

# Leveraging the Value of Customer Satisfaction Information

By David H. Furse, Michael R. Burcham, Robin L. Rose, and Richard W. Oliver

*t's somewhere in the U.S. on a warm fall day in 1995. Mike, who is the president of a managed care organization for a network of 900 independently operated physical therapy clinics, is reviewing his test quarterly report on clinical care and service quality. Mike is able to see at a glance how his network is performing compared to past quarters on 10 clinical outcomes as well as patients' own perceived health status in eight key areas, from physical functioning to mental health. He can also monitor improvement in patient satisfaction with service quality.*

*All of this information can be cross-referenced with cost and charge data for each of his clinics to calculate medical outcome and service value ratings for each of his 900 PT clinics. The rates paid to the network by 12 large insurance companies are capitated, and Mike shares the risks and rewards with individual clinics based on their performance.*

*Mike shares all of this information with each of his PT clinics to help them improve service and clinical results as well as with his major payors as a quarterly report card on how his netla*

*work is performing. Furthermore, Mike has a powerful database to answer a variety of questions that his payors and PT clinics may request, such as which indicators have the biggest impact on costs or how to identify potential benchmarking partners to help clinics that want to improve performance in a particular area.*

*Mike has learned how to leverage and integrate the information in his system to help manage his network. He is able to create greater value for his various stakeholders and ultimately for the patients who use his network.*

## The New Order

As the health care industry moves toward managed competition and a new order of health care in America, information for aligning an entire organization around meeting customer requirements efficiently will become increasingly important.

These customers are primarily patients, but also include physicians, employees, payors, and other stakeholders in the managed care environment. Their needs are increasingly being met by managed care organizations (MCOs) and accountable health plans (AHPs) that incorporate health care delivery, risk management, and administrative functions. To be successful, these MCOs and AHPs must be high-quality, low-cost providers of care.

In this new health care environment, performance in the following areas will be critical:

Financial performance: providing efficient low-cost/ high-value ser-

vices as measured by **financial and operating indicators**.

Medical outcome: producing consistently favorable clinical results as measured by medical records.

Perceived service quality: delivering service experiences that meet customer needs as measured by customer satisfaction surveys.

The term "customer satisfaction" is used here generically to refer to the measurement of one or more of a variety of customer opinions including ratings of service quality, future behavioral intention, patient self-assessment of outcome, and satisfaction.

Successful health care organizations in the future must be able to deliver high levels of all three of the critical areas (see Exhibit 1). The best providers will be those who are best able to document clinical results, financial performance, and customer-perceived service quality, and then use this information to manage, benchmark, and continuously improve.

There are two requirements to realizing the full information potential of these data. The first is leveraging basic data into more useful applications that are eas-

ily and quickly assimilated. The second is **EXHIBIT I** integrating these different data silos to create predictive theories and models. Leverage and integration are essential to making the expense of data collection and measurement systems pay off.

*Leveraging the Information Value Hierarchy*

If information is to have value, it must have utility and Uniqueness. For example, raw data on satisfaction with the admissions process has little informational value unless the managers who need it can connect it with particular types of patients, track improvement over time, or compare it for patients admitted through the emergency department vs. the regular admissions process. Leveraging the information value of data is the process of making it more suitable for use by a decision maker. Exhibit 2 shows the four-step process we refer to as the Information Value Hierarchy:

Data: raw measurements of vital factors within the organization.

Information: conversion of data at the point of requirement into more usable forms for the organization,

Knowledge: ability to generalize from information about a specific organization to general principles about the community, provider network, or industry as a whole,

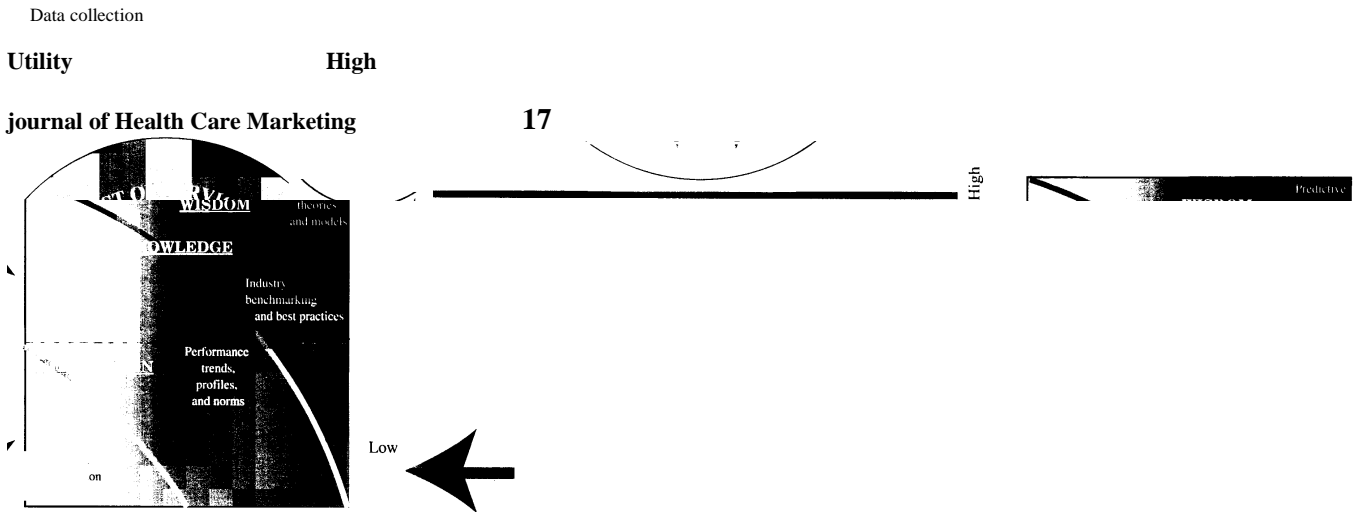
Wisdom: integration of these data, information, and knowledge into predictive theories, decision models, and software.

As you progress through the hierarchy, the value (utility x uniqueness) of the information increases dramatically compared to the cost of gathering and maintaining it. At its lowest level, raw data have limited value to most decision makers in an organization. Moreover, if the measurements are as valid and reliable as they should be, these data are usually costly to acquire and maintain. In order to get full value for the high cost, the answer is to leverage the data into more useful forms of information.

At the information level, the data are combined with other data into useful graphs, charts, and tables that provide a more comprehensive picture of how the organization is performing. These reports

Critical Success Factors

**EXHIBIT 2**  
Information Value Hierarchy



## EXHIBIT 3

### Building Wisdom Applications

Clinical Practice Models

Customer-Driven  
Engineering

Provider Reimbursement Models

Return on Quality

Profit Plan Designs

WISDOM

KNOWLEDGE

INFORMATION

Financial Performance  
Medical Outcomes Perceived  
Service Quality

DATA

make the data more understandable and appropriate for use by a decision maker. Still, the value of the information is limited to the experience of a single organization. Without general principles to guide the organization in its interpretation and use, the information may not be particularly powerful for decision making.

Beyond the information level of the Information Value Hierarchy is knowledge. The knowledge level provides greater understanding of the information based on the pattern of findings in other similar organizations. For example, individual organizations sharing a standardized database may compare with industrywide performance benchmarks. The knowledge at this level can be used to identify best medical and business practices in key performance areas. Organizations can learn more about their own practices through this comparative process.

The wisdom level of the Information Value Hierarchy moves from principles concerning current industry practices to the development of powerful models which can be applied to both the creation of new

strategies and the prediction of outcomes. Interdependencies and shared strengths and weaknesses across the organization can be defined and modeled.

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For example, models for computing ROQ (Return-On-Quality) can be developed to define the combination of clinical and customer service quality improvements that will have the most significant impact on financial performance.

Another application is customer-driven engineering, a powerful heuristic

model, which can be used to guide the design of brand new health care delivery systems uniquely suited to meet the needs of particular market segments.

These are just two of the possibilities from leveraging financial, clinical, and perceived service quality data in powerful ways. Others include

clinical practice models, provider reimbursement models, and benefit plan design.

In a competitive environment, the success of industry leaders will increasingly depend on their ability to apply worldclass wisdom in their management decisions. To do this, health care providers will require integrated databases combining clinical results, financial performance, and customer-perceived service quality.

### **Integrating Financial, Clinical, and Service Quality Data**

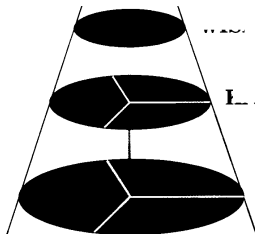
Although the value of data in each area can be increased by leveraging within its own hierarchy, health care leaders must also integrate financial, clinical, and service quality information to achieve the greatest success.

The most powerful integration will occur at the wisdom level of the Information Value Hierarchy with, for example, models that calculate financial return on investment for different service quality improvement initiatives or with employee benefit plan designs that maximize customer satisfaction and the medical outcome for defined populations at a targeted (read: capitated) cost.

Exhibit 3, combining financial performance, clinical results, and perceived service quality data, illustrates this idea of building wisdom applications from a comprehensive, integrated database.

The most traditional method of measuring a health care organization's clinical success is through *medical outcomes*. The first level is raw data provided from medical records, such as morbidity and mortality rates. At the second level, making these data into information could produce severity-adjusted outcome trends, profiles, and norms for the organization. Third, a comparison with results from similar health care organizations provides knowledge for benchmarking and appropriate clinical practice guidelines. At the wisdom level, clinical practice guidelines can be integrated with financial and service quality knowledge to create models that can help assure consistently favorable clinical results in a financially accountable delivery system.

The set i md component of measuring a health care organization's overall success



is through *perceived service quality*, or the quality of the customer's total experience with your organization.

The raw data for this factor comes from Customer satisfaction surveys of key stakeholders (patients, physicians, employees, payors, etc.). These data can be fashioned into information such as satisfaction trends, performance profiles, and norms for the organization. Industrywide comparison provides knowledge for service quality benchmarking and identifying industry best practices. This knowledge can then be transformed into wisdom such as customer-driven engineering for the design of entirely new health care organizations that are designed from scratch to delight its customers with service, value, and good clinical results.

The most fundamental method of measuring an organization's success is **through its financial performance**. The first level is raw data from accounting and billing records. At the next level, financial data such as revenues, return on assets, and earnings can be integrated with operating data such as length of stay or **staffing per patient day** to provide information that helps determine key factors **influencing financial performance**. Third, **communitywide**, networkwide, and industrywide comparisons can provide knowledge for financial benchmarking and strategies to improve financial performance.

Integrating knowledge of financial performance with perceived service quality and clinical outcomes creates the wisdom needed to become a world-class **quality**, low-cost health care provider.

## The Third Key Component

While the importance of financial and clinical information is well accepted, the importance of perceived service quality is less well understood. As the health care industry enters the era of fully accountable health plans, documented customer satisfaction is a necessary third component.

Traditionally, customer satisfaction information has been a resource used primarily by middle managers in health care organizations in charge of guest services. Nurse managers and department heads would apply this feedback to improve internal processes and to drive service recovery and customer complaint programs.

However, changes in management thinking have elevated customer satisfaction to become a key component of over-

all performance. In a managed care environment, patients who are dissatisfied with the performance of a particular provider will have the market information to change health plans or choose another provider.

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Patient dissatisfaction with service delivery processes also causes inefficiency, rework, and added cost. As such, customer satisfaction is now monitored diligently at the highest levels of the organization and used to decide strategic direction both internally and externally.

Health care providers that can objectively and reliably document customer satisfaction are more likely to be selected by payors and employers who are concerned about satisfaction of their own members/employees with their benefits.

Also, this data will be a key element in health care alliances, where providers in integrated delivery systems will choose to be affiliated with other providers delivering high perceived service quality of good value.

A key to the application of total quality management in health care will be the ability to relate customer satisfaction information to clinical outcomes and financial performance. The integration of data for all three factors is critical to the success of the organization as a whole, and there is now empirical support for the linkage between customer satisfaction with improved medical outcomes and better financial performance.

### *CS and Medical Outcome*

A consensus is growing among purchasers, consumers, and health care researchers that patient satisfaction is an important indicator of health care quality. For example, the Cleveland-based Health Quality Choice Program chose to evaluate

the quality of medical care of all hospitals in the Cleveland area by using severity-adjusted clinical indicators such as mortality and length of stay, along with patient perceived service quality, as their comparative measures.

In Cleveland, these comparative measurements have become publicly available information, and hospitals must compete on service quality as judged by patients as well as on clinical and financial measures of performance.

Recent work by health care measurement experts John Ware and Arnold Epstein show that strong correlations exist between customer satisfaction, patients' perceived health status, and clinical results. For example:

High patient satisfaction improves patient compliance with clinical directives.

Patient perceptions of clinical outcome are highly correlated with the clinical indexes used by doctors.

Patient self-evaluations of their own functional status are highly correlated with clinical outcome.

In the **July 1990 issue of *The New England Journal of Medicine***, **Epstein notes that "There is growing appreciation in the medical community that, although they are still imperfect, instruments based on subjective data from patients can provide important information that may not be evident from physiologic measurements and may be as reliable as---or more reliable than---many of the clinical, biochemical, or physiologic indexes on which doctors have traditionally relied."**

*CS and Profitability*

Because perceptions of quality are multifaceted, organizations need to know which specific aspects of quality are most closely related to financial strength. Consistent with studies of perceived product quality and profitability in other industries, our own data indicate that perceived service quality measured by patient satisfaction is associated with financial performance in hospitals measured by traditional financial indicators.

The results of a study of 15,000 randomly selected patients from 51 hospitals support the relationship between net revenue, earnings, and return on assets with patient satisfaction on 41 key questions, from admissions to billing.

Roland Rust and Anthony Zahorik of the Center for Services Marketing at



## ExHIBIT 4

### Where Improved Satisfaction Pays Off

Higher ratings in these areas...

- Registration efficiency
- Understanding bills
- Filling Out medical records
- OR scheduling
- Accuracy of bills

Leads to lower costs in these...

- Patient handling
- Patient receivables
- Physician handling
- Physician time
- Payer handling, receivables cycle time

Vanderbilt University and their colleagues conducted a sophisticated analysis adjusting for hospital size and multicollinearity in patient satisfaction measurements.

"Quality, as measured by patients' ratings, is associated with financial strength, as measured by earnings, net REVENUES, and ROA," they reported in the December 1992 issue of *Journal of Health Care Alarkcting*. "Patient-perceived quality explains up to 30% of the variation in hospital profitability. Relatively small increases in the level of patient satisfaction are associated with millions of dollars in year-end earnings for the average hospital."

The results of their analysis, however, indicate a complex relationship between perceived service quality and financial performance. For example, high perceived service quality in admission, discharge, ancillary services (such as X-ray), and billing were significantly related to higher financial performance, but high perceived quality in patient daily care, information, and nursing were not significant.

This finding was despite the fact that higher ratings in daily care, information, and nursing have the strongest correlations with patients' willingness to brag about

their visit, recommend the hospital to others, or return if they needed similar care in the future.

The difference seems to be in how hospitals go about implementing service quality improvements. In the case of admissions, discharge, ancillary services and billing, higher patient satisfaction is related to greater efficiency in these areas. However, perceived quality in daily care, information, and nursing

services may be just the opposite, where inefficiencies are actually creating opportunities for these services. Patients appreciate them, but they do not necessarily show UP in the hospital's financial bottom line. The economic benefits of patients' greater willingness to recommend the facility or return may be offset by higher staffing levels and other hidden costs.

Other experience from our own surveys of customer satisfaction suggests that reduction of customer complaints improves satisfaction ratings, which can lead to lower costs in dealing with specific operations (see Exhibit 4).

Increasingly, organizations are beginning to realize that service quality, as measured by customer satisfaction, is a key to

success in health care and organizational profitability. Historically, patient satisfaction was one of the last things health care organizations considered to measure. Today, it is one of the last things they would give up.

## Quality Improvement

Quality improvement in a managed health care environment is based on continuous evaluations of the overall organization. These evaluations rely on accurate, consistent data which are affordable because they can be translated into effective management strategies. The *Information Value Hierarchy* is a paradigm which illustrates; the imperative need to leverage data into high value information, knowledge, and wisdom to aid decision making.

By investing in a highly reliable and valid *financial performance*, medical outcome, and service quality database, health care organizations will have the information asset necessary to survive in an increasingly competitive environment.

*Maintaining and growing a consistent database over time will make it an asset of appreciating value. Those who will thrive in the new health care environment must be masters of information, including customer perceptions of service quality.*

*... Mike grabs his coat and picks up the bonus checks he signed today for the top performing clinics in his network. The checks are the result of a provider reimbursement model based on six super indicators that best capture overall performance of a clinic on*

value, clinical results, and service  
quality. sm 1

## About the Authors

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*Healthcare Management.*

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