Published in final edited form as:

Am J Surg. 2018 October ; 216(4): 793–799. doi:10.1016/j.amjsurg.2018.07.056.

Meet your surgical team: The impact of a resident-led quality improvement project on patient satisfaction

Rebecca Craig-Schapiro¹, Sandra R. DiBrito¹, Heidi N. Overton, James P. Taylor, Ryan B. Fransman, Elliott R. Haut, and Bethany C. Sacks*

Department of Surgery, Johns Hopkins School of Medicine, Baltimore, MD, USA

Abstract

Background: Patients often have an incomplete understanding of the levels of training and roles of the various surgical providers in teaching hospitals, leading to patient confusion and dissatisfaction.

Methods: Pre-intervention discharge surveys were administered to gastrointestinal surgery inpatients (10/2016–02/2017) to evaluate sentiments regarding their surgical team. During the intervention period (02/2017–05/2017), patients at admission received “facesheets” containing team member profiles, photos, training level, and roles. These patients were evaluated using the survey, and pre- and post-intervention scores compared.

Results: 153 pre- and 100 post-intervention surveys were collected. There was a significant increase in patients reporting it was important to know the surgical team members and that they knew team member roles (p 0.05). Scores in every domain of the satisfaction survey improved in the post-intervention period, although not reaching statistical significance.

Conclusions: Improving how patients perceive their interactions with their surgical team has implications on patient satisfaction and hospital quality metrics.

Keywords

Quality improvement; Patient satisfaction; Facesheet; Surgical team

Introduction

Academic medical centers frequently utilize a team-based approach in their care of patients, with attending physicians, resident physicians, interns, medical students, nurse practitioners, physician’s assistants, and registered nurses contributing. Prior studies of emergency

*Corresponding author. General Surgery, Johns Hopkins Medical Institutions, 600 N. Wolfe Street Blalock 618M, Baltimore, MD 21287, USA.

¹RCS and SRD contributed equally to this manuscript.

Conflicts of interest and financial disclosures/disclaimers

Rebecca Craig-Schapiro, Sandra R. DiBrito, Heidi N. Overton, James P. Taylor, Ryan B. Fransman, and Bethany C. Sacks have no conflicts of interest to declare.

Ethical approval

The Institutional Review Board of Johns Hopkins Hospital reviewed this project (IRB00114165) on 10/14/2016 and determined that as a Quality Improvement project it was exempt from qualification as human subjects research.

department and internal medicine patients have demonstrated limited patient understanding of the identity and functions of the providers caring for them.¹⁻⁴ Patient confusion and resultant frustration about the roles of multiple providers at various levels of training that are involved in their care impacts patient satisfaction and the ability of the physician and patient to establish a trusting relationship.

In recent years, the healthcare industry has intensified its focus on patient satisfaction as a quality metric, and patient perception metrics are increasingly being linked to hospital reimbursements. Prior literature indicates that a patient's report of a positive hospital experience is related to the amount of information they perceive their physician has given them.^{5,6} Santen et al. found that 80% of emergency department patients reported it was very important to them to know the level of training of the physician caring for them, although only 58% felt they actually did know the training level.¹ Moreover, 30% of patients incorrectly answered that an attending doctor requires supervision by a resident, and 31% incorrectly answered that a resident has not yet completed medical school.¹ Furthermore, a prospective study of 2807 general medicine patients revealed that the majority (75%) were unable to correctly identify a single inpatient physician in charge of their care.³ These studies illustrate that patients and their families do not fully understand the roles, responsibilities, and hierarchy of the physicians caring for them, despite feeling it is important to know this information.

There is a paucity of literature regarding surgical patients' understanding of the identities and roles of the various members of a surgical team and how this impacts patient satisfaction. Beyond affecting patient-physician communication and satisfaction, studies of elective surgical patients have identified the patient-physician relationship as the most important factor influencing a patient's perception of safety, with miscommunication on the surgical ward as the most common negative influence.⁷ Surgical patients who report better communication with and trust in their physicians are 30% less likely to report a complication when surveyed.⁸ Therefore, improving how patients perceive their interactions with their surgical team could impact hospital quality metrics in a number of ways.

Few studies have investigated interventions aimed at improving patient knowledge of their hospital team. Internal medicine patients who had photographs of their medical team posted on their hospital wall were better able to correctly identify their physicians on a pre-discharge survey, which was associated with significantly higher patient satisfaction scores in physician responsiveness and handling of questions.⁹ Our hypothesis is that a patient's understanding of their surgical team is the first key step in receiving adequate information and in having a better patient experience, and will be reflected in improved satisfaction scores. In this prospectively evaluated quality improvement effort, we assessed whether there was a difference in scores in knowledge and satisfaction domains following the distribution of a "facesheet" containing the names, photographs, level of training, and roles of surgical team members.

Materials and methods

Study design and population

This prospective pre-post intervention study was a resident-based quality improvement initiative targeting inpatients on surgical services at the Johns Hopkins Hospital between October 2016 and May 2017. We included patients admitted under one of six different gastrointestinal or surgical oncology services and located on one of four designated inpatient hospital units. We selected this focused patient population to minimize variations in care by including hospital units that contained predominantly abdominal surgical patients, had common patient admission and discharge education pathways, and had similar nursing and Clinical Customer Service Representative (CCSR) management. Nursing and CCSR leadership on the four hospital units were involved in project planning. We submitted this quality improvement project to the Johns Hopkins IRB for review and it was acknowledged (IRB00114165 PI: Sacks).

Patient survey

From October 2016—May 2017, patients were asked to complete an anonymous online survey on the day of hospital discharge. This survey consisted of twelve questions, including four questions regarding basic demographic information and eight questions regarding patient's knowledge, perceptions, and feelings as they pertained to the members of their surgical team (Fig. 1). Patients responded on a 5-point Likert scale of strongly disagree (1) to strongly agree (5). The survey was reviewed by the Johns Hopkins Hospital Family Advisory Council and was administered to a small pilot patient population prior to broad distribution to assess understanding and readability of the tool. Surveys were administered by CCSRs on each hospital unit via iPad tablets that were already in use for standard discharge education.

Facesheet intervention

From February 2017-May 2017, we provided patients and their families with a surgical service-specific “facesheet” on admission. This single-page handout contained photographs and information about each surgical team member, including their hometown, where they studied, their level of surgical training (intern, resident, fellow, attending, nurse practitioner, and physician's assistant), and their daily role on the team (Fig. 2). When members rotated onto or off of a service, we provided updated facesheets to patients reflecting the changes. The facesheets also included an overall statement about the team model of surgical care at our academic institution. Facesheet design was reviewed by the Johns Hopkins Patient and Family Advisory Council and the Johns Hopkins Department of Surgery Quality Improvement Committee, and facesheets were administered to a group of pilot patients to assess for readability prior to project initiation. Facesheets were distributed by residents of the surgical teams during daily rounds to all patients who were not in the intensive care unit (ICU). ICU patients were excluded to reduce confusion regarding who their daily care provider was during their ICU stay, and these patients received facesheets when they were transferred to the floor.

Sample size calculation

A power calculation was performed based on estimations of outcomes and what was believed to be a realistic sample size for collection. We anticipated, based on clinical knowledge and previous HCAHPS surveys, that responses would not be normally distributed and would be left skewed towards higher scores. Therefore, we targeted a minimum detectable difference of less than 0.5 points on the 1-5 Likert scale. We then determined a sample size that was achievable during the study period given the surgical volume on the services studied. We anticipated a total sample size of 200 would be achievable, and calculated the minimum detectable difference based on this. A two-sided alpha of 0.05 and 80% power would detect a minimum difference of 0.19 on the 1-5 Likert scale with 100 pre- and 100 post-intervention participants. These calculations allowed us to aim for a total study size of at least 200 participants with confidence that a difference between the two groups could be identified if it existed.

Statistical analysis

For the purposes of our analyses, we split the data collected into two categories for comparison: “pre-intervention” describes the group of patients surveyed during the time period in which there was no distribution of facesheets (October 2016-February 2017) while “post-intervention” describes the group of patients surveyed after the distribution of facesheets (February 2017-May 2017). We compared categorical demographic variables using χ^2 tests. A skewed, non-normal distribution of Likert responses to study questions necessitated presenting median score and interquartile range (IQR) for each of the survey questions. Medians of pre- and post-intervention scores for each question were compared using Mann-Whitney tests. Additionally, we collapsed scores into binary categories of “Strongly Agree and Agree” vs “Neutral, Disagree, and Strongly Disagree” to better differentiate between positive and non-positive responses. These binary variables were compared using χ^2 . Statistical analysis was performed using Stata 14.0 (StataCorp, College Station, Texas). For all analyses, we considered a p-value of <0.05 to be statistically significant.

Results

Demographic composition of groups

There were 153 patients who completed surveys during the preintervention period from October 2016-February 2017, and 100 patients who completed surveys during the post-intervention period from February 2017-May 2017. In both the pre- and post-intervention groups, roughly half of the patients were female (pre-intervention: 54.2% vs. post-intervention: 51.0, $p = 0.6$), a large proportion were age 60–69 years (pre: 28.8% vs. post: 37.0%, $p = 0.3$), and the majority self-reported Caucasian race (pre: 75.8% vs. post: 67.0%, $p = 0.3$), and the majority self-reported Caucasian race (pre: 75.8% vs. post: 67.0%, $p = 0.3$). There was a statistically significant difference in self-reported primary language spoken at home; however, the vast majority of patients (pre: 92.8% vs. post: 96%, $p = 0.02$) reported English (Table 1).

Efficacy of facesheet

Comparing the pre- and post-intervention groups in the eight study questions (Fig. 1), there were no significant differences in the median scores for **understanding** who were on their teams (pre-intervention: 4 vs. post-intervention: 4, $p = 0.9$), the team **roles** (pre: 4 vs. post: 4, $p = 0.4$), if patients were **prepared** for new team members (pre: 4 vs. post: 4, $p = 0.5$), feeling comfortable expressing concerns because of **knowing** the team (pre: 4 vs. post: 5, $p = 0.6$), feeling **comfortable** asking questions (pre: 5 vs. post: 5, $p = 0.6$), team **communication** (pre: 5 vs. post: 5, $p = 0.8$), and overall **confidence** in team (pre: 5 vs. post: 5, $p = 0.3$). There was a statistically significant difference in patients reporting that it was **important** to know their surgical team members (pre: 4 vs. post: 5, $p = 0.04$) (Table 2).

When comparing the percent of responses that were positive (strongly agree or agree) to those that were non-positive (neutral, disagree, or strongly disagree), there remained a significant difference in scores of patients reporting it was **important** to know the surgical team members (85% positive pre-intervention vs. 94% positive post-intervention, $p = 0.04$). Additionally, we found a significant difference in patients reporting that they knew the **roles** of their team members (pre: 72% vs. post: 83%, $p = 0.05$) (Table 2). Scores in every domain of the survey were higher in the post-intervention period (Fig. 3), although differences did not reach statistical significance. The proportion of patients reporting overall confidence in their team in the pre- and post-intervention periods were 89% vs. 95%, respectively ($p = 0.09$).

Discussion

The patient-physician relationship and effective communication in the context of patient-centered care remain cornerstones of medical practice, and have been explored extensively in literature dating back to Hippocrates.^{10,11} Studies of emergency medicine and internal medicine patients have shown that patients value knowing who their medical providers are, and that this knowledge results in improved patient satisfaction.^{1,9} The surgeon-patient relationship is inherently complex, owing to the invasive and potentially life-threatening nature of surgical treatment. Furthermore, the traditional surgeon-patient relationship may be complicated in teaching hospitals, where a team approach is often taken towards care, with residents, physician's assistants, and advanced nurse practitioners interfacing with inpatients. Surprisingly, the importance of a surgical patient's understanding of who comprises their surgical team, and how this alters their perception of care, has not been well explored.

We believe that knowledge of their surgical team is a fundamental step in patients receiving adequate information, in empowering patients to participate in their care, and ultimately in higher satisfaction with their inpatient experience. We demonstrated that patients who received a facesheet describing their surgical team responded with significantly higher scores regarding knowledge of their surgical team and importance of knowing their surgical team. While we also saw higher scores in many other domains including improved communication, enhanced confidence in their surgical team, and increased comfort with their care, these changes were not statistically significant. Patients may also have further recognized the value of this information after they received it, as the number of patients who

felt it was important to know who their surgical team members were significantly increased after our educational intervention.

Beyond introducing the patient to the identities of each of their inpatient providers, our facesheet was also designed specifically to educate patients on the different responsibilities of the physicians at the various training levels. Patients at teaching hospitals may not be able to differentiate among interns, residents, fellows, and attending physicians; this may translate into inaccurate expectations of these providers based on their position in the medical hierarchy, resulting in patient confusion and frustration, and impacting patient satisfaction. Indeed, studies have shown that 31% of emergency department patients believed that a resident did not yet have a medical degree,¹ and 40% of patients undergoing gynecologic surgery were unsure or did not consider residents to be doctors.¹² There is little in the literature regarding the method of best educating patients about the different levels and roles of physicians-in-training, and we chose to provide this information via a facesheet. Patients who received a facesheet had higher scores in regards to knowing the roles of their team members than those who did not receive a facesheet. Other suggested mechanisms for educating patients about the teaching hospital atmosphere include pre-operative introductory conversations between the attending surgeon and patient,¹³ and resident curriculum focusing on communication skills and residents' self-introduction to patients.^{14,15}

Despite the overall success of our intervention, we experienced challenges with implementation. As a large-scale, resident-led, multi-service quality improvement project, it was difficult to obtain buy-in from all parties, including surgical attendings, nurse leadership, and CCSRs. Requiring CCSRs to perform duties outside of their normal tasks was initially difficult to secure; however, we felt that it was reasonable to expect all care team members working at an academic institution to participate in quality improvement projects, as a part of the mission of the program. Nevertheless, it is likely that some eligible patients during the study period were not captured by the surveys. Another difficulty was ensuring that resident teams reliably distributed the facesheets, which was outside of their usual required work assignment. This may have introduced non-random bias into the study, as some service residents may have been more diligent than others. However, because the intervention and data collection were performed by separate entities, there is no reason to believe that the same patients were missing from both the intervention and data collection groups. Weekly adherence checks by an off-service resident were performed to ensure that all eligible inpatients had received a facesheet; however, this was labor intensive and would not be sustainable in a long-term project.

We were able to achieve statistical significance in this study, but not in every domain. Conducting a future, larger study to identify a smaller minimum detectable difference might allow us to draw more statistically significant conclusions, although how clinically meaningful this small degree of change would be is arguable. Additionally, it would be difficult to conduct such a large-scale study without more administrative support or funding. Our statistical power might also have been hampered by a ceiling effect. For example, 89% of the pre-intervention patients already felt confident with their team. Although this increased to 95% after our intervention, this finding did not reach significance ($p = 0.09$), possibly since it is very difficult to reach 100%.

There are other limitations of our study which merit discussion. While our intervention was designed to educate patients about the physicians, physician assistants, and nurse practitioners caring for them, nursing and support staff certainly have an important impact on the patient experience as well. Survey questions evaluated patients' sentiments regarding their "surgical team," and it is possible that patients may have incorporated their impressions of the nursing and support staff into their responses. Future, more detailed surveys could help to delineate the impact of the specific different types of healthcare providers. Additionally, we appreciate that by delivering the facesheet, we may have introduced bias in the form of demand characteristics, where patients are more likely to report that knowing their surgical team is important because we are studying this topic. To minimize this, patients were not told that the facesheets were part of a study, or the objective of the study. Additionally, we believe it is valuable to know if providing a facesheet changes patients' perception of the importance of knowing their surgical team.

In conclusion, the implementation of a resident-initiated quality improvement project targeting patient knowledge of their surgical teams yielded positive results in several satisfaction-related domains. Following the distribution of team facesheets, patients reported higher scores in the importance of knowing the team members and in their knowledge of the roles of the team members. We recommend that future endeavors to improve patient knowledge of their providers be more widely implemented to include all inpatient services and be supported as a standard of care, in order to guarantee the most benefit to the patient and to improve the teaching hospital patient experience.

Acknowledgements

The authors wish to thank the Johns Hopkins Clinical Customer Service Representatives and Coordinators, in particular Jannelle Anderson, Nick Sacco, and Samantha Moyer, who went above and beyond in making this project possible. The authors thank the residents of Johns Hopkins Department of Surgery for their assistance in facesheet distribution.

Dr. Elliott R. Haut is the primary investigator of a grant (1R01HS024547-01) from the Agency for Healthcare Research and Quality (AHRQ) titled "Individualized Performance Feedback on Venous Thromboembolism Prevention Practice." He is a coinvestigator of a grant (1R21HL129028-01A1) from the National Institutes of Health National Heart, Lung, and Blood Institute (NIH/NHLBI) titled "Analysis of the impact of missed doses of venous thromboembolism prophylaxis." He is co-investigator of a grant (HU0001-14-0038) from The Henry M. Jackson Foundation, Uniformed Services University of the Health Sciences titled "Validation of Training for Cricothyroidotomy." He is the primary investigator of a contract (CE-12-11-4489) with The Patient-Centered Outcomes Research Institute (PCORI) titled "Preventing Venous Thromboembolism: Empowering Patients and Enabling Patient-Centered Care via Health Information Technology." He is the primary investigator of a contract (DI-1603-34596) with The Patient-Centered Outcomes Research Institute (PCORI) titled "Preventing Venous Thromboembolism (VTE): Engaging Patients to Reduce Preventable Harm from Missed/Refused Doses of VTE Prophylaxis." He is a coinvestigator of a contract (PCS-1511-32745) with The Patient-Centered Outcomes Research Institute (PCORI) titled "A Randomized Pragmatic Trial Comparing the Complications and Safety of Blood Clot Prevention Medicines Used in Orthopaedic Trauma Patients." Dr. Haut receives royalties from Lippincott, Williams, Wilkins for a book - "Avoiding Common ICU Errors." Dr. Haut was the paid author of a paper commissioned by the National Academies of Medicine titled "Military Trauma Care's Learning Health System: The Importance of Data Driven Decision Making" which was used to support the report titled "A National Trauma Care System: Integrating Military and Civilian Trauma Systems to Achieve Zero Preventable Deaths After Injury.

Funding/support

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

1. Santen SA, Hemphill RR, Prough EE, Perlowski AA. Do patients understand their physician's level of training? a survey of emergency department patients. *Acad Med.* 2004;79(2):139–143. [PubMed: 14744714]
2. Dalia S, Schiffman FJ. Who's my doctor? First-Year residents and patient care: hospitalized patients' perception of their "main physician". *J Grad Med Educ.* 2010;2(2):201–205. [PubMed: 21975620]
3. Arora V, Gangireddy S, Mehrotra A, Ginde R, Tormey M, Meltzer D. Ability of hospitalized patients to identify their in-hospital physicians. *Arch Intern Med.* 2009;169(2):199–201. [PubMed: 19171817]
4. Hemphill RR, Santen SA, Rountree CB, Szmit AR. Patients' understanding of the roles of interns, residents, and attending physicians in the emergency department. *Acad Emerg Med.* 1999;6(4):339–344. [PubMed: 10230987]
5. Krupat E, Fancey M, Cleary PD. Information and its impact on satisfaction among surgical patients. *Soc Sci Med.* 2000;51(12):1817–1825. [PubMed: 11128269]
6. Rosenberg EE, Lussier MT, Beaudoin C. Lessons for clinicians from physician/patient communication literature. *Arch Fam Med.* 1997;6(3):279–283. [PubMed: 9161356]
7. Dixon JL, Tillman MM, Wehbe-Janek H, Song J, Papaconstantinou HT. Patients' perspectives of surgical safety: do they feel safe? *Ochsner J.* 2015;15(2): 143–148. [PubMed: 26130976]
8. Black N, Varaganum M, Hutchings A. Relationship between patient reported experience (PREMs) and patient reported outcomes (PROMs) in elective surgery. *BMJ Qual Saf.* 2014;23(7):534–542.
9. Francis JJ, Pankratz VS, Huddleston JM. Patient satisfaction associated with correct identification of physician's photographs. *Mayo Clin Proc.* 2001;76(6): 604–608. [PubMed: 11393499]
10. Dorr Goold S, Lipkin M, Jr. The doctor-patient relationship: challenges, opportunities, and strategies. *J Gen Intern Med.* 1999;14(Suppl 1):S26–S33. [PubMed: 9933492]
11. Ha JF, Longnecker N. Doctor-patient communication: a review. *Ochsner J.* 2010;10(1):38–43. [PubMed: 21603354]
12. Cantor A, Flood C, Boutin S, Regan S, Ross S. Do patients understand the role of resident physicians in the operating room? A survey of gynaecology patients. *J Obstet Gynaecol Can.* 2018 1;40(1):24–28. [PubMed: 28864172]
13. Cowles RA, Moyer CA, Sonnad SS, et al. Doctor-patient communication in surgery: attitudes and expectations of general surgery patients about the involvement and education of surgical residents. *J Am Coll Surg.* 2001;193(1): 73–80. [PubMed: 11442257]
14. Resnick AS, Disbot M, Wurster A, Mullen JL, Kaiser LR, Morris JB. Contributions of surgical residents to patient satisfaction: impact of residents beyond clinical care. *J Surg Educ.* 2008;65(3): 243–252. [PubMed: 18571141]
15. Santen SA, Rotter TS, Hemphill RR. Patients do not know the level of training of their doctors because doctors do not tell them. *J Gen Intern Med.* 2008;23(5): 607–610. [PubMed: 18097726]

This survey is part of an ongoing effort to understand how patients view their hospital experience. These results will help us improve the care we provide. Your answers may be shared with the hospital and outside of the hospital for the purposes of quality improvement. This survey is anonymous and has no identifying information linked with it. Your participation is voluntary and will not affect your health benefits. We hope that you will take the time to complete the survey. Thank you for helping us to improve health care for all patients.

Please answer the following questions in regards to the current hospital stay.

1. I **understood** who the different members were on the surgical team caring for me.
2. I knew the **roles** of each member of my surgical team.
3. It was **important** to me to know who the various members of the surgical team were.
4. I felt **prepared** when new providers joined my surgical team.
5. **Knowing** my surgical team made me feel comfortable telling them about my concerns.
6. I felt **comfortable** asking my surgical team questions.
7. My surgical team **communicated** with me well.
8. I was **confident** in my surgical team.
9. What is your age?
10. What is your gender?
11. What is your race? Please choose one or more.
12. What language do you mainly speak at home?

Fig. 1.

Survey Administered to Patients At Discharge.

Survey tool administered to patients, consisting of eight questions regarding patients' knowledge, perceptions, and feelings as they pertained to the members of their surgical team. Patients responded on a 5-point Likert scale of strongly disagree (1) to strongly agree (5). The final four questions gathered basic demographic information.

***Name of Service Here* – Your Surgical Team**

Attendings: Drs. *List Names of Attendings on Service*

At *Name of Hospital* we take a team approach to your care, and you will be cared for by a team of providers, including attending physician, resident physicians, nurse practitioners/physicians assistants, and registered nurses. Your attending is responsible for leading the group below. If you would like to learn more about your attending, please visit: http://www.*hospitaldeptofsurgerywebsite.com

<p>Name of Chief, MD — 5th year resident (Chief resident) Hometown: List self-identified hometown Medical Training: Name of Medical School Role: Team leader, communicates directly with attending physician, makes daily plans for patients, often in operating room</p>
<p>Name of Intern, MD— 1st year resident (Intern) Hometown: List self-identified hometown Medical Training: Name of Medical School Role: Helps manage patient care and medications, close contact with nurses, participates in operating room</p>
<p>Name of Intern, MD PhD— 1st year resident (Intern) Hometown: List self-identified hometown Medical Training: Name of Medical School Role: Helps manage patient care and medications, close contact with nurses, participates in operating room</p>
<p>Name of Advanced Practice Provider, MSN, CRNP — Certified Registered Nurse Practitioner Hometown: List self-identified hometown Medical Training: Name of Training Program Role: Helps manage patient care and medications, close contact with nurses</p>

If you would like to speak to a member of your team, please contact your nurse.
Night-time coverage will consist of several separate residents not listed here.

Fig. 2.
Facesheet example (anonymized).

Fig. 3.

Pre- and Post-Intervention Survey Results.

Percent of patients who answered “agree” or “strongly agree” on each survey question, pre- and post-facesheet intervention. Statistical significance was achieved in two domains (roles and important). A third domain (confident) neared significance, as noted by p who answered “agree” or “strongly agree” -values above bars. Full text for survey questions corresponding to the single words here is available in Fig. 1.

Table 1

Pre- and post-intervention demographic characteristics of gastrointestinal surgical inpatients discharged between 10/2016–05/2017.

	Pre-intervention (n = 153)	Post-intervention (n = 100)	p-value
Age in years, n (%)			
<20	0 (0.0)	2 (2.0)	0.3
20–29	7 (4.6)	4 (4.0)	
30–39	17 (11.1)	6 (6.0)	
40–49	17 (11.1)	13 (13.0)	
50–59	38 (24.8)	18 (18.0)	
60–69	44 (28.8)	37 (37.0)	
70–79	24 (15.7)	18 (18.0)	
80	6 (3.9)	2 (2.0)	
Female gender, n (%)	83 (54.2)	51 (51.0)	0.6
Race, n (%)			
White	116 (75.8)	67 (67.0)	0.2
Black	21 (13.7)	23 (23.0)	
Other	13 (8.5)	7 (7.0)	
Unanswered	3 (2.0)	3 (3.0)	
Primary language, n (%)			
English	142 (92.8)	96 (96.0)	0.02
Spanish	1 (0.7)	0 (0.0)	
Other	10 (6.5)	1 (1.0)	
Unanswered	0 (0.0)	3 (3.0)	

In bold are values that are statistically significant ($p < 0.05$).

Table 2

Pre- and post-intervention survey results.

Question ^a	A.			B.		
	Pre-Median (IQR)	Post-Median (IQR)	p-value	Pre-%	Post-%	p-value
Understand	4(4–5)	4(4–5)	0.9	84	87	0.5
Roles	4(3–5)	4(4–5)	0.4	72	83	0.05
Important	4(4–5)	5(4–5)	0.04	85	94	0.04
Prepared	4(3–5)	4(4–5)	0.5	71	77	0.3
Knowing	4(4–5)	5(4–5)	0.6	87	89	0.6
Comfort	5(4–5)	5(4–5)	0.6	90	94	0.2
Communicate	5(4–5)	5(4–5)	0.8	86	89	0.4
Confident	5(4–5)	5(4–5)	0.3	89	95	0.09

A.) Median scores and interquartile range (IQR) for each survey question domain, pre- (n = 153) and post- (n = 100) distribution of facesheet, measured using a Likert scale of 1 (strongly disagree) to 5 (strongly agree).

B). Percent of participants who “agree or strongly agree” for each survey domain, pre- and post-intervention. In bold are values that are statistically significant (p<0.05).

^aSee Fig. 1 for completely worded question on the survey tool.