

Use of Daily Web-Based, Real-Time Feedback to Improve Patient and Family Experience

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Abstract

Real-time feedback is a growing trend in patient- and family experience (PFE) work as it allows for immediate service recovery, though it typically requires a significant investment of time and financial resources. We describe a partnership with our “edutainment” system to administer an automated daily experience question (the “Daily Pulse Measure [DPM]”) that allowed targeted just-in-time responses to low scores with minimal administrative cost. Through a series of Plan-Do-Study-Act cycles guided by family feedback, the question was created and modified, and the use of the question spread to all hospital units. The response rate was 23%, similar to our Hospital Consumer Assessment of Healthcare Providers and Systems survey response rate of 24% during the study period. Though the DPM did not have a consistent impact on the results of the 2 PFE survey questions we evaluated, units with improved PFE scores after the DPM roll-out tended to have more robust service recovery than those with low scores.

Keywords

patient feedback, technology, leadership rounding, pediatrics, survey data

Key Points

1. Real-time feedback is a useful tool in patient- and family experience reporting as it provides an opportunity for in-the-moment service recovery.
2. Partnering with current inpatient information technology is a cost-effective way to solicit real-time feedback.
3. Existing technology can be leveraged to administer survey questions and then provide immediate, automated notification of a report of poor experience to key stakeholders.

Introduction

The Hospital Consumer Assessment of Healthcare Providers and Systems survey tool (HCAHPS) is the most commonly used survey tool for reporting patient experience, though is significantly limited in the actionability of data collected.¹⁻⁵ Depending on the mode of administration, survey responses can be received 48 hours—3 months after hospital discharge.

This inconsistency and delay make service recovery at the level of the patient impossible. To overcome this, many institutions use alternate technology to obtain real-time feedback, mostly in the form of surveys on kiosks placed in waiting rooms or on hand-held tablets.^{3,6,7} Response rates to these surveys are higher when staff remind patients to complete surveys or when surveys are verbally facilitated,⁶⁻⁸ but this requires time investment for staff to administer surveys.

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Technological limitations (internet connectivity, equipment function, and kiosk physical placement) also affect survey completion.⁶ Finally, cost is a barrier to implementation, especially tablet or kiosk purchase.⁷ Benefits of real-time feedback include obtaining complaint data with more detail, the ability to act on service problems early, decreasing recall and nonresponse biases, and showing patients their views matter.^{2-4,9,10}

Description of the Intervention

In 2015, our children's hospital identified patient- and family experience (PFE) as a 5-year strategic plan priority while also targeting cost-effectiveness. We aimed to use our already-established "edutainment" system, the GetWellNetwork™ (GWN) to obtain real-time feedback in the form of a "Daily Pulse Measure" (DPM) question. The GWN was available for use with interactive remote controls on televisions in every patient room. Because the GWN was the primary hub for inpatient technology-based entertainment, we capitalized on patient and family engagement in it, creating a pop-up box displaying the DPM question on the screen with a prompt to answer before normal programming resumed. We used Plan-Do-Study-Act (PDSA) cycles¹¹ to optimize the process on pilot units before implementing it hospital-wide in July 2016. In 2017, we retrospectively analyzed the data we obtained to better understand the impact the DPM had on select PFE scores for hospital acute care units.

The DPM was based on The Idealized Design of Clinical Office Practices model,¹² an Institute for Healthcare Improvement initiative to redesign clinical practice in themes of access, interaction, reliability, and vitality such that families would say, "They give me exactly the help I want (and need) exactly when I want (and need) it." We altered the statement to be more specific: "Today, this hospital gave us exactly the care we wanted and needed." Integration of the DPM question pop-up box and data collection capability into GWN occurred in collaboration between the GWN vendor and an internal hospital GWN Steering Committee. The plan for the DPM was presented by hospital PFE leadership to our Family Advisory Council in June 2015 with feedback incorporated into the first pilot. PDSAs were completed throughout project development and refinement and are detailed in Figure 1.

The first iteration of the DPM question was piloted on 3 medical units in December 2015. We used star ratings to leverage societal norms. For the DPM pop-up box to show on the screen (a "launch"), the television in the room needed to be on, and a patient assigned to the room. The box either remained on the television screen until a response was selected or for 20 min in the case of no response. When a family gave a negative response (a response of "never" or "2" stars), they were prompted with 5 additional questions to clarify how their needs were not being met.

Negative responses were summarized and sent in real-time via email to unit leaders. Unit leaders were encouraged

to use the alerts for real-time service recovery but were not required to do so; there was no mandated or standardized recommendation for response to negative feedback. Both positive and negative responses were captured by the GWN system and were available immediately for review if desired and in a monthly summary to unit leaders.

Early structured interviews with staff and families identified that the design of the pop-up box prompted false negative responses since the cursor defaulted to "never" when the statement was displayed. A patient or family member quickly clicking to remove the box or accidentally clicking while using other GWN features would thus inadvertently select "never." In January 2016, the option "Remind Me Later" was moved to this default position. Interviews also revealed that families who had been admitted only a few hours before the DPM launch preferred the option of answering the question later in the day, so a third launch was added. If "Remind Me Later" was selected, GWN would send the question again later, up to 3 times daily.

Findings from the 5-unit pilot phase were shared with the Family Advisory Council in April 2016. Recommendations for improvement included: (1) removal of the third launch to avoid too many interruptions to entertainment, (2) having the second launch later in the evening (8:00 pm) to catch more parents and families in their rooms, (3) switch from the stars scale to a "smiley face" scale to align with hospital pain rating scales, (4) decrease the DPM question frequency to every other day on units with longer hospital stays, and (5) provide a place for comments.

In May 2016, all units involved in pilot testing employed the first 4 recommendations. House-wide testing of the improved DPM occurred in June 2016 with subsequent formal data collection. Units with an average length of stay <7 days launched twice daily while those with average stays ≥ 7 days launched 3 times weekly. We also made changes to the custom data collection algorithms in GWN as issues were identified. For example, GWN initially used the number of launches per day as the denominator to calculate the response rate. Over our test period, the team recognized this and created new rules such that GWN more appropriately used the denominator of "patients in a bed at 2:00 pm" for automated response rate calculations.

Evidence of Impact

Between our study period of July 1, 2016–December 31, 2017, the average response rate to our HCAHPS survey was 24.2%. Across all units over the study period, a total of 25,856 patients received DPM launches. The total response rate for all units was 43.1% (41,026 responses, 25,856 patients). Of the total responses, 23.0% (21,856 responses, 11,781 patients) were scaled numerical responses (strongly disagree–strongly agree, or 1–5) with the remainder of responses being "Ask Me Later."

Finally, we attempted to link the use of the DPM to changes in patient experience as measured by our hospital

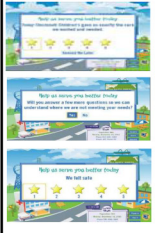


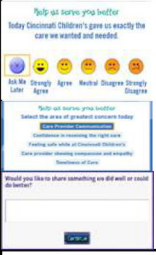
Timeline:	Dec 2015	Jan 2016	Feb 2016	May 2016	Jun 2016	Jul 2016	July 2017→
Inpatient Unit Rollout	A6N (11/30/2015) A6S (12/14/2015) A4S (12/21/2015)		A4N (2/1/2016) A7N (2/15/2016) A7S (2/15/2016)	Remaining 15 units go live: Short-term daily (5/23/2016) Long-term 3x/week (5/24/2016)	All acute care inpatient units begin testing	All acute care inpatient units begin data collection	
Question Content PDSA	Began testing with the Star template and 5 follow up questions: -Safety -Communication -Compassion -Timeliness -Competency 	"Remind Me Later" changed to "Ask Me Later" and moved from below response scale to the left of the scale Added scale labels. 	Introduced new Smiley Face responses template on A7N and A7S. 	Star template discontinued; all inpatient units either switched to started DPM using Smiley Face template.			Based on ED feedback from May-June 2017: -flipped scale -language level edits 8th→5th grade -changed to 1 f/u question to decrease response time -added comment box for feedback 
Question Launch PDSA	1 launch a day per room. Unit picked launch time: 2:00pm (A6S/A4S) 4:00pm (A6N) -potential missed opportunities for data collection with just one launch	1/19/2016 started launching the question 3 times a day per room to increase response rate (2,4 & 6pm). -"Ask Me Later" allowed opportunity for multiple launches	2/11/2016 reduced launch to 2 times a day per room (launch times differ on units)	Based on Family Advisory Council (FAC) feedback, launches kept at 2 times a day, but changed to 2:00 & 8:00pm. Units and FAC agreed on less frequent launches on long-term units.			
Reporting PDSAs	FALSE NEGATIVES: -negative responses (1 or 2 stars) trigger alert email to unit leadership for service recovery- Pilot unit A6N notes numerous false negatives	-"Ask Me Later" button placed to the left of the stars and functioned as default cursor position					-scale flipped from 1→5 to 5→1 left to right to reduce false negatives
	DENOMINATOR: -GWN denominator is number of launches/day. Cannot differentiate between multiple launches to a single room.	-team researched existing report options	-manual reporting of patients in bed at 2pm as a denominator combined with automated GWN data	-staff troubleshooting data management options	-GWN introduced custom report detailing responses by patient room	-this data used by project staff to automate monthly reports with trending and unit comparison	

Figure 1. PDSA cycles in the creation of the DPM. Abbreviations: PDSA, Plan-Do-Study-Act; DPM, Daily Pulse Measure.

PFE survey. Examining the relationship between DPM initiation and all survey questions was deemed too onerous, so we chose 2 questions to analyze. The first was the question we felt was most likely to show improvement, a custom hospital survey question, “During this hospital stay, do you think your child got all the care he/she needed?” The second was the HCAHPS global care question “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 child’s stay?” We used segmented regression¹³ to compare data from 2 years prior (August 2014–July 2016) to the 2 years in our study period.

The majority of our inpatient acute care units showed no change in scores for these 2 questions after DPM initiation. One unit showed improvement in score on our custom survey question and 1 unit showed worse score. Scores for the HCAHPS global care question improved on 1 unit and worsened on 2 units.

Post-hoc interviews with nursing leadership on the 2 units showing improved scores after DPM initiation revealed that

these units had invested significant time into responding to negative responses, rounding on families who provided negative feedback within a few hours of receiving the feedback, and following up until the issue could be entirely resolved. On the 3 units that showed decreased scores, unit leadership either did not receive negative responses or did not have a process in place to respond when notified of one.

Discussion

We were able to successfully partner with GWN to create and integrate a mechanism for real-time feedback into our pre-existing patient room media service. While the process was initially time-intensive, it required little maintenance by the end of the study period. While similar to our HCAHPS response rate at the same time, our 23% rate of graded responses was potentially more valuable since real-time feedback allowed the opportunity for immediate service recovery. Though there was no impact of the DPM on experience survey

results for the 2 questions we evaluated, we noted that the few units with improved PFE scores after the DPM roll-out actively addressed concerns raised, whereas units with decreases in scores had no such plan. We lacked a standardized approach to negative DPM feedback, thereby making it difficult to interpret which parts of the intervention were the most helpful. This study supports the growing body of evidence that PFE data needs to be acted upon to be impactful.^{2,9,14}

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Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article

Ethical Approval

Our institution does not require ethical approval for reporting individual cases or case series.


Statement of Informed Consent

Informed consent for patient information to be published in this article was not obtained because consent to use the reported data was implied by family completion of the survey.

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