

Original Research Article

Provider–patient communication and hospital ratings: perceived gaps and forward thinking about the effects of COVID-19

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Abstract

Objectives: To highlight clinical and operational issues, identify factors that shape patient responses in Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) and test the correlations between composite measures and overall hospital ratings.

Design: Responses to HCAHPS surveys were used in a partial correlation analysis to ascertain those HCAHPS composite measures that most relate to overall hospital ratings. The linear mean scores for the composite measures and individual and global items were analyzed with descriptive analysis and correlation analysis via JMP and SPSS statistical software.

Setting: HCAHPS is a patient satisfaction survey required by the Centers for Medicare and Medicaid Services for hospitals in the USA. The survey is for adult inpatients, excluding psychiatric patients.

Participants: 3382 US hospitals.

Intervention: None.

Main Outcome Measure: Pearson correlation coefficients for the six composite measures and overall hospital rating.

Results: The partial correlations for overall hospital rating and three composite measures are positive and moderately strong for care transition (0.445) and nurse communication (0.369) and weak for doctor communication (0.066).

Conclusions: From a health policy standpoint, it is imperative that hospital administrators stress open and clear communication between providers and patients to avoid problems ranging from misdiagnosis to incorrect treatment. Additional research is needed to determine how the coronavirus of 2019 pandemic influences patients' perceptions of quality and willingness to recommend hospitals at a time when nurses and physicians show symptoms of burnout due to heavy workloads and inadequate personal protective equipment.

Key words: provider-patient communication, patient satisfaction, HCAHPS composite measures, hospital ratings, COVID-19

Introduction

On any given day in the USA, 600 000 people seek medical care in hospitals. Since 2008, the Centers for Medicare and Medicaid

Services (CMS) surveys patients via the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey to assess patients' perspectives of care to enable objective and mean-

ingful comparisons of hospitals on topics that are important to consumers. However, most of the US population was unaware that on 20 January 2020, the first case of a novel coronavirus of 2019 (later named COVID-19) would significantly change the way health care would be accessed and delivered for many months to come; and as of this date, the effects are yet to be fully understood [1]. Few studies to date have used HCAHPS to explore the relationship between patients who were isolated due to an infectious disease and the effects on patient satisfaction. Those studies reported that patients who were in isolation provided lower scores for questions related to staff responsiveness, physician communication, respect, receiving assistance and cleanliness compared with patients who were not in isolation [2, 3]. Furthermore, nurse understaffing and physician burnout, so prevalent prior to COVID-19 [4], have intensified safety incidents, poor quality of care and reduced patient satisfaction [5].

The purpose of this study was to identify factors that affect patient responses in HCAHPS and the relationship these factors have in determining overall hospital ratings. While our study suggests an avenue to gauge improved patient–provider relationships on patient-reported hospital ratings prior to the COVID-19 pandemic, it also provides initial insights into how disasters and pandemics influence patient perceptions of hospital delivery of care.

Our theoretical approach is consistent with the current conceptual frameworks, useful for understanding complex human behaviors and for highlighting important factors that influence the quality of provider–patient communication [6]. One such framework encompasses four major features—patient and provider needs, with particular focus on those susceptible to change; the communication process; the goals of the communication encounter and the context for the encounter [7]. The patient's needs may include vital information about prognosis, treatment options, adverse effects and financial hardship, as well as emotional support, respect and autonomy. The provider's needs may be clinical, logistical or resource based due to shortages. Often, the needs of the patient and provider are congruent, but may also be in conflict. Moreover, needs are often complex and vary considerably among patients.

Since the exchange is iterative, it requires clinicians to elicit the patients' current beliefs as well as communicate meaningful information to successfully achieve the goals of the encounter. Likewise, patients need to understand their role in the shared decision-making process to determine the best treatment plan. The value of the conceptual framework is in keeping the different components in mind to reduce the potential for communication failures, especially since patients often leave without a full understanding of their medical situation [7]. Fittingly, developing interventions aimed at improving providers' communication skills are of utmost importance [6].

In this paper, we highlight clinical and operational issues, identify factors that shape patient responses in HCAHPS surveys and test the relationships between composite measures and overall hospital ratings. We focus on two research questions:

- (i) What is the degree of correlation associated with each HCAHPS composite measure and the overall hospital rating?
- (ii) What are the partial correlations between doctor and nurse communication and other patient communication composite measures?

The paper begins with a description of the HCAHPS surveys and 'Hospital Compare', which depicts a star quality rating system that informs patient choices. We then discuss the significance of hospital ratings and factors related to provider–patient communication

that affect the overall ratings of hospitals and patients' willingness to recommend hospitals. Next, we examine the degree of correlation associated with HCAHPS composite measures and hospital ratings, provide the results of our analysis and discuss the relevance of our study to COVID-19 which challenges hospital resources and the communication between healthcare providers and patients. Conclusions and directions for future research are also included.

The HCAHPS survey

Daily, >30 000 patients are surveyed by CMS about their recent hospital experience and >8400 patients complete it [8]. The goal of the survey is to promote consumer choice, public accountability and greater transparency in health care. The basic sampling procedure for HCAHPS is the drawing of a random sample of eligible discharges on a monthly basis. Data are collected from patients throughout each month of the 12-month reporting period and then aggregated quarterly to create a rolling four-quarter data file for each hospital. The most recent four quarters of data are used in public reporting. To ensure comparability, hospitals may not switch type of sampling, mode of survey administration or survey vendor within a calendar quarter.

The HCAHPS survey contains 29 questions with 19 core questions about critical aspects of patients' hospital experiences (communication with nurses and doctors, the responsiveness of hospital staff, the cleanliness and quietness of the hospital environment, communication about medicines, discharge information, overall rating of hospital and willingness to recommend). The survey also includes three items to direct discharged patients to relevant questions, five items to adjust for the mix of patients across hospitals and two items that support congressionally mandated reports. The 'hospital experience' questions offer the patient Likert-scale response choices. There are four different modes of survey administration: mail only, telephone only, mail with telephone follow-up and interactive voice response. To be eligible to participate in the survey, patients must be over the age of 18, have had at least one overnight inpatient hospital stay, have a non-psychiatric principle diagnosis at discharge and be alive at discharge. Patients selected to participate will receive the survey between 48 h and 6 weeks of their discharge.

The survey response rate and the number of completed surveys are publicly reported on the 'Hospital Compare' website. The site allows consumers to select multiple hospitals and directly compare performance measures spanning seven different performance areas with predetermined weights: mortality (22%), patient safety (22%), readmission rates (22%), patient experience (22%), effectiveness of care (4%), timeliness of care (4%) and efficient use of medical imaging (4%). Some hospitals submit more data points than others, although only hospitals that have at least three measures within at least three measure groups or categories, including one outcome group (mortality, safety or readmission), are eligible for an overall hospital rating. Significant associations were identified between the overall hospital rating and HCAHPS measures, all with P values <0.0001 and Spearman correlation coefficients ranging from weakly to moderately correlated [9].

'Hospital Compare' depicts a star quality rating system that aggregates the patient experience. The overall hospital rating ranges from 1 to 5 stars and shows how well each hospital performs, on average, compared with other US hospitals. In the year that coincides with the timeframes for the current study (2017–18), the most common overall hospital rating was 3 stars

Table 1 National distribution of overall hospital ratings: 2017 and 2018

| Overall rating | Hospitals (N = 4579, %) | Hospitals (N = 4573, %) |
|-------------------|----------------------------|----------------------------|
| | 31 December 2017 | 31 December 2018 |
| 5 stars | 337 (7.36) | 293 (6.41) |
| 4 stars | 1155 (25.23) | 1086 (23.75) |
| 3 stars | 1187 (25.92) | 1264 (27.64) |
| 2 stars | 753 (16.44) | 800 (17.49) |
| 1 star | 260 (5.68) | 282 (6.1) |
| Insufficient data | 887 (19.37) | 848 (18.54) |

Source: ‘Hospital Compare’ overall hospital rating, <https://www.medicare.gov/hospitalcompare/Data/Hospital-overall-ratings-calculation.html>.

(Table 1). While the number of hospitals with 4 and 5 star ratings declined slightly, it was attributed to issues with the execution of CMS methodology with hospitals reporting hard-to-explain shifts in their performance that could not be captured in underlying measure performance. However, CMS has made only very modest changes to the methodology for the first quarter of 2019.

On 29 April 2020, CMS announced that if the COVID-19 outbreak will prevent it from validating data or create systemic data integrity issues for the 2021 star ratings, it will use data from the 2020 star ratings (based on care delivered in 2018) for the 2021 star ratings. The measurement period and data for all other measures, where there was not a health and safety risk from the COVID-19 outbreak in collecting the data, will not change from what was finalized in the April 2018 Budget Act. CMS will treat newer contracts (where 2021 would be the first year that they would receive a star rating) as ‘new’ for an additional year since it would not have enough data to assign a rating [10].

Significance of hospital ratings

The star ratings drive systematic improvements in care and safety as hospitals strive to sustain high ratings to leverage competition, lower costs, and improve care quality. Consumers and patient advocates point to ‘Hospital Compare’ and the most recent star ratings as important resources they rely on to make informed choices. Many hospitals also rely on these ratings to identify areas for improvement. In fact, the percentage of hospital website usage has increased from 22% in 2012 to 32% in 2016 with 41.5% of consumers who have visited a hospital website indicating that patient ratings and reviews of doctors are the most important information they sought [11].

Cross-domain analyses have shown that hospitals in the top HCAHPS quartile with better patient experience also have better records in safety, technical quality, length of stay and readmission rates. Further, the data revealed a compounding effect of improvements in both experience and engagement on key global HCAHPS measures. Health systems with higher overall patient experience performance on the HCAHPS ‘likelihood to recommend’ and ‘overall rating’ showed higher net margins, had lower spending in the first 30 days post-discharge and received higher reimbursement per beneficiary during the episode of care than those in the bottom quartile of patient experience performance [12].

Research shows that while consumers tend to select hospitals with high clinical quality scores, satisfaction with a prior hospital

admission has a larger impact on future hospital choice and the willingness to share experience with others [13]. However, gaps between observed and best possible ‘Hospital Compare’ scores in US hospitals appear to indicate that hospitals are not performing at their best possible level given their resources or due to organizational-level factors that affect providers’ time, commitment and incentives, which in turn affect patient perceived satisfaction [14].

Provider–patient communication and perceived gap

The success of doctor–patient communication and its relationship to overall ratings of a hospital has been identified as a critical driver for patient satisfaction [15]. When patient satisfaction is high, it triggers multiple benefits. These benefits may include an increase in compliance with treatment and care directives and enhanced tendency to follow up on instructions from doctors [16]. Other benefits include a decrease in the inclination to initiate medical malpractice lawsuits against healthcare providers. However, gaps in communication may also occur because of insufficient interactions. In a study of 2756 hospitals, no patients reported that physicians ‘sometimes or never’ communicated well in the best-performing hospitals, whereas 21% of patients in the worst-performing hospitals reported that physicians ‘sometimes or never’ communicated well [17].

Often physicians tend to misjudge the success of their communication skills in interpersonal exchanges by considering the communication suitable while their patients think otherwise. Clinicians were found to elicit the patient’s agenda in just 36% encounters, and when they did, they interrupted the patient’s discourse in 67% of the encounters [18]. Researchers observed that communication skills tend to deteriorate as medical students’ transition through their education and over time doctors-in-training tend to lose their focus away from holistic patient care [19]. An earlier study of primary care physicians and surgeons, using audiotapes of informed decision-making, found that exchanges about alternatives occurred in 5.5–29.5% of the interactions, of pros and cons in 2.3–26.3% and of uncertainties associated with the decision in 1.1–16.6%. Moreover, physicians hardly explored whether patients understood the decision (0.9–6.9%). Others reported that 75% of the orthopedic surgeons surveyed in their sample believed that they communicated reasonably well with their patients; however, only 21% of the patients reported satisfactory communication [20].

By recognizing and addressing potential gaps, physicians can develop better relationships with patients including paying close attention to personal attitudes and their effects on patients’ perceived fairness of treatment. Patients reporting that their doctors listened to them carefully were also 32% less likely to be readmitted [21]. Understanding the context of patient safety and social environment through effective partnership and physician consultative style is empowering and correlates with positive hospital outcomes. Thus, a critical factor in the effectiveness of healthcare delivery is sustaining patient centeredness through meaningful provider–patient communication [6].

Methods

We set out to examine the degree of correlation associated with each HCAHPS composite measure and the overall hospital rating. Further, we examine the partial correlations between doctor and nurse communication and other HCAHPS patient communication composite measures.

Publicly available hospital-level HCAHPS data were used to assess the relationship between the composite measures, individual and global items. The data set contained HCAHPS results for 3522 hospitals for the period from 1 October 2017 to 30 September 2018. Data were excluded from analysis for 140 hospitals that reported discrepancies in the data collection process or if the results were based on a shorter period than required. The linear mean scores for the composite measures and individual and global items were analyzed with descriptive analysis and correlation analysis [22] via JMP and SPSS statistical software.

The publicly available HCAPHPS data contains hospital level information on two global items (overall hospital rating and

hospital recommendation), two individual items (cleanliness and quietness) and six composite measures (nurse communication, doctor communication, staff responsiveness, communication about medicines, care transition and discharge information). The composite measures are based on combinations of individual questions where each of the patient ratings is scored. The composite measure represents the mean score for all patients responding for the associated group of questions. Adjustments are then made for survey delivery mode and patient mix. These composite measures are treated as continuous levels of measurement. Table 2 shows the survey questions associated with each of the HCAPHPS items.

Table 2 Descriptive statistics for HCAHPS survey results at US hospitals from 1 October 2017 to 30 September 2018

| Individual items | Survey questions | Mean (Range) |
|--|---|------------------|
| Cleanliness | <ul style="list-style-type: none"> During this hospital stay, how often were your room and bathroom kept clean? | 87.9 (57–100) |
| Quietness | <ul style="list-style-type: none"> During this hospital stay, how often was the area around your room quiet at night? | 82.2 (52–98) |
| Composite measures Care transition | <ul style="list-style-type: none"> During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health. When I left the hospital, I clearly understood the purpose for taking each of my medications. | 81.9 (66–98) |
| Communication about medicines | <ul style="list-style-type: none"> Before giving you any new medicine, how often did hospital staff tell you what the medicine was for? Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand? | 79.1 (61–99) |
| Discharge information | <ul style="list-style-type: none"> During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital? During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital? | 87.1 (66–100) |
| Doctor communication | <ul style="list-style-type: none"> During this hospital stay, how often did doctors treat you with courtesy and respect? During this hospital stay, how often did doctors listen carefully to you? During this hospital stay, how often did doctors explain things in a way you could understand? | 91.5 (60–100) |
| Nurse communication | <ul style="list-style-type: none"> During this hospital stay how often did nurses treat you with courtesy and respect? During this hospital stay, how often did nurses listen carefully to you? During this hospital stay, how often did nurses explain things in a way you could understand? | 91.4 (60–100) |
| Staff responsiveness | <ul style="list-style-type: none"> During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it? How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted? | 85.7 (64–100) |
| Global items Overall hospital rating | <ul style="list-style-type: none"> Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay? | 88.4 (66–98) |
| Recommend hospital | <ul style="list-style-type: none"> Would you recommend this hospital to your friends and family? | 88.1 (58–100) |
| Survey response Number of completed surveys | - | 805 (100–12 182) |
| Survey response rate percent | - | 25.6 (6–79) |

Table 3 Pearson correlation coefficients for HCAHPS composite measures and overall hospital rating

| | Care transition | Communication about medicines | Discharge information | Doctor communication | Nurse communication | Staff responsiveness |
|------------------------------|-----------------|-------------------------------|-----------------------|----------------------|---------------------|----------------------|
| Overall hospital rating | 0.866 | 0.738 | 0.680 | 0.763 | 0.856 | 0.753 |
| Care transition | | 0.774 | 0.742 | 0.771 | 0.817 | 0.747 |
| Communication about medicine | | | 0.660 | 0.683 | 0.749 | 0.783 |
| Discharge information | | | | 0.575 | 0.678 | 0.647 |
| Doctor communication | | | | | 0.807 | 0.679 |
| Nurse communication | | | | | | 0.820 |

Results

Descriptive statistics for HCAHPS responses of the 3382 US hospitals are shown in Table 2. For all measures, the means exceed 80 with the exception of ‘Communicate about Medicines’ whose mean is 79.1. The lowest scores for individual hospitals are no lower than 52 for any of the measures; high scores from 98 to 100 are reported for all measures.

Table 3 shows the Pearson correlation coefficients for the six composite measures and overall hospital rating. All correlations are positive, relatively strong and statistically significant ($P < 0.0001$). Given the relatively high correlation between the composite measures, partial correlations can quantify the linear relationship between overall hospital rating and a single composite measure, while controlling for the other composite measures. The linearity assumption for significance tests was satisfied for all correlations based on *F*-tests. Normal Q-Q plots showed no serious departures from Normality. Residual analysis confirmed homoscedasticity and revealed one extreme outlier associated with a financially troubled, privately owned hospital that closed in 2019. Given the large sample size, the presence of this outlier had little effect on the correlations.

Table 4 shows that the partial correlations for overall hospital rating and care transition, nurse communication and doctor communications are positive and highly significant. Among these three composite measures, the partial correlations with overall hospital rating are all positive and moderately strong for care transition (0.445) and nurse communication (0.369) and weak for doctor communication (0.066).

The care transition questions (see Table 2) are related to communication with doctors, nurses and other clinicians such as physical therapists and social workers. To ascertain the relationships between the care transition measure and doctor communication and care transition and nurse communication, partial correlations were calculated by controlling for the other four composite measures. Table 4 shows that both doctor and nurse communications have highly significant correlations and have moderate, positive correlations with care transition. Similarly, the two questions related to the composite measure of communication about medicine (see Table 2) are related to communication with clinicians. Partial correlations between communication about medicine and nurse communication and communication about medicine and doctor communication were calculated controlling for the other four composite measures. Table 4 shows that both doctor and nurse communications have positive, weak correlations with communication about medicine.

Table 4 Partial correlations between composite measures and overall hospital rating and care transition composite measure with communication about medicine composite measure

| Partial correlation with care transition (<i>P</i> value) | Partial correlation with communication about medicine (<i>P</i> value) | Composite measure | Partial correlation with overall hospital rating (<i>P</i> value) |
|--|---|------------------------------|--|
| | | Care transition | 0.445 (<0.0005) |
| | | Communication about medicine | 0.036 (0.031) |
| | | Discharge information | 0.015 (0.379) |
| | | Staff responsiveness | 0.033 (0.052) |
| 0.293 (<0.0005) | 0.100 (<0.0005) | Doctor communication | 0.066 (<0.0005) |
| 0.272 (<0.0005) | 0.064 (<0.0005) | Nurse communication | 0.369 (<0.0005) |

Discussion

Effective communication practices increase patients’ willingness to disclose information along with their motivation to adhere to medical treatment plans. This leads to an approximate 50% reduction in diagnostic tests and referrals [23], shorter length of stay, and fewer complications, better recovery and improved emotional health long after discharge. Positive communication is associated with better patient outcomes, safer work environments, decreased preventable errors, decreased transfer delays, lower readmission rates and lower mortality rates [24]. Positive communication also aligns with the findings from new cross-domain analyses indicating that safety, quality and experience of care are highly interrelated with one another and with global measures including financial outcomes [12].

The macro-level analysis in this paper corroborates these research findings and highlights a strong positive correlation between the six composite HCAHPS measures and the overall hospital rating. Both doctor–patient communication and nurse–patient communication are highly correlated with overall hospital ratings, trailing only care transition as the factor with the strongest relationship. These three measures are also correlated with each other, hence the need for partial correlations to control for other composite measures. As

one may suspect, given that patients spend more time communicating with their nurses than their doctors, nurse communication has a much stronger relationship than doctor communication with respect to hospital ratings, with a partial correlation that is five times greater for nurse–patient communication than for doctor–patient communication. These correlations may also be explained by patients’ inability to recall distinctions in the communications they received while hospitalized and therefore report a more aggregated perception for each of the individual HCAHPS questions. Interestingly, when controlling for other composite measures, both nurse–patient communication and doctor–patient communication were weakly correlated with communication about medicines. A possible explanation for this is that patients rarely discuss prescriptions with their care providers, often opting to speak with their pharmacists [25]. This is particularly true at times of outbreaks such as COVID-19 where community pharmacists, healthcare professionals with a high public availability, are likely to be patients’ first option for health information [26].

The COVID-19 pandemic provides a new context from which to analyze this study. A recent report in *Medscape* found that 44% of physicians reported at least one symptom of burnout in 2020 [27], corroborating earlier studies about increased risk of patient safety incidents [28]. Others reinforced this finding and suggested that physician burnout months before the COVID-19 posed a significant threat to public health [4]. During the COVID-19 pandemic, physician and nurse burnout may have been exacerbated due to shortages in ventilators, personal protective equipment (PPE), face shields and testing kits [29].

Much of the emerging COVID-19 literature has focused on the healthcare providers’ needs and the healthcare systems’ responses to managing patient care. The rapid adoption of telehealth as an effective response to stay at home orders and self-quarantine measures has led to the transition of many patients to telemedicine solutions [30]. Patient perceptions of quality associated with what had been routine care have probably changed, which may also affect the way future HCAHPS surveys will be filled out and used. Indeed, understanding patients’ perceptions during COVID-19 and their effects on patient satisfaction requires a complete re-imagining of how the patient experience can be improved in an age of digital acceleration triggered by the COVID-19 pandemic [31].

Limitations

The HCAHPS is designed to increase patient engagement and responsibility and encourage patients to reflect on their role and contribution to the process of the medical team’s work. Public reporting also serves to enhance public accountability in health care by increasing transparency and by offering incentives for hospitals to improve patient communication and quality of care. However, the HCAHPS survey potentially increases healthcare’s workload by needing to brief patients on the process as well as ongoing guidance on performing self-evaluation. It has a risk of being perceived as a process of presenting inflated grades and being unreliable. Its assignments can take more time and education. Patients may feel ill-equipped to undertake the assessment, and their different perceptions can result in conflicts. Indeed, healthcare providers must consider not only contextual issues and the explicit exchange with patients but also the substance of the communication and intrinsic characteristics of the patients they treat [6].

Further, conclusions drawn from our analysis were based only on HCAHPS responses without considering hospital-specific

characteristics such as the hospitals’ operational structure, size, diversity and level of services provided. Additionally, patient-specific characteristics are also left out of HCAHPS such as duration of the medical condition, chronic comorbidities and patient demographics. The analysis considered only HCAHPS responses from one time period. Since patients complete the surveys voluntarily, the sample is non-random and may be subject to self-selection bias. Other findings raised concerns that HCAHPS measures may not meet the standards for reliability and validity with mixed results in terms of the impact of HCAHPS dimensions on overall hospital ratings [32]. Finally, the results of sensitivity analysis reveal that the relationship among the communication-related composite measures could load onto a latent, single-factor, interpersonal care experience that patients evaluate [33].

Conclusions and directions

This study identified several factors that help shape the patient responses in HCAHPS and the relationship these factors have in determining overall hospital quality in the pre-COVID-19 era. The study corroborates the general agreement that higher quality of provider–patient (be it doctor–patient or nurse–patient) communication coincides with higher reported hospital quality measures. Of note is the opposite effect that may be found where patients might be in isolation due to a pandemic such as COVID-19 in which provider–patient communication might be limited and results in lower quality measures [3]. Further research can add to this study by identifying whether the correlations examined in this study can be attributed more specifically to certain types of hospitals and/or patient mix or even methods of engagement, including telemedicine [34]. In addition, examining HCAHPS results over longer time intervals may provide additional insights. In particular, future research could compare the results in this study (pre-COVID-19) to HCAHPS survey results taken during the COVID-19 era and the post-COVID-19 era to discern the trend impact of the pandemic on patient experiences.

While pandemic crises overwhelm healthcare resources and existing standards of care [35], patients expect that their quality of care will continue. When staffing shortages and lack of vital medical equipment strain hospitals’ resources and bed capacity, hospitals may be blamed for service disruptions, which could skew future HCAHPS results. This might also lower the hospital ratings, decrease the willingness of patients to recommend and potentially affect hospitals’ reputation. Hospitals should seek answers to how their delivery systems performed during the COVID-19 pandemic as a means to create quality improvement processes for future disasters and crises. Fittingly, the patient feedback mechanisms need to be recalibrated to reflect potential disruptions in health care. Surveys may include not only the inpatient settings but also virtual and non-clinical settings. Importantly, multiple caregivers could also be included in future HCAHPS surveys with rapid dissemination of results in real time.

Data availability statement

The data used in this article are publicly available but can be shared upon reasonable request to the corresponding author.

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