



# The Challenges of Multisource Feedback: Feasibility and Acceptability of Gathering Patient Feedback for Pediatric Residents

David Mahoney, BS; Alyssa Bogetz, MSW; Amanda Hirsch, BA; Katherine Killmond, BS; Elisa Phillips, MD; Vasudha Bhavaraju, MD, FAAP; Alisa McQueen, MD; Nicola Orlov, MD, MPH; Rebecca Blankenburg, MD, MPH; Caroline E. Rassbach, MD

From the Department of Pediatrics (D Mahoney, A Bogetz, E Phillips, R Blankenburg, and CE Rassbach), Lucile Packard Children's Hospital Stanford, Stanford University School of Medicine (D Mahoney), Palo Alto, Calif; Department of Pediatrics, Pritzker School of Medicine (A Hirsch); Department of Pediatrics, Comer Children's Hospital (A McQueen and N Orlov), The University of Chicago, Chicago, Ill; University of California, Irvine, School of Medicine (K Killmond), Irvine; and Department of Pediatrics (V Bhavaraju), Phoenix Children's Hospital/Maricopa Medical Center, University of Arizona College of Medicine, Phoenix

The authors have no conflicts of interest to disclose. Address correspondence to David Mahoney, Stanford University School of Medicine, 725 Welch Road, Suite 5906, Palo Alto, CA 94304 (e-mail: [mahoneyd@stanford.edu](mailto:mahoneyd@stanford.edu)).

Received for publication July 22, 2018; accepted December 14, 2018.

## ABSTRACT

**OBJECTIVE:** The Accreditation Council for Graduate Medical Education calls for residency programs to incorporate multisource feedback, which may include patient feedback, into resident competency assessments. Program directors face numerous challenges in gathering this feedback. This study assesses the feasibility and acceptability of patient feedback collection in the inpatient and outpatient setting at 3 institutions.

**METHODS:** Patient feedback was collected using a modified version of the Communication Assessment Tool (CAT). Trained research assistants administered the CAT to eligible patients and families in pediatric ward, intensive care, and outpatient settings from July to October 2015. Completion rates and reasons for non-completion were recorded. Patient satisfaction with the CAT was assessed on a 5-point Likert scale.

**RESULTS:** The CAT was completed by 860/1413 (61%) patients. Completion rates in the pediatric ward and intensive care settings were 45% and 38%, respectively, compared to 91% in the outpatient setting. In inpatient settings, survey non-completion was typically due to participant unavailability; this

was rarely a reason in the outpatient setting. A total of 93.4% of patients were satisfied or very satisfied with using the CAT. It was found that 6.36 hours of research assistant time would be required to gather a valid quantity of patient feedback for a single resident in the outpatient setting, compared to 10.14 hours in the inpatient setting.

**CONCLUSIONS:** Although collecting feedback using our standardized protocol is acceptable to patients, obtaining sufficient feedback requires overcoming several barriers and a sizable time commitment. Feedback collection in the outpatient setting may be higher yield than in the inpatient setting due to greater patient/family availability. Future work should focus on innovative methods to gather patient feedback in the inpatient setting to provide program directors with a holistic view of their residents' communication skills.

**KEYWORDS:** graduate medical education; patient feedback; resident communication skills

**ACADEMIC PEDIATRICS** 2019;19:555–560

## WHAT'S NEW?

This multisite study compares real-time patient/family feedback collection rates in the inpatient and outpatient settings at 3 academic institutions and demonstrates that the outpatient setting may yield a higher quantity of feedback due to increased respondent availability.

THE INSTITUTE OF Medicine identifies effective patient-physician communication as a key component of quality patient care.<sup>1</sup> Effective patient-centered communication that incorporates patient preferences has been shown to

improve patient satisfaction and health outcomes.<sup>2–6</sup> Additionally, communication and interpersonal skills were identified by the Accreditation Council for Graduate Medical Education (ACGME) as 1 of 6 core competencies expected of resident physicians.<sup>7</sup> As such, the ACGME calls for residency programs to incorporate multisource feedback, which may include patient feedback, into assessments of residents' communication and interpersonal skills.<sup>8</sup>

Studies have shown, however, that it is difficult to obtain a sufficient number of patient feedback evaluations to produce reliable assessments of residents.<sup>9–13</sup> Barriers

include the failure of respondents to identify residents on the team, uniformly high patient ratings that make comparative assessments challenging, and patient discomfort with providing constructive feedback about residents to other hospital representatives.<sup>9–11,14</sup>

Residents often complete the majority of their residency in the inpatient setting; yet, only 2 studies have evaluated the feasibility of inpatient patient feedback collection.<sup>9,11</sup> Few studies have evaluated the feasibility of patient feedback collection for pediatric residents or compared feedback yield in the inpatient and outpatient settings. This information could help program directors identify effective means to gather patient feedback in different settings.

The purpose of this study was to describe the feasibility and acceptability of patient/family feedback collection for pediatric residents. We examined feasibility data collected during a multi-institutional randomized controlled trial that sought to assess the impact of coaches reviewing patient feedback with residents on residents' communication and interpersonal skills.<sup>15,16</sup> By using a standardized protocol during the randomized controlled trial and recording research assistant hours, feedback response rates, and reasons for non-completion, we hoped to accurately characterize existing barriers to collecting patient feedback as well as factors that facilitate successful feedback collection.

## METHODS

Data collection took place between July and October 2015 at Stanford University, The University of Chicago, and Phoenix Children's Hospital, all of which received institutional review board approval. At the time of the study, the Stanford Pediatrics Residency Program was an 86-resident program in Palo Alto, Calif. Data collection occurred on the pediatric wards and intensive care units at Lucile Packard Children's Hospital, a quaternary care center, and at Gardner Packard Children's Health Center, a federally qualified healthcare center. The University of Chicago Pediatric Residency Training Program was a 72-resident program in Chicago, Ill. Data collection occurred on the inpatient and intensive care units at Comer Children's Hospital, a tertiary care center, and at the Friend Family Health Center, a federally qualified healthcare center. The Phoenix Children's Hospital Pediatric Residency Program was a 121-resident program in Phoenix, Ariz. Data collection occurred on the inpatient units, intensive care units, and ambulatory clinic at Phoenix Children's Hospital, a tertiary care center, and on the inpatient unit and outpatient clinic at Maricopa Medical Center, a public safety-net hospital.

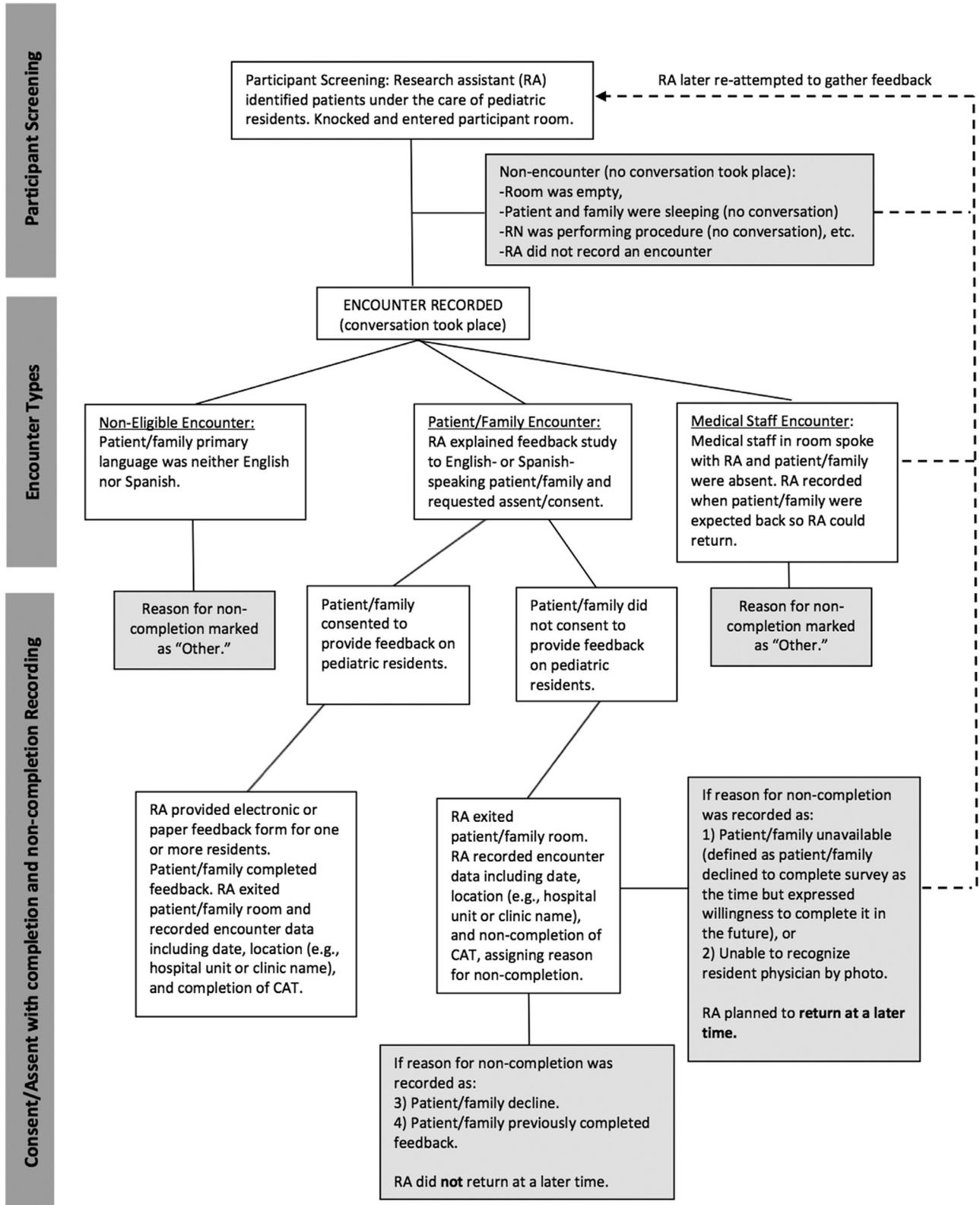
We used a modified version of the Communication Assessment Tool (CAT) to collect feedback from patients and families at all 3 institutions ([Supplementary Fig. 1](#)).<sup>13</sup> The CAT is a tool with evidence of validity from other medical disciplines (including dermatology, general surgery, obstetrics and gynecology, and ophthalmology,

among others) used to rate physicians on 14 items related to communication using a 5-point Likert scale. As described in our prior paper,<sup>16</sup> we adapted the language of the CAT for use with pediatric patients and added 2 open-ended questions for respondents to comment on residents' communication strengths and opportunities for improvement. Two additional questions were included to assess respondents' satisfaction with the CAT and their perception of the extent to which the institution valued communication. The CAT was provided in both English and Spanish. We successfully piloted the modified CAT at Lucile Packard Children's Hospital prior to study initiation.<sup>17</sup>

In July 2015, 8 research assistants (RAs) participated in a 60-minute in-person or web-based training orientation on study procedures. The orientation reviewed patient privacy, eligibility, consent and assent (for children over the age of 7 years), collecting feedback directly from patients over the age of 12, using interpreters, literacy screening, and isolation procedures. RAs were given scripts for describing the purpose and procedures of the study ([Supplementary Fig. 2](#)).

Patients and families were eligible for inclusion in the randomized controlled trial if their primary language was either English or Spanish and if they were under the care of a pediatric resident. Patients and families that had a primary language other than English or Spanish were excluded. Patients and families were approached based on RA availability; thus, a convenience sample of patients was recruited. Interpreters were used as needed to enroll Spanish-speaking patients.

To collect feasibility data, RAs were trained to document each encounter using a written encounter log. An encounter was defined as any conversation that took place between a RA and an individual in the patient room, including the patient or family or medical staff ([Fig. 1](#)). If no conversation took place because, for example, the room was empty or the patient or family was sleeping, then the RA did not document an encounter. Conversations in the same room separated by time (eg, RA entered room at 8 AM while nurse was taking vitals, she requested RA return later—RA returned to room at 11 AM to explain study to family) were documented as different encounters. We used this definition at all 3 institutions to determine a total sample size and response rate. The encounter log included the date, amount of time per encounter, location (hospital unit or clinic), whether the respondent completed the CAT, and the reason for non-completion, if necessary. Predetermined categories of non-completion included 1) patient/family unavailability, defined as the patient or family declining to complete the survey at the time but expressing a willingness to complete it in the future; 2) inability to recognize a resident physician in a photograph; 3) patient or family declining, defined as the patient or family preferring not to participate in the study; 4) prior completion of patient feedback by the patient or family; and 5) other, including primary language other than Spanish or English or refusal by physician or registered nurse.



**Figure 1.** Flowchart detailing research assistants approaching patients, the assessment of eligibility and availability of potential participants with request for consent, and the collection of data, either feedback data followed by encounter data or encounter data only in the case of a non-completion.

In inpatient settings, RAs typically entered patient rooms after morning rounds. In outpatient settings, RAs entered rooms after residents left to present to the attending. RAs recruited patients and families using a script. Patients and families in the inpatient setting who

consented and were on a medical team with multiple residents were shown photographs of the care team and asked to identify residents on whom they could provide feedback. For patients in clinics who were cared for by a single resident, resident photographs were not shown. The

RA recorded the resident's name, explained the Likert scale and free response items to the participant, and then stepped away to allow for privacy during completion. The majority of participants completed the survey on an electronic tablet; however, paper forms were used at some sites and for patients in isolation rooms.

All data from patient encounter logs were transferred to a secure, electronic database (Qualtrics; Provo, Utah) prior to analysis. An overall survey completion rate was calculated. Completion rates and reasons for decline were calculated by clinical setting across all 3 sites. Descriptive statistics were calculated to obtain mean patient satisfaction scores, percentage of respondents that were satisfied or very satisfied, and mean RA time required per encounter. Patient satisfaction scores were compared between settings and institutions using 1-way analysis of variance on means.

## RESULTS

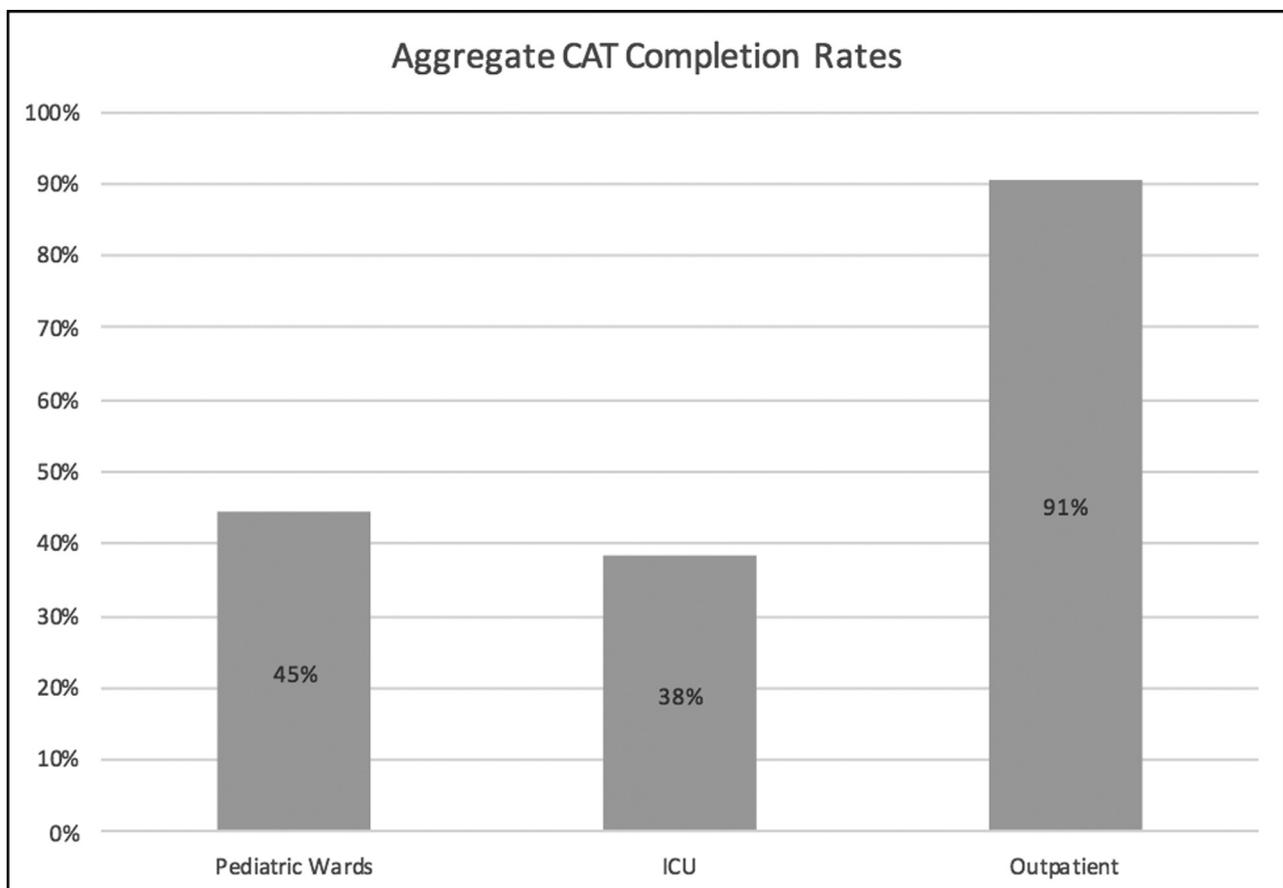
Out of the 1413 patients or families approached, 860 participated, yielding a 61% completion rate. Demographic data were provided by 851 of these participants (Supplementary Table 1). On the pediatric wards, 45% of patients or families participated (355/797); in the

intensive care setting, 38% participated (39/102); and in the outpatient setting, 91% participated (466/514) (Fig. 2).

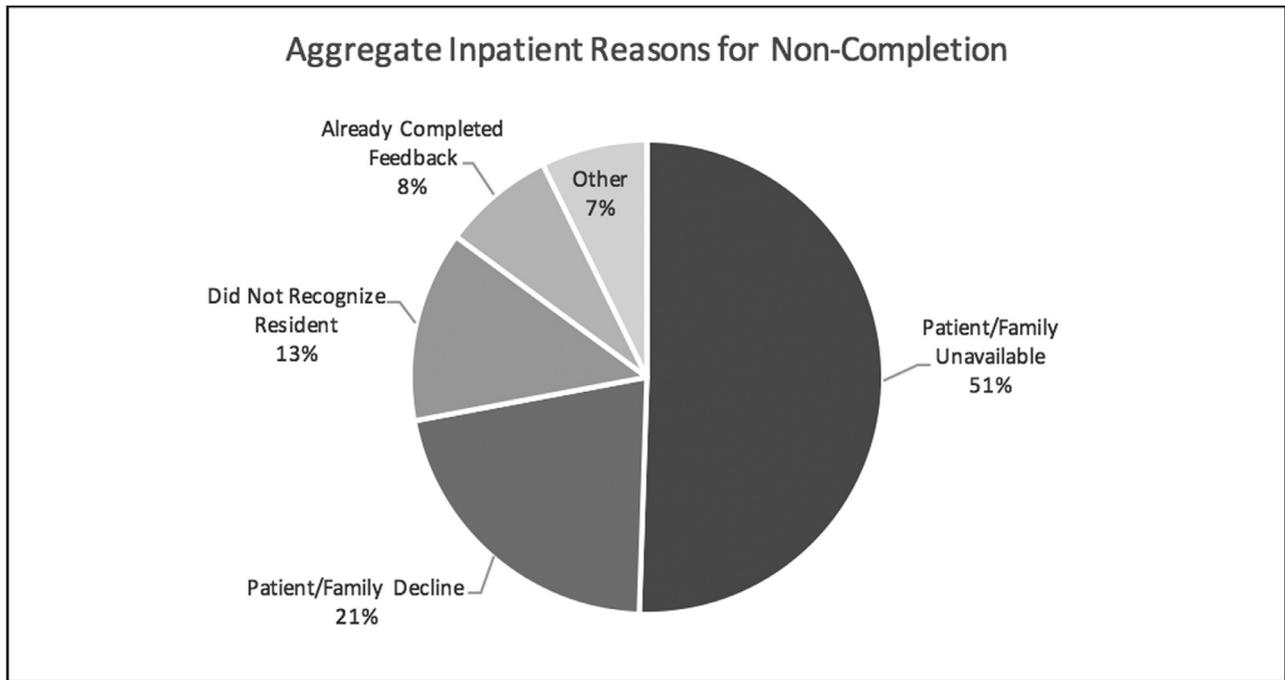
Of the 56% of patients in the inpatient setting (including wards and intensive care units) who did not participate, the most common reasons were patient/family unavailability (51%), patient/family decline (21%), and inability to recognize resident physicians by name and photograph (13%) (Fig. 3). Of the 9% of patients in the outpatient setting who did not participate, the most common reasons were patient/family decline (60%); patient/family unavailability, most often due to the parent being on the phone or occupied by children (17%); and language barriers, including unavailability of interpreters (6%).

A total of 93.4% patients were satisfied/very satisfied with the CAT as a tool to provide feedback on resident communication skills, and 94.3% were satisfied/very satisfied with how much the institution values communication. There were no significant differences among settings or institutions.

Using aggregate data from all 3 sites and in all settings, collecting patient feedback took 25 to 26 minutes of RA time per encounter, including interfacing with participants, transportation between inpatient and outpatient settings, administrative work, and short breaks. At one institution, where time per encounter was stratified by



**Figure 2.** Aggregate Communication Assessment Tool completion rates, stratified by setting. Pediatric ward setting was defined as patients hospitalized with non-intensive care unit level care. Rates were calculated by dividing the total number of completed Communication Assessment Tools in a given setting by the total number of encounters in that setting.



**Figure 3.** Aggregate inpatient (ward and intensive care unit) reasons for non-completion of the Communication Assessment Tool. We defined patient/family unavailability as a patient or family declining to complete a survey at present but willing to complete one in the future.

setting (inpatient vs outpatient), each inpatient encounter took approximately 18 minutes of RA time, whereas each outpatient encounter took 27 minutes. Assuming a goal of 12 patient feedback forms per resident based on the minimum recommended number of CATs in its validation study, and considering an 89% outpatient response rate, 6.36 hours of RA time would be required to reach goal feedback in the outpatient setting.<sup>13</sup> In the inpatient setting, a 37% response rate would mean that 10.14 hours of RA time would be required to reach the same goal.

## DISCUSSION

Although our standardized feedback collection protocol was acceptable to patients and families and yielded superior completion rates compared to other methods currently in use, sufficient feedback collection requires overcoming several barriers and a sizeable time commitment.<sup>18</sup> Collection of patient feedback in the outpatient setting utilizing our standardized protocol resulted in a substantially higher completion rate compared with the inpatient setting, which was primarily facilitated by more available outpatient respondents. Although parents and guardians were almost always available during a 30-minute outpatient appointment, they were much less available in the inpatient setting. Timing of feedback solicitation may have played a role. RAs usually requested inpatient feedback in the morning following rounds, which was a common time for scheduled procedures, imaging, or child life activities (eg, play room, hospital school). This time was chosen so that RAs could gather outpatient feedback in the afternoon in continuity clinics. Although RA availability limited our ability to solicit feedback from hospitalized patients or families in the evenings, future studies

may enjoy a higher response rate should this strategy be pursued. In general, we found that the predictable structure of outpatient clinic visits facilitated greater availability of patients and families. If program directors desire inpatient feedback, they should consider integrating patient feedback into established procedures to improve response rates. Strategies might include incorporating feedback collection into the discharge process or collaborating with patient experience offices, an approach that has been successful in some programs.<sup>11</sup>

Despite these challenges, greater than 60% of all patients approached chose to participate, and those who did were highly satisfied with the opportunity to provide feedback to residents. In outpatient settings, over 90% of patients and families approached provided feedback. This degree of participation has the potential to provide the recommended number of CATs to make reliable assessments of resident communication skills in the outpatient setting.<sup>13</sup> This is in contrast to other methods of collecting feedback, such as Press-Ganey surveys, that often do not specifically solicit feedback on residents, have low response rates, and suffer from non-response bias.<sup>18,19</sup> Surveys such as the Press-Ganey suggest that there is general improvement in the patient experience when residents are involved in patient care, but they often lack specific, actionable feedback for individual trainees, thus making them less useful for residency programs.<sup>20</sup>

Future studies should explore the extent to which communication skills between the inpatient and outpatient setting overlap. We suspect that many skills are transferable but that the inpatient setting may require a unique set of communication skills, given the higher acuity and sometimes heightened emotions in the hospital setting. As such, we recommend that future investigations further

explore feasible means of gathering inpatient patient feedback in order to provide program directors with a holistic perspective on residents' communication skills.

This study has several limitations. The multi-institutional nature of our study introduces the risk of variability among sites, in terms of both the patient population studied and the approach to collecting data. Despite standardized RA training, individual skill in recruiting participants and the rate at which RAs re-approached patients and families who were previously unavailable may have varied. In addition, there may have been a social desirability bias in patients' responses on satisfaction with giving feedback.

Our findings suggest that requesting patient feedback in the outpatient setting using our approach might result in higher response rates compared to requesting feedback in the inpatient setting. We also found that patients were satisfied with providing patient feedback in both settings. Feasibility is a crucial consideration given the time-intensive nature of feedback collection, as demonstrated in our study. Future work is needed to determine if there is a significant difference in the quality of patient feedback that pediatric residents receive between settings. If there is, further work is also needed to optimize strategies for gathering inpatient feedback. These findings and future efforts to improve feedback collection and delivery have important implications for meeting ACGME requirements and for training pediatricians to provide compassionate, patient-centered care.

### ACKNOWLEDGMENTS

The authors thank Connor Ohmart, BS, for his assistance with data collection, and Nicole Capdarest-Arest, BA, MA (LIS), for her assistance with literature review.

*Financial disclosure:* This study was funded by the Association of Pediatric Program Directors' Special Projects Grant (2015) and the Med-Scholars Research Program, Stanford University School of Medicine. Neither of these funding sources was involved in the study design; collection, analysis, and interpretation of data; or writing of this report.

### SUPPLEMENTARY DATA

Supplementary data related to this article can be found online at <https://doi.org/10.1016/j.acap.2018.12.002>.

### REFERENCES

- Institute of Medicine Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academies Press; 2001.
- Clark PA. Medical practices' sensitivity to patients' needs. Opportunities and practices for improvement. *J Ambul Care Manage*. 2014;26:110–123.
- King A, Hoppe RB. "Best practice" for patient-centered communication: a narrative review. *J Grad Med Educ*. 2013;5:385–393.
- Roter DL, Frankel RM, Hall JA, et al. The expression of emotion through nonverbal behavior in medical visits mechanisms and outcomes. *J Gen Intern Med*. 2006;21(suppl 1):S28–S34.
- Stewart MA. Effective physician-patient communication and health outcomes: a review. *CMAJ*. 1995;152:1423–1433.
- Wanzer MB, Booth-Butterfield M, Gruber K. Perceptions of health care providers' communication: relationships between patient-centered communication and satisfaction. *Health Commun*. 2004;16:363–384.
- Accreditation Council for Graduate Medical Education. *Common Program Requirements*. Available at: [https://www.acgme.org/Portals/0/PDFs/Common\\_Program\\_Requirements\\_07012011\[2\].pdf](https://www.acgme.org/Portals/0/PDFs/Common_Program_Requirements_07012011[2].pdf). Accessed December 20, 2018.
- Holmboe ES, Edgar L, Hamstra S. *The Milestones Guidebook*. Chicago, Ill: ACGME; 2016.
- Dine CJ, Ruffolo S, Lapin J, et al. Feasibility and validation of real-time patient evaluations of internal medicine interns' communication and professionalism skills. *J Grad Med Educ*. 2014;6:71–77.
- Jagadeesan R, Kalyan DN, Lee P, et al. Use of a standardized patient satisfaction questionnaire to assess the quality of care provided by ophthalmology residents. *Ophthalmology*. 2008;115:738–743.
- Wen T, Huang B, Mosley V, et al. Promoting patient-centred care through trainee feedback: assessing residents' C-I-CARE (ARC) program. *BMJ Qual Saf*. 2012;21:225–233.
- Tamblyn R, Benaroya S, Snell L, et al. The feasibility and value of using patient satisfaction ratings to evaluate internal medicine residents. *J Gen Intern Med*. 1994;9:146–152.
- Makoul G, Krupat E, Chang C-H. Measuring patient views of physician communication skills: development and testing of the Communication Assessment Tool. *Patient Educ Couns*. 2007;67:333–342.
- Hodlowsky R, Decker F. The problem of bias when nursing facility staff administer customer satisfaction surveys. *Jt Comm J Qual Improv*. 2002;28:546–554.
- Bogetz AL, Rassbach CE, Chan T, et al. Exploring the educational value of patient feedback: a qualitative analysis of pediatric residents' perspectives. *Acad Pediatr*. 2017;17:4–8.
- Rassbach CE, Bogetz AL, Orlov N, et al. The effect of faculty coaching on resident attitudes, confidence, and patient-rated communication: a multi-institutional randomized controlled study. *Acad Pediatr*. In press.
- Chan TP, Blankenburg R, Rassbach C. Impact of coaching on resident self-assessment of communication skills. *Acad Pediatr*. 2015;15:e8–e9.
- Tyser AR, Abtahi AM, McFadden M, et al. Evidence of non-response bias in the Press-Ganey patient satisfaction survey. *BMC Health Serv Res*. 2016;16:350.
- Presson AP, Zhang C, Abtahi AM, et al. Psychometric properties of the Press Ganey® Outpatient Medical Practice Survey. *Health Qual Life Outcomes*. 2017;15:32.
- Iannuzzi MC, Iannuzzi JC, Holtsbery A, et al. Comparing hospitalist-resident to hospitalist-midlevel practitioner team performance on length of stay and direct patient care cost. *J Grad Med Educ*. 2015;7:65–69.