they understand their customers (patients), which is a sign of quality service delivery (Zeithaml *et al.*, 1993).

Methodology

The patient data set includes responses from participants recruited by a marketing research firm through the use of U.S. consumer panels who had received treatment at a hospital within the last year. The data representing hospital providers include responses from students enrolled in a university healthcare graduate program. For the purposes of this study, hospital providers are those individuals who are frontline hospital service providers with direct patient care responsibilities and the majority of the sample includes nurses, physician assistants, and physicians although a small percentage included other job titles.

The graduate students either respond themselves based on their own health-care experiences as a hospital provider or suggest someone else from their organization who does interact with patients in that capacity. Each respondent indicated the nature of their current job as prompted during the survey. Any non-qualifying respondents are screened out with this question. Thus, the resulting provider sample consists entirely of frontline hospital providers from all parts of the U.S.

The researchers understand a dyadic relationship between a patient and their provider is ideal; however, the Health Insurance Portability and Accountability Act (HIPAA) protects the privacy of individually identifiable health information, making true dyadic data difficult to obtain. Further, patients often choose hospitals based on proximity to accident, which very often is away from the home or preferred hospital. Hospital care, like many healthcare services, serves all demographics (Bearder *et al.*, 2013); thus a specific dyadic relationship of patient and provider could be misleading toward serving future patients. The sample comprises people who have been a hospital in-patient within the previous 12 months. A screening question asks the patient to confirm that the respondent received treatment within the last 12 months. A second screening question confirmed that the patient had received treatment at a hospital. Finally, a question asks respondents to answer all questions keeping the most recent hospital visit in mind. Data quality measures include multiple integrity filters. Respondents who do not respond appropriately to those items are branched out of the survey.

Overall, 228 respondents attempted at least one screener question resulting in 150 qualified respondents who had experience with a hospital in the past year. Of the 150 qualified respondents, 10% were eliminated for completing the survey too quickly (under 3 minutes) and 8% were eliminated for incorrectly answering the control questions. After eliminating these respondents, the usable sample size was 123 (n = 123) with a 53.9% response rate.

In the hospital provider survey, frontline providers answer questions based on how they believe the typical patients in their facility would respond. The survey questions make use of Likert scales, multiple choice selection, and slider scales to capture respondent feedback. The survey introduction question asks "in your current position, are you directly involved in the treatment of patients?' An answer of, no, results in dismissal. Finally, providers are prompted to "Please answer the following questions thinking about the typical care a patient would receive at the hospital where you have the most recent work experience." Each provider completed a survey with items matching those of the healthcare services for patients with logical adaptations so providers could understand that the researchers are interested in the provider's interpretation of the patients' perspective of their hospital experience.

Just as with the patient sample, data quality measures include check questions that instruct the respondent to choose strongly disagree to an item. Any respondent who fails the integrity filter is dismissed from the survey. Overall, 199 respondents attempted at least one screener question resulting in 136 frontline

providers. Of the 136 providers, 5% were eliminated for completing the survey too quickly (under 3 minutes) and 7.5% were eliminated for incorrectly answering the control questions resulting in a usable sample of 119 (n = 119) with a 59.7% response rate. The potential for common method bias is addressed by using different scale types within the survey. In addition, a posthoc test uses a conservative assessment of eigenvalues. The primary eigenvalue accounts for approximately 40% of the variance in the total data and given the reliabilities and effects sizes, meets the criteria for a lack of concern about potential common method bias (Fuller *et al.*, 2016). Thus, common methods variance is not expected to bias results.

Patient descriptive statistics are 57% female and health insurance coverage includes commercial insurance (43%), Medicare (27%), and Medicaid (17%). The largest percentage of respondents (23%) are between 30 and 39 years of age, while 30% are between 50 and 69 years of age. Nearly 50% have a household annual income under $50,000, while 10% have a household annual income greater than $100,000. Fifty-five percent indicated the hospital trip was an emergency and 45% routine. Forty-four percent of respondents hold undergraduate degrees, 21% hold Master's degrees, and 30% hold high school diplomas. Occupational data show a wide range of primary job titles ranging from retired, managers, IT consultants, and engineers, to homemakers. The sample is diverse with respect to respondent job titles and is representative of hospital patients including disabled, retired, and students.

The provider sample is 75% female. Providers were asked to report the type of insurance patients use when seeking treatment and reported Medicare (25%), commercial insurance (25%), Medicaid (25%), Veterans Administration (15%), and uninsured (10%). Sixty-five percent of the providers surveyed were between 22 and 39 years of age, with the remainder between 40 and 59 years of age. Providers reported the typical patient interaction as emergency (54%) and routine (46%). The most prevalent job title includes registered nurse, physician assistant, and physician. An examination of the job titles finds that 95% of respondents hold a job title that involves direct patient care. The remaining 5% include titles such as ultrasound technologist, supervisor, and chief information officers. All respondents answered in the affirmative when asked if their job includes direct patient treatment.

Analyses

Prior to the multiple group analysis, a preliminary model examines the feasibility of the measurement theory and explores potential problems with model instability that could cause subsequent problems. More specifically, we initially developed a Confirmatory Factor Analysis (CFA) depicting the proposed measurement theory and fit that model onto the overall covariance matrix (including both employees and patients). The model fits the data well and is provided in Table 2 (χ^2 = 123.87 with 80 degrees of freedom [df], Comparative Fit Index

(CFI) = 0.985, root mean square error of approximation [RMSEA] = 0.048). Results likewise suggest adequate convergent (all construct reliability estimates (CR) are at or above .7) and discriminant validity (Average Variance Extracted (AVEs) exceed squared correlation estimates between constructs). Overall, the solution suggests measurement validity. (Hair *et al.*, 2010).

Having established evidence of a stable solution across groups, we investigated differences in relationships between healthcare patients and providers. Prior to focusing on the structural relationships, we examine the measurement theory fit in a CFA fit on the covariance matrices for the provider and patients, simultaneously. Once again, the model produces good fit given its relative complexity and the nature of the sample (Hair *et al.*, 2010). The overall χ^2 is 174.6 with 84 df, the CFI is 0.962, and the RMSEA is 0.067. Given that we are not examining groups disparate with respect to culture or language, a test of metric invariance is not necessary (Babin *et al.*, 2016). Thus, evidence of fit validity exists across both groups.

Table 1 Means by respondent group

	Provider	Patient	|t-Test|	p-value
Expectations	19.0	17.7	3.19	0.0016
Quality	23.3	21.3	3.18	0.0017
Utilitarian value	15.6	16.0	0.98	0.33
Hedonic value	17.0	17.1	0.10	0.92
Satisfaction	249.1	217.9	3.67	0.0003

Table 2 CFA, variance extracted, construct reliability, and Φ matrix

	HV	UV	SAT	QUAL	EXP
HV1	0.62				
HV2	0.74				
HV3	0.67				
HV4	0.74				
UV1		0.89			
UV2		0.69			
SAT1			0.96		
SAT2			0.95		
SAT3			0.92		
QUAL1				0.95	
QUAL2				0.95	
QUAL3				0.92	
EXP1					0.89

Continued

	HV	UV	SAT	QUAL	EXP
EXP2					0.81
EXP3					0.81
Variance extracted	48.33%	63.41%	89.02%	88.38%	70.14%
Construct reliability	0.79	0.77	0.96	0.96	0.88
Φ MATRIX					
HV	1.00				
UV	0.40	1.00			
SAT	0.46	0.70	1.00		
QUAL	0.46	0.61	0.83	1.00	
EXP	0.094	0.34	0.36	0.38	1
Φ MATRIX SQUARED					
HV	1.00				
UV	0.16	1.00			
SAT	0.21	0.49	1.00		
QUAL	0.21	0.37	0.69	1.00	
EXP	0.01	0.12	0.13	0.14	1.00

NOTE: HV = Hedonic Value, UV = Utilitarian Value, SAT = Satisfaction, QUAL = Quality, EXP = Expectations

Results

Differences in the perceptions of expectations, quality, value, and satisfaction are explored by comparing the construct means by group. Table 1 summarizes these comparisons. For three of the five constructs, provider perceptions of patient ratings are significantly greater than the actual patient ratings. The average expectation score from hospital providers is 19.0 compared with the average of 17.7 provided by patients ($t = 3.19$, $p < .01$). For perceived quality, hospital provider ratings average 23.3 compared with the patient ratings score of 21.3 ($t = 3.18$, $p < .01$). Hospital providers' average summed score for perceived patient satisfaction is 249.1 compared with the actual patient satisfaction rating of 217.9 ($t = 3.67$, $p < .001$). In contrast, the utilitarian value score from providers is slightly less (15.6) than that reported by patients (16.0), but not

significantly different. Hedonic value scores are virtually identical in the two groups (17.0 versus 17.1). Thus, in three of five constructs, hospital providers appear to overstate the actual level of services delivery provided relative to patient ratings.

Patient and provider moderation by group

We examined the possibility of moderation through results of estimating a multiple group structural model consistent with the theory depicted in Figure 1 comparing providers and patients. First, the totally free, or unconstrained, structural model, freely estimating all structural parameters between groups, yields a model χ^2 of 248.4 with 168 df. Second, a model fixing all structural coefficients to be equal between groups provides a specific examination of moderation. That model yields a model χ^2 of 315.1 with 178 df. Adding the invariance constraints worsens fit as suggested the change in χ^2 is 61.8 with 6 df, which is statistically significant (p < 0.001). Thus, this finding supports the case for moderation and suggests differences in reactions between providers and patients.

Figure 2 provides more insight into the key sources of moderation. The figure displays the maximum likelihood estimate for each structural relationship by group as only unstandardized relationships are appropriate in this type of multigroup comparison (Hair *et al.*, 2010). Overall, the model results suggest only a few key direct relationships. Among healthcare patients, expectations significantly affect perceived quality (χ = 0.86, p < .001), quality significantly affects perceived utilitarian value (χ = 0.47, p < .001), and utilitarian value significantly affects perceived satisfaction with the hospital (χ = 28.0, p < .001). These relationships facilitate significant and nontrivial indirect relationships from expectations to utilitarian value (through quality) and onto satisfaction (through quality and utilitarian value).

Among providers, perceptions of patient expectations does not relate significantly to perceptions of service quality. Quality perceptions, however, do positively relate to the providers' perceptions of utilitarian value, which in turn, significantly and positively relates to providers' perceptions of hedonic value and satisfaction.

Moreover, several relationships appear responsible for the overall moderation of the structural model. The expectation–quality relationship, when constrained alone, yields a significant chi-square difference of 7.6 (1 df, p < 0.01). Patient perceptions of expectations do positively influence quality, consistent with an assimilation effect, whereas provider perceptions of their patient expectations do not. When the perceived quality to utilitarian value relationship is constrained similarly, the chi-square difference is 3.8 (1 df, p = 0.05). The difference in coefficients suggests that quality perceptions do more to drive utilitarian value among patients than among providers. Also, constraining the utilitarian value to satisfaction path produces a significant chi-square difference of 5.7 (1 df, p < 0.05). Again, the relationship suggests that utilitarian value is more

strongly related to patients' actual satisfaction perceptions than it is to providers' perceptions of their patients' satisfaction.

Figure 2 Patients and Providers Results


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Patients
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Providers
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* p < .05   ** p < .01   *** p < .001
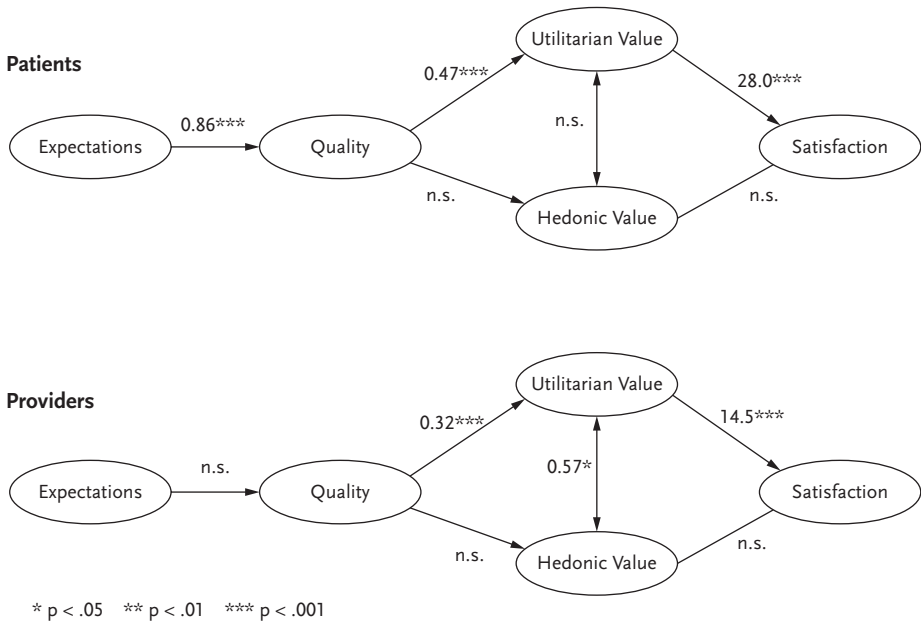
Discussion

Understanding patients' perceptions of satisfaction and the underlying mechanism is fundamental to evaluating service delivery effectiveness. Additionally, the complex nature of healthcare services further exacerbates the possibility of knowledge gaps. Our research suggests perceptual differences between patients and providers emerge with respect to the relationships between expectations, quality, value, and satisfaction. Hypothesis 1 states that expectations will be positively related to quality. Hypothesis 1 is partially supported based on the positive significant relationship between expectations and quality for patients whereas an insignificant relationship emerges in the provider sample. The first gap occurs with providers not understanding the importance of consumer expectations prior to the service offering and its resulting effect on their patients' service quality assessment. This may be due to the complex and nebulous nature of many healthcare procedures that may even entail credence benefits. The provider perceptions suggest that they do not believe patient expectations correspond to service quality. This poor understanding of patients' expectations for service quality is consistent with findings by O'Connor *et al.* (1994). Other

prior research supports the relationship found in our study between consumers' expectations and quality (Teas, 1993).

Our findings indicate that it is critical for hospitals to present appropriate information to patients prior to treatment whenever possible. Because many hospital visits are planned service encounters, detailed preoperative or in-patient instructions should be explained to patients to facilitate realistic expectations of the forthcoming healthcare experience. Additionally, because hospital environments could be initially intimidating to patients, admission procedures should include a thorough patient orientation to the healthcare facility to help ease anxiety that could be associated with high-risk service encounters. For those emergent, non-planned hospital visits, frontline service providers should devote appropriate time to explain what treatment plans will encompass throughout the hospital stay. Table 1 also provides supporting evidence that a gap exists between patients and providers as seen by the overestimation of expectations and quality in the provider group compared with the patient group.

One of the surprising findings of our study is the second knowledge gap between quality and value. Hypotheses 2 and 3 state the quality is positively related to value. Figure 2 shows a positive and significant relationship between quality and utilitarian value which is consistent with other healthcare research. However, our findings suggest that the relationship between quality and utilitarian value is stronger in the patient group than in the provider group. Providers, while correctly understanding that a relationship exists between quality and utilitarian value, underestimate the strength of the relationship between quality and utilitarian value. Table 1 suggests that patients and providers do not see differences in the hedonic and utilitarian value actually being delivered as shown by the means by respondent group. Taken collectively, support exists for Hypothesis 2 as seen through providers' understanding of what is being delivered, but providers misunderstand the strength of the relationship between quality and utilitarian value.

Providers should not underestimate the importance of a patient's need to feel their medical problem was efficiently and effectively resolved. Communicating both during and after the service encounter should emphasize consumer satisfaction with the handling of their medical issue. However, our results posit an insignificant relationship between quality and hedonic value thus not supporting H3. Although hedonic characteristics of the healthcare experience may contribute to the overall service quality experience, providers should focus instead on utilitarian values which result in a direct effect on patient satisfaction.

Hypotheses 4 and 5 state that value and satisfaction are positively related. Although both patients and providers agree that utilitarian value affects satisfaction, a stronger relationship exists with patients. With the federal requirements to collect HCAHPS results, which include patient perceptions of satisfaction, providers should not discount the importance patients place on utilitarian value and its resulting impact on patient satisfaction. Providers could emphasize utilitarian values by ensuring that a patient's questions and medical problems are appropriately addressed and resolved to enhance the patient's sense of accomplishment in the healthcare experience. Frontline healthcare providers could

also establish consistent post-service encounter communications to identify any service encounter shortcomings. The relationship between hedonic value and satisfaction is not significant in either group, thus not supporting H5. On the other hand, the model shows worse fit when the utilitarian value–satisfaction path is set to be equal between groups. The relationship is stronger in the patient group suggesting that utilitarian value does more to drive patient satisfaction than healthcare providers' perceptions would suggest. Thus, providers correctly understanding that a relationship exists between utilitarian value and satisfaction, underestimate the role of utilitarian value to patient satisfaction. H4 is supported given the positive relationship in both groups. Given the nature of hospital services, the underestimation of utilitarian value is surprising, although with the relative newness of the value definition and the call for survey research to clarify relationships among concepts (Lim and Ding, 2012; Chahal and Kumari, 2011), a perceptual gap is expected.

Implications for theory and research

Understanding how patients determine value in complex service offerings is an important research area. We offer further insight into understanding differences between how patients and providers perceive quality, value, and satisfaction. Our research adds to the body of knowledge of prior research that examines patient perceptions of quality (Murti *et al.*, 2013) and the study of value (McColl-Kennedy *et al.*, 2012) in healthcare by identifying specific knowledge gaps between patients and providers. The direct relationship between utilitarian values and satisfaction and the lack of effect of hedonic values on satisfaction is intriguing. With the current emphasis in healthcare on patient satisfaction, the identification of utilitarian values as a primary driver in patient satisfaction is a unique contribution in the study of factors that influence patient perceptions of quality and their ultimate determination of overall satisfaction.

Given the utilitarian nature of the hospital service setting, an examination of possible causes of utilitarian value is appropriate. Utilitarian value can occur through interactions with nurses, administration procedures, doctors, the hospital experience, the room, visitors, technicians, and post care experience. From a theoretical lens, future research should determine the utilitarian antecedents taking each of the above patient/provider interactions into account when developing a theoretical model. For example, nurses could better explain procedures in order to equip patients to complete the process of recovery, admissions could continue to find ways to create efficiencies with the pre-service process, and the hospital room could be kept clean and sterile to facilitate the healing process. This research is the first to apply utilitarian value to the healthcare environment as a theoretical outcome; thus, actual drivers need to be assessed particularly because of the strong relationship among quality, utilitarian value, and satisfaction. Future research should examine these relationships with dyads of patients and their providers to assess if these same differences occur.

Implications for healthcare organizations

Russ-Eft (2014) posits sustainable organizations are those that can effectively adapt to changes in both the global and organizational context. The recent governmental regulations required in the ACA mandate dramatically change how healthcare administrators should address patient perceptions of quality care. Although patient feedback is important to improve quality processes, payments from insurance providers were not previously directly tied to patient satisfaction scores. Because physician reimbursement is now impacted by the value-based payment modifier, understanding how patients perceive value in their healthcare experience is critical.

Our study suggests that three knowledge gaps exist between the perceptions of patients and providers when determining value drivers that impact patient satisfaction in hospital experiences. The first gap occurs with providers not understanding the importance of patient expectations prior to the service offering and its resulting effect on their patients' service quality assessment. Prior research supports the relationship found in our study between consumers' expectations and quality (Teas, 1993). Our findings indicate that it is critical for hospitals to present appropriate information to patients prior to treatment at the hospitals whenever possible. Many hospital visits are planned service encounters, so detailed preoperative or in-patient instructions should be explained to patients to facilitate realistic expectations of the forthcoming healthcare experience. Additionally, hospital environments could be initially intimidating to patients, so the admission procedures should include a thorough patient orientation to the healthcare facility to help ease anxiety that could be associated with high-risk service encounters. For those emergent, non-planned hospital visits, frontline service providers should devote appropriate time to explain what treatment plans will encompass throughout the hospital stay.

One of the surprising findings of our study is the second knowledge gap between quality and value. The positive and significant relationship between quality and utilitarian value is consistent with other healthcare research. Providers should not underestimate the importance of a patient's need to feel their medical problem was efficiently and effectively resolved. However, our results posit an insignificant relationship between quality and hedonic value. This may be due to the stressful nature of hospital visits; thus patients may see no gratifying benefit of the experience itself. These results contradict the previous findings by Essen and Wikstrom (2008) which suggest the only service dimensions that influenced patients' perceptions of service quality in long-term residential care services were those that evoked emotional reactions.

The final knowledge gap that occurs with this research includes the perceptions of value with satisfaction. With the federal requirements to collect HCAHPS results which involve perceptions of patient satisfaction, providers should not discount the importance patients place on utilitarian value and its resulting impact on patient satisfaction. Providers could emphasize utilitarian values by ensuring that patients' questions and medical problems are

appropriately addressed and resolved to enhance the patient's sense of accomplishment in the healthcare experience. Frontline healthcare providers could also establish consistent post-service encounter communications to identify any service encounter shortcomings that can lead to feelings of service inefficiency. Providers should include more information-based communications which could assist with developing more accurate expectations prior to receiving medical care in a hospital and increasing the utilitarian value of the service experience.

However, prior to emphasizing utilitarian value, clinicians should at the very minimum measure utilitarian value. From a practical point of view, an examination of the HCAHPS survey finds that no direct utilitarian value measure in included within the instrument. Given this oversight within the HCAHPS, further refinement of utilitarian value drivers are precluded until providers begin including the items for further analysis and refinement so that valid antecedents can be derived.

Limitations

Several limitations emerge owing to the nature of both survey research and healthcare research. The first limitation of this research is that the dyad is not a matched sample of patients and providers. However, the patient sample and the provider sample both consist of samples spread across the U.S. and are not constrained to any specific geographic area.

A second limitation in this research is the data are self-report survey research in both groups. Survey research is known to have many drawbacks including yea-saying, respondent fatigue, and high correlations between constructs (Churchill and Iacobucci, 2009). While these limitations are true to all survey research, every attempt was made to reduce these problems by using different scale types such as slider scales, Likert scales with different scale values, and semantic differential scales.

Future research

Future research should attempt to link the value drivers proposed by Chahal and Kumari (2011) to utilitarian value and hedonic value to allow for further investigation of hedonic and utilitarian value within the healthcare service context. Additionally, both hedonic and utilitarian value should be studied as to their relationship with HCAHPS, which measures patients' perceptions of their care.

Given the findings regarding utilitarian value and satisfaction, future research should examine the distribution elements of urgent care centers. These facilities offer fewer services than do traditional hospitals, but are created and marketed

based on location convenience, timely service delivery, and less customer congestion. From a managerial perspective, these urgent care centers could prove to be a viable patient option. Lastly, hedonic elements in healthcare deserve further attention. While this research showed little effect of hedonic value within a hospital context, future research should examine other contexts such as planned doctor's office visits, pediatrics, or cosmetic procedures. Researchers should also develop a hedonic value scale that is germane to healthcare to complement the utilitarian value scale.

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