Research Article

Developing An Analytic Approach to Understanding the Patient Care Experience

Mary Kate Springman, MHA[1,2], Yalissa Bermeo, MBA[1,2],
Heather M Limper, MPH[3], and Alison S Tothy, MD[2]

Abstract

The amount of data available to health-care institutions regarding the patient care experience has grown tremendously. Purposeful approaches to condensing, interpreting, and disseminating these data are becoming necessary to further understand how clinical and operational constructs relate to patient satisfaction with their care, identify areas for improvement, and accurately measure the impact of initiatives designed to improve the patient experience. We set out to develop an analytic reporting tool deeply rooted in the patient voice that would compile patient experience data obtained throughout the medical center.

Keywords

analytics, scorecard, metrics, patient experience, patient engagement

Background

The patient experience, including satisfaction with care, is recognized as a pillar of health-care quality along with clinical effectiveness and patient safety (1). Patient experience has been positively associated with health outcomes such as adherence to medical treatment, better use of preventative services, and positive outcomes on mandatory-reported safety indicators (2). Utilizing a third-party vendor to survey patients, via a mandated nationally, publicly reported survey of patients' perspectives of their hospital experience—the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)—as well as additional questions outside of the standard HCAHPS questions allow for robust measurement of the patient experience (3). Answers to the compilation of questions administered allow for modification and tailoring of services to better care for patients and their families. Other real-time surveying tools are often deployed in conjunction with post-discharge surveys, leading to multiple avenues for patient and family feedback.

As such tools continue to be deployed across the health-care setting, the amount of data available to health-care institutions regarding the patient care experience has grown tremendously. Purposeful approaches to condensing, interpreting, and disseminating these data are becoming necessary to further understand how clinical and operational constructs relate to patient satisfaction with their care,

identify areas for improvement, and accurately measure the impact of initiatives designed to improve the patient experience. We set out to develop an analytic reporting tool deeply rooted in the patient voice that would compile patient experience data obtained throughout the medical center.

Methods

Setting

The University of Chicago Medicine is a major teaching hospital located in Chicago, Illinois. It serves as the primary nexus of clinical care for the south side of Chicago and as the principal teaching hospital for the University of Chicago's Pritzker School of Medicine. With an inpatient capacity of 600 beds, the health system sees more than 20 000

[1] Clinical Effectiveness Analytics, University of Chicago Medicine, Chicago, IL, USA
[2] Office of Patient Experience and Engagement, University of Chicago Medicine, Chicago, IL, USA
[3] Center for Healthcare Delivery Science and Innovation, University of Chicago Medicine, Chicago, IL, USA

Corresponding Author:
Alison S Tothy, Office of Patient Experience and Engagement, University of Chicago Medicine and Biological Sciences Division, 850 E. 58th Street, MC 1135 Chicago, IL 60637, USA.
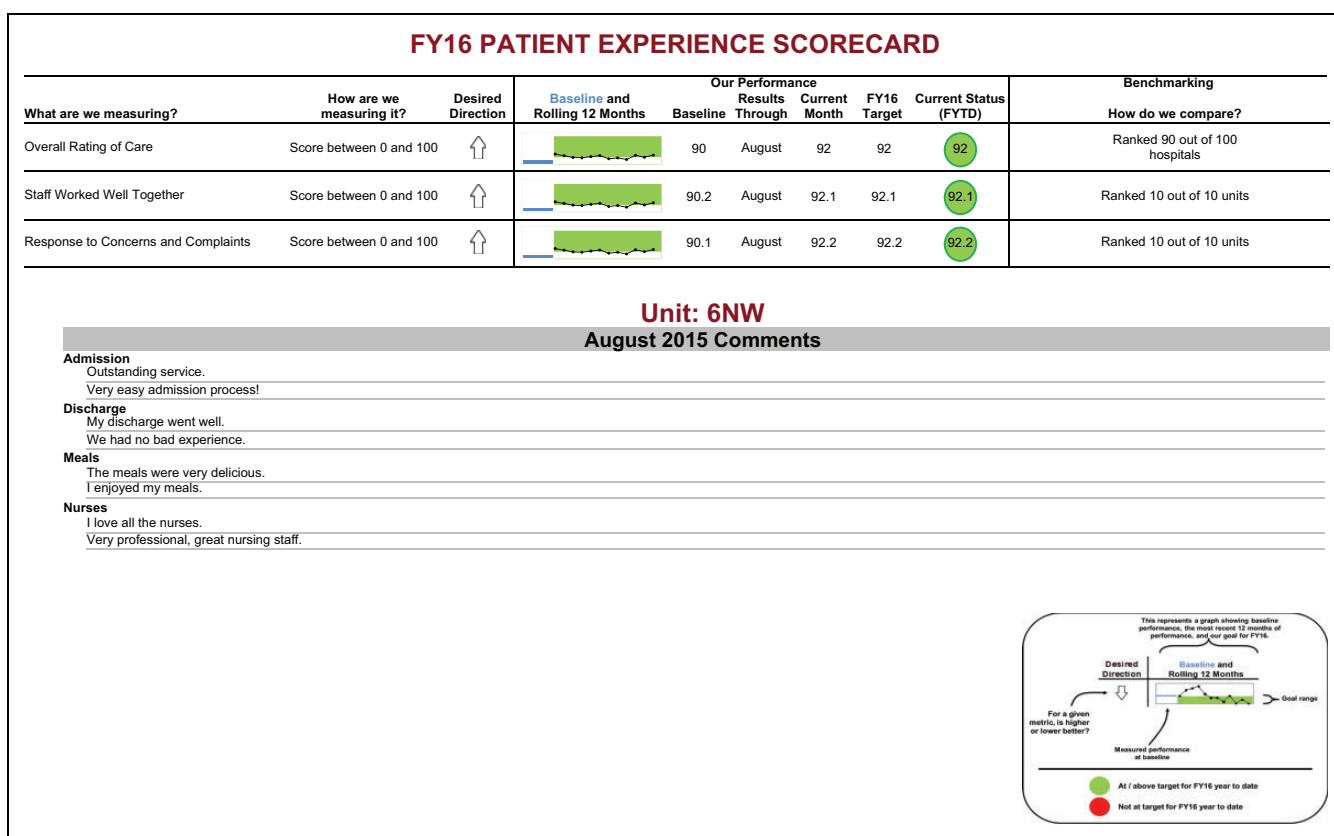Email: atothy@peds.bsd.uchicago.edu

Figure 1. Unit-level patient experience scorecard.

hospitalizations per year and almost 500 000 outpatient visits annually. The medical center provides a full spectrum of care from primary care through tertiary and quaternary care. A team with expertise in patient satisfaction, clinical quality evaluation and improvement, and advanced analytics was convened to create, implement, and manage a patient experience analytics program headed by the chief experience and engagement officer. This initiative was deemed quality improvement and not human participants research and was therefore not reviewed by the institutional review board.

Data Sources

In addition to Press Ganey (South Bend, Indiana) survey tools, which incorporate HCAHPS questions, data are routinely captured through patient care rounding. At our institution, the Vocera Care Rounds application is deployed on handheld computer tablets, allowing for real-time data collection during inpatient care rounds often conducted by nurse leadership (Vocera, San Jose, California). Additionally, patient or family compliments and complaints voiced to staff throughout a patient encounter are captured using RL Solutions (Cambridge, Massachusetts), which allows for real-time service recovery. Finally, kiosks are readily available throughout the medical center for patients and families to provide feedback about their hospital experience. In total, approximately 1 295 discrete data fields and an unlimited

potential for unstructured text are routinely collected as metrics of the patient experience.

Approach

As in many fields, although an abundance of data ushers in opportunity, it also brings potential for loss of useful information in an overwhelming influx of metrics competing for attention. Key experience metrics were chosen for dissemination to frontline staff including overall rating of care, information on how well staff worked together, and the perspective of the patient on how well staff respond to complaints and concerns. The latter 2 highly correlate to both likelihood to recommend the hospital as well as the overall rating of care, both of which are standardized approaches to measuring the overall care experience. These key metrics were identified through statistical correlation to satisfaction with the overall care experience and staff requests. The overarching goal was to create 1 dashboard that showcased all pertinent experience information that was gathered from multiple sources while focusing attention on key metrics intended to truly impact the patient and family experience.

Once key metrics were identified, focus groups, including frontline staff and middle management, were held to design dashboards to be used for dissemination of these data. The voice of the patient was determined to be best measured at both the individual unit level as well as across inpatient care

services as a whole. The dashboard end users, frontline staff, and management expressed desire to receive unit-level data including patient comments in order to tailor the patient care experience to the patients being cared for in each area. The decision was made to include patient comments, in raw form, directly to frontline staff.

Results

Visualization of the patient experience dashboard was mirrored after a well-established institutional "quality scorecard" used to communicate current performance, trends over time, benchmarks, and goals for patient quality and safety metrics. This format presents a description of each metric, how the metric is measured, the desired direction for improvement, baseline and rolling 12-month performance, yearly targets, external benchmarking, and color-coded visualization of whether current status is meeting targeted goals (Figure 1).

The patient experience dashboard took this 1 step further, communicating not only hospital performance compared to national rankings but also unit-level performance compared to overall inpatient hospital performance through a dedicated "benchmarking" column. This important addition allowed for internal benchmarking and promoted healthy competition among staff using data captured through patient surveys. Next, unedited patient comments were categorized into the following themes—admission, discharge, meals, nursing care, physician care, personal issues, and overall assessment—and integrated into the tool. This section, derived from both patient survey data as well as that captured during nurse rounding, was a step toward further transparency and accountability for the patient experience. Creation of this tool is entirely automated. Data are pulled from repositories housing each data source into a central table staged for the creation of the dashboard. A Structured Query Language script is then refreshed, using the click of a button, in order to autopopulate the dashboard with current data, streamlining this reporting mechanism. The dashboard is distributed monthly to every inpatient unit as well as management and senior leadership, integrating this dashboard into ongoing reporting and oversight processes.

Discussion

The development of a patient experience dashboard allowed for an analytic approach that balances discrete, nationally comparable data, with the unedited individual patient voice, visualized in a format familiar to staff. The mirroring of the institution's quality scorecard format reiterates the importance of measuring and assessing the patient experience as part of ongoing clinical quality programs. Also, this provides a standard for displaying information that is consistent throughout the institution and across multiple operational objectives, thereby linking quality, risk, safety, and experience work. Bringing multiple routes for capturing data onto a 1-page dashboard allows for monthly dissemination of

unit-level feedback that has automated the analytic approach to communicating performance around the patient experience while standardizing the way the patient experience is discussed across units.

Perhaps most novel about this approach was the incorporation of patient compliments and complaints, which often name individual faculty and staff, into a traditional dashboard approach. Although helping to further strengthen the story of the "voice of the customer," this has promoted a culture of accountability and transparency, often at an individual level, for the patient care experience. Similarly, this has created a mechanism for staff recognition and acknowledgement among peers.

Simplifying data succinctly allows for prioritization, unifies units, demonstrates gains where appropriate, creates accountability, and allows for thematic approaches to best practice implementation. Next steps include rollout of the dashboard to outpatient clinics as well as ongoing assessment of metrics including those related to service recovery data in order to promote continuous improvement based on the patient voice.

References

1. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press; 2001.
2. Doyle C, Lennox L, Bell D. A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. BMJ Open. 2013;3:e001570.
3. HCAHPS: Patients Perspectives of Care Survey. http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html. Accessed September 25, 2014.

Author Biographies

Mary Kate Springman began her work with readmissions at the University of Chicago Medicine, where she quickly grew into her first leadership role overseeing patient experience analytics. She is now the director of Clinical Effectiveness Analytics, where she drives the reporting agenda for quality, safety, and patient experience analytics.

Yalissa Bermeo is a senior quality analyst at the University of Chicago Medicine where she identifies areas of opportunity, assesses the progress of interventions, and assists the organization with federal and credentialing requirements as it relates to patient experience data. She partners with the Patient Experience and Engagement department to promote data awareness and improve patient experience outcomes.

Heather M. Limper, PhD is a research assistant professor at the Center for Clinical Quality and Implementation Research and the associate director of the Implementation Science Core at Vanderbilt University Medical Center.

Alison S. Tothy, MD is the former chief experience officer at the University of Chicago and is a certified patient experience professional. She is dedicated to driving transformational change to align patient experience and engagement with organizational missions, visions, and strategies. With a focus on reconnecting people to what matters most to them. she is a forward thinking innovator dedicated to constructing an engaging and collaborative culture that builds organizational growth, employee and physician engagement, and customer loyalty.