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Use of a Customer Satisfaction Survey by Health Care Regulators: A Tool for Total Quality Management

SYNOPSIS

Objectives. To conduct a survey of health care providers to determine the quality of service provided by the staff of a regulatory agency; to collect information on provider needs and expectations; to identify perceived and potential problems that need improvement; and to make changes to improve regulatory services.

Methods. The authors surveyed health care providers using a customer satisfaction questionnaire developed in collaboration with a group of providers and a research consultant. The questionnaire contained 20 declarative statements that fell into six quality domains: proficiency, judgment, responsiveness, communication, accommodation, and relevance. A 10% level of dissatisfaction was used as the acceptable performance standard.

Results. The survey was mailed to 324 hospitals, nursing homes, home care agencies, hospices, ambulatory care centers, and health maintenance organizations. Fifty-six percent of provider agencies responded; more than half had written comments. The three highest levels of customer satisfaction were in courtesy of regulatory staff (90%), efficient use of onsite time (84%), and respect for provider employees (83%). The three lowest levels of satisfaction were in the judgment domain; only 44% felt that there was consistency among regulatory staff in the interpretation of regulations, only 45% felt that interpretations of regulations were flexible and reasonable, and only 49% felt that regulations were applied objectively. Nine of 20 quality indicators had dissatisfaction ratings of more than 10%; these were considered priorities for improvement.

Conclusions. Responses to the survey identified a number of specific areas of concern; these findings are being incorporated into the continuous quality improvement program of the office.

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Many segments of the U.S. health care industry are adopting the Total Quality Management (TQM) theories of Deming and Juran.[1–5] A key component of these theories is that suppliers of a good or service must receive feedback from consumers to identify deficiencies and guide improvements.[6–13] TQM organizations typically emphasize customer satisfaction and continuous improvement. With TQM becoming a widely accepted practice, consumer satisfaction has become a primary concern in the health care industry. Since better

informed consumers have higher expectations of their caregivers, health care providers must embrace quality initiatives and seek more consumer input. Regulatory agencies encourage providers to collect outcome-oriented data and poll their customers to improve the quality of their services. These precepts also apply to regulators.

In 1994, the Syracuse Area Office (SAO) of the New York State Department of Health adopted Quality through Participation (QtP), the state's version of TQM. Area office management recognized that our customers are not only the general public but also the facilities and agencies we regulate. Thus, the "regulated" are seen as customers and partners whose opinion and participation are important to continuous quality improvement in regulatory service delivery.

A QtP Committee comprised of staff from all units within the office was created. The committee developed a Customer Satisfaction Survey to detect the quality of service provided by our staff, as perceived by health care providers. The survey also was seen as a vehicle for early identification of problems and of actions required for continuous quality improvement.

A MEDLINE search for 1986 through 1996 showed that customer or client satisfaction has been studied widely in various health care settings, primarily in hospitals, physicians' offices, and clinics.[14–27] Literature on customer satisfaction with respect to regulatory agencies is nonexistent. This paper describes the development and use of a Customer Satisfaction Survey by a regulatory health agency as part of continuous quality improvement in service delivery.

Consumer satisfaction has become a primary concern in the health care industry.

The New York State Department of Health is mandated to protect, promote, and preserve the health of all the residents in New York. The Department conducts surveillance activities to assess compliance with applicable state and Federal quality of care standards. The surveillance process entails inspection of all health care institutions covered by state public health law, including hospitals, nursing homes, ambulatory care centers, and home care providers. It also investigates complaints regarding services and care provided by these facilities. The ultimate goal is to ensure that health services are of high quality.

The surveillance function is discharged through six area offices, located in Buffalo, Rochester, Syracuse, Troy, New Rochelle, and New York City. The Syracuse Area Office oversees more than 300 health care agencies across a 14-county area with a population of 1.75 million people. At the time of the survey, the office had four surveillance programs: hospital services, long-term care services, home health services, and alternate delivery systems. The frequency of contacts and onsite inspections varied with each program.

The surveillance program is based on the notion that quality can be assured by inspection and oversight. Poor patient outcomes are identified as deficiencies that require correction. The situation is often adversarial and fosters an "us" versus "them" attitude.

The application of TQM principles to our work quickly led to a rethinking of our relationship with the organizations we regulate. We began to better appreciate the importance of proficiency in our work, to recast the "regulated" as customers and partners in the health care system, as opposed to adversaries, and to seek their opinion on how well we are doing our job.

Methods

A task force of six QtP Committee members designed the survey instrument. They first formulated a set of criteria for measuring quality. The goal was to develop a simple tool that was easy for customers to use. The Task Force then asked five representatives from provider agencies to review the survey form for readability, comprehension, and application to the surveillance process. The instrument was also reviewed by a research consultant. Based on the feedback provided by the provider representatives and the consultant, the survey instrument was refined and an indicator for overall satisfaction was added.

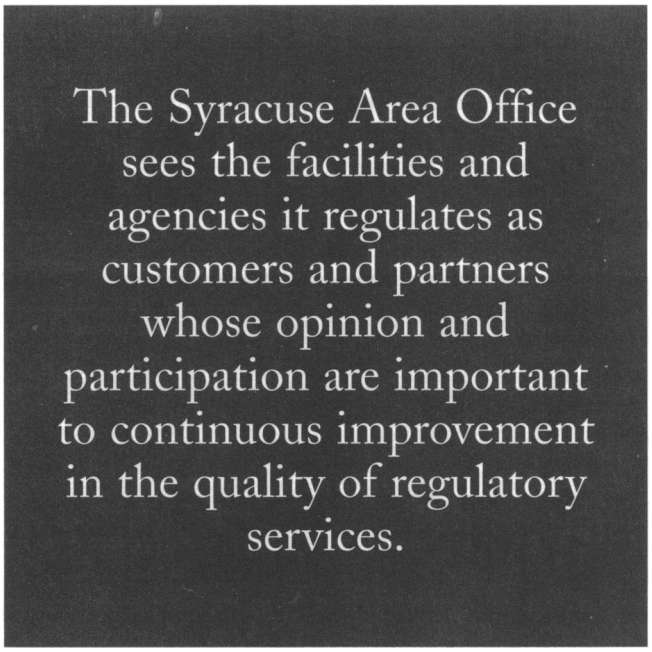
The final survey instrument contains 20 declarative statements that describe the attributes of customer satisfaction—issues such as written and oral communication, the manner in which our inspections are conducted, and the impact of the surveillance program on the quality of care.

The statements may be grouped into six quality domains—proficiency, judgment, responsiveness, communication, accommodation, and relevance. Each statement describes a behavior or task performed by the staff or a specific example illustrating the domain. *Proficiency* is the customer's perception of the capability, expertise, or knowledge of the staff and the manner in which services are provided. *Judgment* reflects the ability to decide; statements in this domain focus on the consistent, objective, and reasonable interpretation of regulations. *Responsiveness* includes timeliness, assistance, and guidance. *Communication* focuses on clarity of verbal and written expression. *Accommodation* regards the behavior or interpersonal skills of staff ; statements in this domain focus on respect, courtesy and sensitivity. *Relevance* pertains to the significance and pertinence of the encounter with staff; statements in this domain focus on improving services offered to providers and the appropriateness of the surveillance process.

A five-point Likert scaling procedure was used, creating a bipolar continuum in which the low end of the scale repre-

sents a negative response and the high end, a positive response. The respondent was presented with each statement and asked to indicate the degree of his or her opinion by marking a score of 1 to 5, as follows: "strongly disagree" (1), "disagree" (2), "neutral" or "no opinion" (3), "agree" (4), or "strongly agree" (5). Blank spaces for written comments were provided at the end of each statement.

The survey was mailed in February 1995 to the chief executive officers of 324 health care agencies under the surveillance jurisdiction of the Syracuse Area Office. These agencies included 29 hospitals, 92 nursing homes, 136 home care providers, 13 hospices, 47 ambulatory care facilities, and 7 health maintenance organizations. A cover letter explained the purpose of the survey, and specific instructions were given to have the survey completed by the individual within the organization who had the most frequent contact with the Syracuse Area Office. A self-addressed return envelope was provided, and a response time of two weeks to complete and return the survey was requested. There was no second mailing or follow-up reminder. To maintain anonymity, identifying information about the respondents was removed before the survey data were analyzed.



Content validity of the survey instrument was established using a panel of provider advisors and a research consultant. Reliability was assessed by computing (with SAS® Software) the Cronbach's alpha coefficient for internal consistency; a coefficient of 0.959 was obtained, suggesting a high level of reliability. Microsoft® Excel was used for statistical analysis of the survey data for mean scores, variances, coefficients of variation, standard deviations, correlation coefficients, and percentages. Responses on the ends of the scale were combined[28] to get the percentage of satisfied ("strongly agree" and "agree") and dissatisfied ("strongly disagree" and "disagree") respondents for a given statement. The acceptable performance standard was set at no more than a 10% level of dissatisfaction.

Results

Of the 324 facilities that received the Customer Satisfaction Survey, a total of 183 facilities responded, which represents a response rate of 56% and is above the 50% response rate considered as adequate for analysis.[29] The response rate by type of provider ranged from 40% to 75%. Nursing homes had a response rate of 75%, followed by 62% for hospitals, 48% for clinics and health maintenance organizations, and 40% for home care agencies. Fewer contacts between agencies in the latter two groups and regulatory staff may have influenced the low survey returns.

Customer responses to each quality statement ranged from 1 ("strongly disagree") to 5 ("strongly agree"). The average proportion of respondents from all four provider groups who gave a satisfactory rating of either 4 ("agree") or 5 ("strongly agree") to a particular statement ranged from a low of 44% to a high of 90%. The three highest levels of customer satisfaction were in courtesy of staff (90%), efficient use of onsite time (84%), and respect for provider employees (83%). The three lowest satisfaction ratings were in the judgment domain. Only 44% of respondents agreed with the statement "There is consistency...in our interpretation of regulations and procedures," 45% agreed that "Interpretations of regulations are flexible/reasonable," and 49% agreed that "Regulations are applied objectively."

The coefficient of variation for each statement ranged from 0.43 to 0.88, indicating a diversity of opinion. Table 1 shows the mean score and standard deviation for each of the survey statements. Mean scores ranged from 3.19 to 4.34, with an overall mean of 3.83, showing that responses leaned toward the satisfied end of the scale. Correlation coefficients for the relationship between a provider's response to each quality indicator and overall satisfaction with his/her experience with the Syracuse Area Office ranged from 0.43 to 0.75. Three indicators highly correlated with overall satisfaction were: open and approachable staff (r = 0.75), objective application of regulations (r = 0.72), and focus on quality of care (r = 0.72). Low correlations were with timely return of telephone calls (r = 0.43) and prompt attendance in scheduled meetings (r = 0.49).

Written comments. More than half of the respondents in each provider group added written comments. All of the comments received were summarized and analyzed. In general, the comments correlated with the satisfaction ratings. Positive comments frequently mentioned by respondents related to the knowledge, professionalism, and good demeanor of staff. The most common negative remarks were related to dissatisfaction with inconsistent interpretation of regulations, lack of objectivity, poor judgment, and long response time in returning telephone calls.

Responses to questionnaire items (*N*=183 respondents)

Statement	*Mean score*	*Standard deviation*
1. In your interaction with the Syracuse Area Office, you have found staff to be knowledgeable	3.86	0.81
2. There is consistency among the staff in the Syracuse Area Office in our interpretation of regulations and procedures	3.21	1.05
3. Statements of Deficiency or other written reports are received from our office in a timely manner	3.30	1.11
4. Syracuse Area Office staff is prompt for scheduled meetings/surveys	4.05	0.79
5. Telephone calls are returned in a timely manner	3.94	0.87
6. Regulations are applied objectively	3.18	1.06
7. Syracuse Area Office staff present themselves in an open and approachable manner	3.80	1.01
8. Syracuse Area Office staff focus on significant quality of care issues	3.46	1.05
9. Statements of Deficiency are clearly written	3.44	0.99
10. Deficiencies and other identified problems are verifiable	3.50	0.99
11. Syracuse Area Office staff is courteous during your interactions with this office	4.34	0.70
12. Interpretations of regulations are flexible/reasonable	3.19	1.06
13. As a result of interactions with the Syracuse Area Office, you are able to improve services in your organization	3.51	1.11
14. During survey activities, staff is thorough in their reviews	4.04	0.87
15. Syracuse Area Office staffs utilize their time in an efficient manner during onsite activities	4.08	0.82
16. Facility problems are clearly identified at the survey exit conference	3.91	0.89
17. Syracuse Area Office staff is respectful of your employees	4.14	0.87
18. Statements of Deficiency reflect problems identified at the exit conference	3.87	0.93
19. Syracuse Area Office staff provides adequate guidance in the development of your Plan of Correction to cited deficiencies	3.42	1.08
20. During onsite surveillance, Syracuse Area Office staff makes an effort not to disrupt patient care activities	4.17	0.90
21. Overall, your experience with the Syracuse Area Office is satisfactory	3.75	0.98

Discussion

Since the aim of the Customer Satisfaction Survey was to improve the quality of services, in interpreting the data we focused on quality indicators for which there were high levels of dissatisfied responses. The QtP Committee set the goal of no more than 10% dissatisfied customers as the minimum acceptable performance standard for the Syracuse Area Office. To achieve this goal, survey indicators with dissatisfaction ratings higher than 10% were considered to represent areas that needed improvement or correction. The dissatisfaction rating was defined as the percentage of respondents who noted either "strongly disagree" or "disagree" for a given statement. Of the 20 quality indicators surveyed, the following did not meet the acceptable performance standard: (*a*) flexible and reasonable interpretation of regulations, (*b*) consistent interpretation of regulations, (*c*) objective application of regulations, (*d*) timely written statements of deficiencies and reports, (*e*) focus on significant quality of care issues, (*f*) guidance in developing a plan for correcting deficiencies, (*g*) improvement in service as a result of interactions with staff, (*h*) verifiable cited deficiencies and problems, and (*i*) clearly written statements of deficiency.

The effect of bias in the perception of satisfaction is a possible problem. Response biases are a concern because they can affect the levels of satisfaction reported. Several factors contribute to bias, including timing of survey administration, wording of the survey statements, type of provider agency, respondent characteristics, frequency of contacts and experience with the Syracuse Office staff, the particular circumstances of previous service encounters, and the deficiencies cited.

More than 25% of respondents marked "neutral" or "no opinion" for the following statements: (*a*) "Interpretations of regulations are flexible/reasonable"; (*b*) "Deficiencies and other identified problems are verifiable"; (*c*) "Syracuse Area Office staff provides adequate guidance in the development of your Plan of Correction to cited deficiencies"; and (*d*) "As a result of interactions with the Syracuse area office, you are able to improve services in your organization." The reason for these neutral responses may be due to a number of fac-

tors that require more research. For example, they may be due to a lack of performance standard, ambiguity of the survey statements, lack of applicability, respondents' inability or lack of experience in judging what constitutes quality, or a combination of factors.

The results of the survey were presented by the QtP Committee at a general staff meeting. The Committee then attempted to identify causes of the perceived weaknesses or poor performance and spotlight issues for improvement. Probable causes for poor performance that the Committee considered were changes in survey and regulatory processes, staff failure to communicate and share information, different code interpretation by survey staff and providers, and inconsistent supervisory oversight. General recommendations to address these problems included the following: training for regulatory staff in interpreting regulations and drafting statements of deficiency, standardizing survey protocols and reports, familiarizing providers with changes in the regulations and the survey process, and regular meetings with provider representatives to discuss issues and obtain feedback.

In undertaking a project such as this, we had three major concerns, namely: whether enough respondents would come forward to provide sufficient data, whether the results would be usable, and whether a survey and its promise of corrective action would enhance our ability to do our job satisfactorily. Respondents did come forth, and provided a lot of data. Their responses suggested that while we perform well in some areas, we need improvement in others.

We are committed to continuously improving performance, especially in the problem areas spotlighted in the survey. Many staff, including task groups, are working diligently toward that end, and better results are expected when we repeat the survey in 1997. There is a growing consensus that the customer is right and we need to perform at a higher level. Through customer satisfaction surveys, health regulators can work with provider agencies in the continuous improvement of quality care.

Many thanks are due to the Quality through Participation (QtP) Committee, under the able leadership of Ron Sharp; the work group, chaired by Ray Sergott; Andrea Kabcenell, who provided counsel during the initial planning and instrument development; and finally, to all those who trusted us enough to complete the survey.

References

1. Aguayo R. Dr. Deming: the American who taught the Japanese about quality. New York: Carol Publishing; 1990.
2. Deming WE. Quality, productivity, and competitive position. Cambridge (MA): Center for Advanced Engineering Study, Massachusetts Institute of Technology; 1982.
3. Juran JM. Juran on leadership for quality: an executive handbook. New York: Free Press; 1989.
4. Juran JM, Gryna, FM. Quality planning and analysis: from product development through use. 2nd ed. New York: McGraw-Hill; 1980.
5. Walton M. Deming management at work. New York: G.P. Putnam; 1990.
6. Berwick DM. Continuous improvement as an ideal in health care. N Engl J Med 1989;320:53–6.
7. Berwick DM, Godfrey AB, Roessner J. Curing health care: New York strategies for quality improvement. San Francisco: Jossey-Bass; 1990.
8. Kinlaw DC. Continuous improvement and measurement for total quality: a team-based approach. San Diego: Pfeiffer; 1992.
9. McLaughlin CP, Kabizny AD. Total quality management in health; making it work. Health Care Manage Rev 1990;15:7–14.
10. Melum MM, Sinioris MK. Total quality management: the health care pioneers. Chicago: American Hospital Publishing; 1992.
11. Radovilsky ZD. Quality improvement: analysis and modeling based on survey results. Qual Assur 1993;2:364–71.
12. Schroeder P. Improving quality and performance: concepts, programs and techniques. St Louis: Mosby-Year Book; 1994.
13. Wakefield DS, Cyphert ST, Murray JF, Uden-Holman T, Hendryx MS, Wakefield BJ, Helms CM. Understanding patient-centered care in the context of total quality management and continuous quality improvement. Jt Comm J Qual Improve 1994; 20:152–61.
14. Carr-Hill RA. The measurement of patient satisfaction [review]. J Public Health Med 1992;14:236–49.
15. Cleary PD, McNeil BJ. Patient satisfaction as an indicator of quality care. Inquiry 1988; 25:25–36.
16. Cohen L, Delaney P, Boston P. Listening to the customer: implementing a patient satisfaction measurement system. Gastroenterology Nurs 1994;17:110–5.
17. DiTomasso RA. The development of a patient satisfaction questionnaire in the ambulatory care setting. Fam Med 1991; 23:127–31.
18. Glass AP. Identifying issues important to patients on a hospital satisfaction questionnaire. Psychiatr Serv 1995; 46:83–5.
19. Gold M, Wooldridge J. Surveying consumer satisfaction to assess managed care quality: current practices: new initiatives and approaches in health care quality. Health Care Financing Rev 1995; 16:155–9.
20. Jones RB, Carnon AG, Wylie H, Hedley AJ. How do we measure consumer opinions of outpatient clinics? Public Health 1993; 107:235–41.
21. Kurata JH, Nogawa AN, Phillips DM, Hoffman S, Werblun MN. Patient and provider satisfaction with medical care. J Family Practice 1992; 35:176–9.
22. Laferriere R. Client satisfaction with home health care nursing. J Community Health Nurs 1993; 10:67–76.
23. Rost K. The influence of patient participation on satisfaction and compliance. Diabetes Educator 1989;15:139–43.
24. Rubin HR. Patient evaluation of hospital care: a review of the literature. Med Care 1990; 28(9 Suppl):S3–9.
25. Speedling EJ, Nizza AA, Eichhorn S, Rosenberg G, Schnepf P. The consumer survey review process. Mt Sinai J Med 1993; 60:399–404.
26. Thompson AG, Sunol R. Expectations as determinants of patient satisfaction: concepts, theory and evidence [review]. Int J Qual Health Care 1995; 7:127–41.
27. Zviran M. Evaluating user satisfaction in a hospital environment: an exploratory study. Health Care Manage Rev 1992; 17:51–62.
28. Hayes BE. Measuring customer satisfaction: development and use of questionnaires. Milwaukee: ASQC Quality Press; 1992.
29. Babbie ER. The practice of social research. 5th ed. Belmont (CA): Wadsworth Press; 1989.