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Patient Comments on the Consumer Assessment of Healthcare Providers and Systems Clinician and Group (CG-CAHPS) Survey Reflect Improvements in Provider Behaviors From Coaching

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SUMMARY

Goal: Patient experience survey data are used to examine the patient-centeredness of care, identify areas for improvement, and monitor interventions aimed to enhance the patient experience. Most healthcare organizations measure patient experience using Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys. Studies have documented the use of CAHPS closed-ended survey responses for completing public reports, monitoring internal feedback and performance, identifying areas of improvement, and evaluating interventions to improve care. However, limited evidence exists on the utility of patients' comments on CAHPS surveys for evaluating provider-level interventions. To explore this potential, we examined comments on the CAHPS Clinician and Group (CG-CAHPS) 2.0 visit survey before and after a provider intervention. The "shadow coaching" intervention had been shown to improve provider performance and patient experience scores on the CG-CAHPS overall provider rating and provider communication composite.

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The authors declare no conflicts of interest.

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Methods: We examined how patient comments on the CG-CAHPS survey differed before and after shadow coaching of 74 providers. We described the valence (tone), content, and actionability of 1,935 comments—1,051 collected before coaching and 884 collected after coaching—to see how these aspects changed before and after providers were coached.

Principal Findings: Patient comments reflected improved CG-CAHPS scores after shadow coaching. The proportion of positive comments increased, and comments about doctors were more positive. Comments about time spent in the examination room decreased, apparently reflecting the decreased proportion of negative comments after coaching. Comments regarding three of the four aspects of provider communication asked on the CG-CAHPS survey were more positive after coaching (provider listens carefully, shows respect, spends enough time); the valence of comments about the fourth aspect (provider explains things in a way that is easy to understand) did not change. Also, comments describing an overall positive evaluation of the practice increased. Comments were generally less actionable after coaching, perhaps reflecting the increased positivity of the comments.

Practical Applications: Patient comments collected before the provider intervention reflected overall improvements in provider behavior, as indicated by medium-to-large statistically significant improvements in CG-CAHPS composite scores. These results suggest that patient comments from the CG-CAHPS survey can be used as input for quality improvement or an evaluation of provider-level interventions. Tracking the valence and content of comments about providers before and after an intervention to improve care is a practical method to learn how provider behavior changes.

INTRODUCTION

Healthcare organizations aim to provide patient-centered care (Berwick, 2002; Institute of Medicine, 2001) and typically measure patient experience to assess patient-centeredness (Browne et al., 2010; Davies et al., 2008; Wolf, 2017). Patient experience survey data are used to examine provider performance, identify areas for improvement, and monitor interventions to improve patient experience and patient-centeredness (Agency for Healthcare Research and Quality, 2020; American Academy of Family Physicians, 2021; Friedberg et al., 2011; Goldstein et al., 2001; Hughes, 2008; Patwardhan & Spencer, 2012; Quigley et al., 2015;

Roberts et al., 2014). Most healthcare organizations measure patient experience using Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys, the national standard for collecting, tracking, and benchmarking patient experiences (Dyer et al., 2012; Hays et al., 1999; Solomon et al., 2005).

Previous studies have documented how closed-ended CAHPS patient experience survey questions help identify areas of improvement and evaluate interventions to improve the quality of care (Browne et al., 2010; Davies et al., 2008; Friedberg et al., 2011; Quigley et al., 2015; Quigley et al., 2021; Roberts et al., 2014; Schlesinger et al., 2015). Evidence

indicates that there may be additional value in reviewing and incorporating the use of open-ended comments for improving care experiences (Fifolt et al., 2021; Huppertz & Smith, 2014; Quigley & Predmore, 2022; Schlesinger et al., 2015; Wiseman et al., 2015). Narrative questions elicit open-ended responses that can expand upon and supplement the content from closed-ended questions (Grob et al., 2019; Huppertz & Smith, 2014; Martino et al., 2017). Narrative data have been shown to include a wide range of types of responses (Bardach et al., 2016) that are not representative of the general population. They tend to be from younger and more educated respondents (Boylan et al., 2020) and highlight differences in care that are specific and actionable to improve care (Schlesinger et al., 2020; Shaffer & Zikmund-Fisher, 2013). However, there is limited evidence on how patient experience survey comments can be used for quality improvement (QI) in the evaluation of provider interventions.

We engaged in a partnership with an urban federally qualified health center (FQHC) that includes 44 primary care practices and 320 providers. This FQHC has a one-on-one, peer-based training program for providers (medical doctors, physician assistants, nurse practitioners). The program—called “shadow coaching”—commissions coaches to observe providers in real-time encounters at the point of care and gives structured feedback to encourage targeted behaviors (Baird, 2018; Becker’s Hospital Review, 2013; Luallin, 2005; Sullivan, 2012; Wolever et al., 2016).

Previously, we evaluated the impact of shadow coaching on providers’ overall

performance and communication by using CG-CAHPS survey scores based on data from 46,452 patients who completed CG-CAHPS surveys from visits with 320 providers (Quigley et al., 2021). We also examined the content of the written recommendations given to providers and found that half of the coaches’ recommendations encouraged consistency of existing behaviors, the other half encouraged new behaviors, and most recommendations centered on aspects of provider communication specific enough to be actionable (Quigley & Predmore, 2022). In addition, we found that shadow coaching led to gains in providers’ overall performance and communication that disappeared after 2½ years (Quigley et al., 2021). But results from this previous research did not show whether the open-ended comments provided by patients on the CG-CAHPS survey could also reflect these gains in provider behaviors after shadow coaching.

To understand how open-ended patient comments reflect provider-level patient experience improvement gains, we examined and compared the comments before and after coaching. In this analysis, we describe the valence (tone), content, and actionability of the comments and how these aspects of the comments changed.

METHODS

The FQHC administered the CG-CAHPS 2.0 visit survey in English and Spanish with a single open-ended comment section that reads: “Please provide feedback on how well the provider and clinic team addressed your concerns during your visit” across the 44 sites from January 2012 to June 2019. The response rate was

about 10%. The FQHC shared deidentified CG-CAHPS survey data, including the demographics (self-reported general health status, mental/emotional health status, race/ethnicity, age, preferred language, education) plus the narrative text from the open-ended comments that were linked to the survey sampling information (provider identifier, survey date, visit date). In addition, the FQHC provided administrative data (provider identifier, clinic, date of coaching).

Using the provider coaching date and the visit date, we identified patient comments 6 months before and 6 months after the coaching date of each of the 74 coached providers, yielding 2,091 comments. We excluded 35 comments for two providers who did not have comments both before and after their coaching date. We also excluded comments that were uninterpretable or without any useful content ($n = 121$), leaving 1,935 comments for analysis (1,051 comments gathered in 6 months before coaching and 884 comments gathered in 6 months after coaching). Comments in Spanish were translated into English before analysis.

We developed a code structure and codebook using systematic, inductive procedures, starting with a priori codes for examining the valence (positive, negative, mixed), content, and actionability of patient comments. We created a priori codes for each CG-CAHPS item based on the content of the CG-CAHPS 2.0 survey item wording. For example, we created a code for “Provider explained things in a way that was easy to understand” based on the CG-CAHPS question, “In the last 6 months, how often did this provider explain things in a way that was easy to un-

derstand?” If the content was not specific to items on the CG-CAHPS survey, we created new content codes. For example, the CG-CAHPS survey does not assess the friendliness or caring nature of a provider, so we created a code to indicate that the comment contained non-CG-CAHPS content and a code for the “friendly/caring nature of the provider.” As the coding categories were directly developed from the responses obtained, we performed a conventional content analysis (Downe-Wamboldt, 1992; White & Marsh, 2006) to identify and add codes to cover content not captured by the survey (Bernard & Ryan, 2010; Bradley et al., 2007; Kondracki et al., 2002). These codes represented the number of times a comment contained certain information and the number of circumstances mentioned overall. These codes, on the whole, explained what was observable, easily perceived, and apparent in the text (Downe-Wamboldt, 1992; Lune & Berg, 2017).

For actionability, we created a priori codes for the specific elements of the commonly used 5 Ws and 1 H of information gathering (Burtonshaw-Gunn, 2009; Quigley et al., 2021; Quigley & Predmore, 2022): who, what, when, where, why, and how. “Who” indicated the provider, “when” indicated when a comment referred to a period during the visit, and “where” indicated location (e.g., waiting room, examination room). The “what” was the content of the comment and was captured by codes; these a priori codes included those for the CG-CAHPS items. Then the “why” and “how” were viewed through the lens of how something needed improvement or change (e.g., through “provider-specific action,” “front office

action”). Finally, we coded whether the narrative information in a comment was actionable. Actionable comments included several codes for when, where, who, and how, as well as the content described (the “what”). For actionable codes, we further coded for the QI intervention level that was actionable (e.g., individual provider, front office, back office, organization level).

To capture the valence in mixed comments (negative information vs. positive information within one comment), we applied a positive or negative code to the text in the comment that was specifically negative or positive. For example, if the comment praised a doctor but criticized front desk staff, the “doctor” code was positive, and the “front desk” code was negative.

Our coding team (D.D.Q., N.Q., Z.P.) met to reach a consensus on the meaning and application of codes, identify discrepancies, refine concepts, and finalize codes (Miller & Crabtree, 1999). We coded comments independently. Each coder initially coded the same randomly selected 6% of comments (125 comments). We then compared all codes for coder agreement and obtained a pooled κ coefficient of 0.79, indicating substantial agreement (Cohen, 1960; De Vries et al., 2008; Landis & Koch, 1977). Two coders (N.Q., Z.P.) then coded the remaining comments with overlap (905 comments each). We met regularly to discuss emerging codes, resolve differences, and establish the final coding scheme. After all comments were coded, the principal investigator audited 4% of the comments coded by the two other coders (81 comments), meeting as a team to resolve the few discrepancies identified to ensure consistent coding.

Finally, we linked the coded comment data to patient demographic information and CG-CAHPS composite scores. We reviewed patterns of comments by valence, staff mentioned, setting, content/topic raised and whether the content was asked in the CG-CAHPS survey, and actionability. We also compared comments before and after the providers were coached. We examined the types of comments most frequently mentioned and reviewed percentages overall, by positive valence, and before and after coaching. We conducted z tests to assess the statistical significance of changes in the percentages before and after coaching.

Table 1 describes the patient characteristics of those who provided comments. Table 2 reviews comment valence, staff mentioned, setting, whether it contained CG-CAHPS content, and actionability. Table 3 shows the topics raised in the comments and whether they covered aspects of the patient care experience asked about on the CG-CAHPS 2.0 survey. We note in this analysis only the explicitly significant differences.

RESULTS

Patient Characteristics

Most respondents were female (63%, $n = 1,225$ of 1,935), had an average age of 44 years (<1–89 years with 10th–90th percentile range, aged 18–64 years), reported Hispanic ethnicity (69%, $n = 1,339$), and completed the survey in English (69%, $n = 1,330$; Table 1). Few respondents were non-Hispanic White (13%, $n = 256$), non-Hispanic other race (10%, $n = 187$), or non-Hispanic Asian/Pacific Islander race (8%, $n = 153$). The sample self-reported

TABLE 1

Characteristics of Patients Who Wrote Comments: Overall, Before, and After Coaching

Patient Characteristics	Overall (N = 1,935)	Before Coaching (N = 1,051)	After Coaching (N = 884)
Age (years, M)	44.3	43.6	45.2
Female (vs. male)	63.3% (1,225)	64.3% (676)	62.1% (549)
Race and ethnicity			
Hispanic	69.2% (1,339)	67.4% (708)	71.4% (631)
Non-Hispanic White	13.2% (256)	14.7% (155)	11.4% (101)
Non-Hispanic Asian/Pacific Islander	7.9% (153)	7.8% (82)	8.0% (71)
Non-Hispanic Black	1.6% (31)	1.8% (19)	1.4% (12)
Non-Hispanic other race	2.6% (50)	2.3% (24)	2.9% (26)
Missing	5.5% (106)	6.0% (63)	4.9% (43)
English survey language (vs. Spanish)	68.7% (1,330)	70.5% (741)	66.6% (589)
Preferred language			
English	63.5% (1,228)	65.5% (688)	61.1% (540)
Spanish	36.1% (699)	34.1% (358)	38.6% (341)
Chinese	0.3% (7)	0.5% (5)	0.2% (2)
Vietnamese	0.0% (1)	0.0% (0)	0.1% (1)
Education			
Less than eighth grade	14.5% (281)	14.2% (149)	14.9% (132)
Some high school	11.2% (216)	11.5% (121)	10.7% (95)
High school graduate	20.5% (397)	20.0% (210)	21.2% (187)
Some college	28.7% (556)	28.7% (302)	28.7% (254)
College degree	10.5% (204)	12.1% (127)	8.7% (77)
More than college	8.3% (160)	7.4% (78)	9.3% (82)
Missing	6.3% (121)	6.1% (64)	6.4% (57)
Year of comment			
2015	16.7% (323)	19.9% (209)	12.9% (114)
2016	56.0% (1,083)	68.4% (719)	41.2% (364)
2017	25.6% (496)	10.5% (110)	43.7% (386)
2018 and 2019	1.7% (33)	10.8% (113)	2.1% (20)
Self-rated overall health			
Excellent	16.4% (319)	16.9% (178)	16.0% (141)
Very good	26.1% (506)	27.2% (286)	24.9% (220)
Good	31.8% (615)	30.2% (317)	33.7% (298)
Fair	19.5% (378)	19.5% (205)	19.6% (173)
Poor	4.7% (90)	5.1% (54)	4.1% (36)
Missing	1.4% (27)	1.0% (11)	1.8% (16)
Self-rated mental or emotional health			
Excellent	28.9% (559)	27.4% (288)	30.7% (271)
Very good	23.6% (457)	22.6% (238)	24.8% (219)

TABLE 1*(Continued)*

Patient Characteristics	Overall (<i>N</i> = 1,935)	Before Coaching (<i>N</i> = 1,051)	After Coaching (<i>N</i> = 884)
Good	19.7% (381)	18.6% (196)	20.9% (185)
Fair	11.3% (219)	10.2% (107)	12.7% (112)
Poor	3.0% (58)	3.4% (36)	2.5% (22)
Missing	13.5% (261)	17.7% (186)	8.5% (75)
Overall provider rating (0–100, <i>M</i>)	89.5	87.9	91.3

overall health as excellent (16%, *n* = 319), very good (26%, *n* = 506), or good (32%, *n* = 615). The modal rating of mental or emotional health was excellent (29%, *n* = 559).

Valence of Comments

In valence, comments overall were positive (67%), 22% were negative, and 11% mixed. Positive comments increased significantly ($p = .001$) from 64% to 71%, and negative comments decreased significantly ($p = .015$) from 24% to 20% from before to after coaching. Before coaching, 12% of comments were mixed in tone versus 9% after coaching.

Comments About Staff

Although the coaching program was only for providers, patients could mention any type of staff in their comments. The majority of comments (71%) mentioned at least one staff member, with doctors mentioned most frequently (54%). Comments about doctors were more positive after coaching, with 76% positive before and 83% positive after, yielding the largest significant increase among mentioned staff ($p = .006$). Also, comments about physicians' assistants and other clinicians such as pharmacists and phlebotomists were more positive after coaching, with

63% about physicians' assistants positive before and 73% positive after ($p = .794$) and 46% about other clinicians positive before and 57% positive after ($p = .853$). These differences were not statistically significant due to the small sample size.

Comments on Interaction Setting

Nearly one third of comments (30%) mentioned a specific setting (either when or where). The most commonly mentioned settings were inside the clinic room (16%) where the patient has the main interaction with their provider, followed by comments about the waiting room (12%) or a phone interaction (5%). Few comments mentioned an after-visit area (2%) or other locations (2%) such as the parking lot, pharmacy, or laboratory. The percentage of comments that did not mention a specific setting increased significantly after coaching (75%), compared with before coaching (67%, $p < .001$); comments mentioning the clinic room decreased significantly from 19% before coaching to 13% after coaching ($p = .001$).

Comments Related to CG-CAHPS Survey Content

Overall, 64% of comments (*n* = 1,233) referenced items on the CG-CAHPS survey.

TABLE 2

Comment Characteristics and Content: Overall, Before, and After Coaching

Comment Characteristics and Content	Overall, % (N = 1,935)	Before Coaching, % (N = 1,051)	After Coaching, % (N = 884)	Difference in After Coaching and Before Coaching (p)
Valence (i.e., tone)				
Positive only	67.4% (1,304)	64.2% (675)	71.2% (629)	+7.0% (.001)***
Negative only	22.1% (428)	24.3% (255)	19.6% (173)	-4.7% (.015)*
Mixed	10.5% (203)	11.5% (121)	9.3% (82)	-2.2% (.127)
Staff involved/mentioned				
Doctor	54.4% (1,053)	54.6% (574)	54.2% (479)	-0.4% (.886)
"Everyone"	11.6% (225)	11.7% (123)	11.5% (102)	-0.2% (.967)
Scheduler	8.7% (168)	8.6% (90)	8.8% (78)	0.3% (.903)
Receptionist	7.9% (152)	8.6% (90)	7.0% (62)	-1.5% (.239)
Nurse	7.1% (137)	8.6% (90)	5.3% (47)	-3.2% (.007)**
Medical assistant or physician assistant	1.8% (34)	1.8% (19)	1.7% (15)	-0.1% (.991)
Other types of staff/providers (i.e., phlebotomist, pharmacist)	3.6% (70)	3.0% (32)	4.3% (38)	1.3% (.177)
Staff not mentioned	28.9% (560)	27.8% (292)	30.3% (268)	2.5% (.240)
Setting				
In clinic room	16.2% (314)	18.7% (197)	13.2% (117)	-5.5% (.001)***
In waiting room	11.6% (225)	12.6% (132)	10.5% (93)	-2.0% (.186)
Interaction on the phone	4.5% (88)	5.1% (54)	3.8% (34)	-1.3% (.212)
After visit	1.7% (32)	1.7% (18)	1.6% (14)	-0.1% (.966)
Other setting (i.e., parking, pharmacy, laboratory)	1.6% (30)	1.6% (16)	1.6% (14)	0.0% (1.000)
Setting not mentioned	70.6% (1366)	67.2% (706)	74.7% (660)	+7.5% (<.001)***
CG-CAHPS content or other content				
CG-CAHPS 2.0 survey content	63.7% (1,233)	64.4% (677)	62.9% (556)	-1.5% (.519)
Overall provider rating only	16.1% (311)	16.1% (169)	16.1% (142)	0.0% (1.000)
Other than overall provider rating only	34.7% (671)	35.5% (373)	33.7% (298)	-1.8% (.441)
Both provider rating and other content	13.0% (251)	12.8% (135)	13.1% (116)	+0.3% (.910)
Non-CG-CAHPS 2.0 survey content	77.6% (1,502)	76.6% (805)	78.8% (697)	+2.3% (.259)
Overall practice rating only	22.4% (434)	20.4% (214)	24.9% (220)	+4.5% (.020)*
Other than overall practice rating only	42.3% (818)	42.9% (451)	41.5% (367)	-1.4% (.567)
Both practice rating and other content	12.9% (250)	13.3% (140)	12.4% (110)	-0.9% (.614)
Actionability of comment+				
Content was actionable	38.7% (748)	43.6% (458)	32.8% (290)	-10.8% (<.001)***
Actionable for clinician/provider	10.0% (194)	10.9% (115)	8.9% (79)	-2.0% (.165)
Actionable for organizational response	7.5% (146)	8.8% (92)	6.1% (54)	-2.6% (.035)*
Actionable for front office response	3.9% (75)	4.3% (45)	3.4% (30)	-0.9% (.374)
Actionable for back-office response	1.5% (29)	1.6% (17)	1.4% (12)	-0.3% (.779)
Actionable for external response	0.2% (4)	0.3% (3)	0.1% (1)	-0.2% (.742)
Actionable but unknown actor	18.7% (361)	21.0% (221)	15.8% (140)	-5.2% (.004)**
Content was not actionable	61.3% (1,187)	56.4% (593)	67.2% (594)	10.8% (<.001)***

Note. + Actionability across rows does not sum to "Content was actionable" because comments could be actionable by more than one actor/agent. Values in boldface indicate that differences before and after coaching are statistically significant. CG-CAHPS = Consumer Assessment of Healthcare Providers and Systems.

*p < .05, **p < .01, ***p < .001.

An overall rating of the provider (e.g., "I love my doctors very much!") was most frequently mentioned in patient comments

(29%), with 16% of comments containing only an overall rating of the provider and no other CG-CAHPS content and

TABLE 3

Patient Comments Grouped by Whether Asked on CG-CAHPS Survey: Overall, Before, and After Coaching, and the Difference in Positive Comments After and Positive Before Coaching

Comment Content	Overall, % (N)	Before Coaching, % (N)	After Coaching, % (N)	Positive Before Coaching, % (N)	Positive After Coaching, % (N)	Difference in Positive After and Positive Before (p)
Comments about providers related to content asked on the survey						
Provider explained things in a way that was easy to understand	5.7% (110/1,935)	5.8% (61/1,051)	5.5% (49/884)	90.2% (55/61)	87.8% (43/49)	-2.4% (.924)
Provider listened carefully	10.9% (211/1,935)	11.0% (116/1,051)	10.7% (95/884)	77.6% (90/116)	87.4% (83/95)	9.8% (.097)*
Provider showed respect	3.5% (68/1,935)	2.7% (28/1,051)	4.5% (40/884)	60.7% (17/28)	82.5% (33/40)	21.8% (.085)*
Provider spent enough time with patient	5.8% (113/1,935)	6.0% (63/1,051)	5.7% (50/884)	47.6% (30/63)	58.0% (29/50)	10.4% (.364)
Provider knew important information from the patient's medical history	2.3% (44/1,935)	2.4% (25/1,051)	2.1% (19/884)	28.0% (7/25)	36.8% (7/19)	8.8% (.767)
Provider gave easy-to-understand instructions	0.6% (12/1,935)	0.7% (7/1,051)	0.6% (5/884)	57.1% (4/7)	80.0% (4/5)	22.9% (.836)
Overall provider rating	29.0% (562/1,935)	28.9% (304/1,051)	29.2% (258/884)	90.1% (274/304)	94.6% (244/258)	4.4% (.073)*
Recommend providers' office	1.7% (32/1,935)	1.4% (15/1,051)	1.9% (17/884)	86.7% (13/15)	76.5% (13/17)	-10.2% (.777)
Comments about providers not related to content on the survey						
Providers are friendly, caring, nice, and helpful	24.4% (472/1,935)	24.2% (254/1,051)	24.7% (218/884)	88.6% (225/254)	95.9% (209/218)	7.3% (.006)**
Providers are knowledgeable or answers questions	9.4% (182/1,935)	8.4% (88/1,051)	10.6% (94/884)	85.2% (75/88)	85.1% (80/94)	-0.1% (1.000)
Providers are professional	7.0% (136/1,935)	6.5% (68/1,051)	7.7% (68/884)	85.3% (58/68)	92.6% (63/68)	7.4% (.274)
Provider showed concern for problems	4.6% (89/1,935)	4.1% (43/1,051)	5.2% (46/884)	48.8% (21/43)	63.0% (29/46)	14.2% (.256)
Provider gave explanations about specific problems	1.4% (28/1,935)	1.0% (11/1,051)	1.9% (17/884)	90.9% (10/11)	88.2% (15/17)	-2.7% (1.000)
Confidence in care provider	3.4% (66/1,935)	3.4% (36/1,051)	3.4% (30/884)	63.9% (23/36)	53.3% (16/30)	-10.6% (.537)
Nurses are friendly or courteous	5.3% (102/1,935)	5.8% (61/1,051)	4.6% (41/884)	91.8% (56/61)	92.7% (38/41)	0.9% (1.000)
Recommend provider	35.3% (684/1,935)	2.5% (26/1,051)	2.0% (18/884)	96.2% (25/26)	77.8% (14/18)	-18.4% (.160)
Sensitivity to patient needs (emotional, physical)	2.3% (44/1,935)	5.3% (56/1,051)	3.5% (31/884)	46.4% (26/56)	54.8% (17/31)	8.4% (.598)
Prescription issues (provider-related)	4.5% (87/1,935)	1.9% (20/1,051)	1.6% (14/884)	40.0% (8/20)	71.4% (10/14)	31.4% (.145)
Comments about nonprovider-related content asked about on the survey						
Wait times (seen in ≤15 min)	13.3% (258/1,935)	14.2% (149/1,051)	12.3% (109/884)	14.1% (21/149)	19.3% (21/109)	5.2% (.347)
Patient got nonurgent care as soon as needed	3.9% (76/1,935)	3.5% (37/1,051)	4.4% (39/884)	16.2% (6/37)	15.4% (6/39)	-0.8% (1.000)
Patient got urgent care as soon as needed	2.0% (39/1,935)	2.1% (22/1,051)	1.9% (17/884)	27.3% (6/22)	5.9% (1/17)	-21.4% (.192)

TABLE 3
(Continued)

Comment Content	Overall, % (N)	Before Coaching, % (N)	After Coaching, % (N)	Positive Before Coaching, % (N)	Positive After Coaching, % (N)	Difference in Positive After and Positive Before (p)
Someone followed up with results of blood test, radiography, or other test	1.9% (36/1,935)	2.1% (22/1,051)	1.6% (14/884)	40.9% (9/22)	21.4% (3/14)	-19.5% (.398)
Clerks and receptionists were courteous and respectful	9.4% (182/1,935)	9.3% (98/1,051)	9.5% (84/884)	71.4% (70/98)	81.0% (68/84)	9.5% (.186)
Clerks and receptionists were helpful	2.4% (47/1,935)	2.7% (28/1,051)	2.1% (19/884)	67.9% (19/28)	63.2% (12/19)	-4.7% (.984)
Comments about nonprovider-related content not asked on the survey						
Overall practice rating	2.1% (40/1,935)	33.7% (354/1,051)	37.3% (330/884)	91.8% (325/354)	96.7% (319/330)	4.9% (.011)*
Wait time arrival to leaving	1.9% (37/1,935)	2.3% (24/1,051)	1.6% (14/884)	12.5% (3/24)	14.3% (2/14)	1.8% (1.000)
Ease of getting through on phone	2.0% (38/1,935)	2.6% (27/1,051)	1.5% (13/884)	7.4% (2/27)	15.4% (2/13)	8.0% (.822)
Want to change provider (cultural or personal preference)	2.6% (50/1,935)	2.0% (21/1,051)	1.8% (16/884)	42.9% (9/21)	56.3% (9/16)	13.4% (.634)
Convenience of the clinic (travel time, parking, elevators)	1.5% (29/1,935)	2.8% (29/1,051)	2.4% (21/884)	34.5% (10/29)	28.6% (6/21)	-5.9% (.893)
Pharmacy concerns (from pharmacy)	2.1% (40/1,935)	1.1% (12/1,051)	1.9% (17/884)	33.3% (4/12)	41.2% (7/17)	7.8% (.968)
Referral management	2.0% (38/1,935)	2.9% (30/1,051)	2.3% (20/884)	40.0% (12/30)	40.0% (8/20)	0.0% (1.000)

Note. Values in boldface indicate differences in positive comments before and after coaching (i.e., positive after-positive before) that are statistically significant. CG-CAHPS = Consumer Assessment of Healthcare Providers and Systems.

* $p < .05$, ** $p < .01$.

13% containing an overall rating of the provider along with other CG-CAHPS content. Finally, 35% of the comments did not contain any type of provider rating but referred to CG-CAHPS content asked on the CG survey.

Patient comments related to CG-CAHPS content were similar before and after shadow coaching (64% before, 63% after; $p = .519$). Of the comments with CG-CAHPS content, the overall provider rating remained the most frequent content both before and after coaching (16% of comments before and after coaching; $p = 1.000$). Also, before and after coaching, roughly one third of comments mentioned other CG-CAHPS content (36% of comments before, 34% after; $p = .441$) and contained both an overall rating of the provider and CG-CAHPS content (13% before, 13% after). Before coaching, the most frequently discussed CG-CAHPS content after an overall rating of the provider was wait times (14%), whether the provider listened carefully (11%), and whether clerks and receptionists were courteous and respectful (9%). After coaching, the most frequently discussed topics remained the same: wait times (12%), whether the provider listened carefully (11%), and whether clerks and receptionists were courteous and respectful (10%).

Comments Not Related to CG-CAHPS Survey Content

Overall, 78% of comments referenced content not asked on the CG-CAHPS survey. The most frequently mentioned non-CG-CAHPS content was an overall rating of the practice (e.g., “the care I received at [clinic] was excellent”) in 35%

of comments. In 22% of the comments, the practice rating was the only non-CG-CAHPS content (22%), whereas 13% of comments contained both an overall rating of the practice and mentioned a non-CG-CAHPS aspect of their care experience. Also, 42% of comments mentioned a non-CG-CAHPS aspect of their care experience and did not rate the practice: 18% on whether providers were friendly, caring, nice, or helpful (e.g., “not only did the nurses see her very quickly, but the doctor was extremely nice and helpful”), 8% on whether providers were knowledgeable or answer questions (e.g., “[Doctor] is a very knowledgeable doctor, and I am confident in any advice or recommendations he has for my health”), and 5% on whether providers are professional (e.g., “[Doctor] is among the best healthcare providers I’ve ever had; he doesn’t rattle easily and is completely professional while being good-spirited no matter how tough things are going for me.”).

The percentage of comments containing non-CG-CAHPS content remained the same before and after coaching (77% before, 79% after; $p = .259$). Comments that rated only the practice overall (non-CG-CAHPS) increased ($p = .020$) from 20% of comments before coaching to 25% of comments after coaching. Otherwise, the non-CG-CAHPS content remained the same before and after coaching—comments without a practice rating and other non-CG-CAHPS content were 43% before and 42% after coaching ($p = .567$); comments containing both a rating of the overall practice and other non-CG-CAHPS content comprised 13% of comments before and 12% after coaching ($p = .614$). Also, comments rating

the practice showed a statistically significant increase of 5%, with 97% positive after coaching compared with 92% before coaching, which is a statistically significant difference ($p = .011$; Table 3).

Comments About Patients' Providers

In addition to overall comments about the provider rating, patients most often mentioned that providers were friendly, caring, nice, or helpful (e.g., “[Doctor] and the entire staff were completely thorough, warm, helpful, knowledgeable personable and efficient”; 24% overall, 24% before, and 25% after), which is not an aspect of patient-provider interaction asked about on the CG-CAHPS survey. Patients also commented that providers listened carefully (e.g., “[Doctor] listens to my problems about my health”; 11% overall, 11% before, and 11% after), which is a core CG-CAHPS provider communication item (Table 3).

Comments regarding the four main aspects of provider communication asked about on the CG-CAHPS survey (listens carefully, shows respect, spends enough time, and explains things in a way that is easy to understand) were more positive after coaching, except for explaining things in a way that is easy to understand, which remained at 90% positive before and after coaching. For example, 22% more comments about the provider showing respect were positive after coaching compared with before coaching (e.g., “[Doctor] is one of the most respectful and compassionate providers I have ever had”; $p = .085$).

In reviewing patient comments about aspects of providers not asked about on the CG-CAHPS survey, we found that

comments remarking that a provider was “friendly, caring, nice, or helpful” increased by 7% after coaching (89% before, 96% after; $p = .006$). Also, the percentage of positive comments about the other aspects of patient interactions with their providers increased after coaching (compared with before) even if the difference (an increase in positive comments on that topic) was not statistically significant.

Comments About Nonprovider Aspects of Care Experience

Other than an overall practice rating, patients most frequently commented on wait times (e.g., “there is always a delay waiting to see the [doctor] . . . the wait is generally more than 1 hour”; 13% overall, 14% before, and 12% after), an aspect of patient experience asked about on the CG-CAHPS survey. Patients also commented about whether clerks and receptionists were courteous and respectful (e.g., “receptionists are professional, courteous and attentive”; 9% overall, 9% before, and 10% after), another CG-CAHPS survey topic.

Patient comments about nonprovider aspects of their care experience were similar before and after coaching. In general, comments about being seen within 15 min were 5% more positive after coaching, and comments about the clerks and receptionists being courteous and helpful were 10% more positive after coaching—not statistically significant.

Actionability of Comments

Supplemental Digital Content Table 1, available at <http://links.lww.com/JHM/A97>, presents illustrative examples of both actionable and nonactionable patient comments by code content, denoting the

specific elements of actionability (who, where, when, how, what).

Overall, 39% of the patient comments were deemed actionable ($n = 748$). Comments were most frequently actionable for a provider or a clinician (10%; e.g., “my provider was changed due to maternity leave and my experience with the new provider was not as great as with [Doctor]; the new provider took longer to see me, rushed through the checkup, and never sent in my prescription to the pharmacy”), followed by being actionable with an organizational response/change (8%; “the office I go to is often over- or double-booked”), and the front office (4%; “if I’m 5–10 minutes late, the receptionist gives me a hard time, which is not fair because they always keep me waiting—and if I need to ask the doctor something the next day or so, the receptionists say that they’ll send a message to the doctor’s team, but I never get a callback”). However, 19% of the comments that were deemed actionable were not clear about who the actor or agent of change would be.

Examining the comments before and after coaching, we found that comments were generally less actionable after coaching (44% actionable before, 33% actionable after; $p < .001$). Actionability across the various actors also decreased. For example, comments actionable at the organizational level decreased from 9% before to 6% after coaching, which was statistically significant ($p = .035$). Actionability after coaching by specific actors compared with before decreased but was not significant. For example, comments actionable at the provider level decreased from 11% before coaching to 9% after coaching ($p = .165$).

DISCUSSION

The important effect of narrative data on patient experience is widely recognized. However, limited evidence exists on the usefulness of patients’ open-ended feedback such as comments on CAHPS surveys in evaluating provider-level interventions. Following up on findings that coaching leads to medium-to-large significant improvements in CG-CAHPS scores on closed-ended items about provider communication and overall provider rating after coaching—gains persisting for 2½ years (Quigley et al., 2021)—this analysis compared patient comments gathered 6 months before and after coaching to understand whether comments capture short-term improvements from coaching.

To explore the potential usefulness of comments, we looked at comments written by patients on CG-CAHPS surveys before and after their providers underwent shadow coaching on how to improve patient–provider interactions. We found that patient comments reflected provider improvements as measured by CG-CAHPS scores after coaching. After coaching, the proportion of positive comments increased and comments about doctors were more positive. Comments about experiences in the examination room decreased and appeared to reflect the decreased proportion of negative comments after coaching. Comments regarding three of the four aspects of provider communication asked on the CG-CAHPS survey were more positive after coaching (provider listens carefully, provider shows respect, provider spends enough time). The valence of comments about the fourth aspect of provider communication as measured by the

CG-CAHPS survey (provider explains things in a way that is easy to understand) was unchanged. Also, comments describing an overall positive evaluation of the practice increased after coaching, as did comments remarking that a provider was friendly, caring, nice, or helpful (non-CG-CAHPS aspect).

The topical content of patient comments (the distribution of content asked and not asked about on the CG-CAHPS survey as well as the common topics raised) remained the same before and after coaching. This finding supports the notion that comments both supplement the CG-CAHPS survey content and add more content about patient experience.

Notably, comments may be less actionable after coaching due to the more positive nature of comments overall. Positive comments are known to be less actionable than mixed or negative comments, which can be addressed by healthcare providers and health systems (Grob et al., 2019).

Study Limitations

We were interested in understanding differences in patient comments about specific provider content before and after coaching. Our window of 6 months was arbitrary, but extending the time frame further would have increased the risk of missing the intervention's effects. The 6-month window yielded enough comments to detect overall differences but was underpowered for detecting differences across all topics raised in the patient comments.

Replicating this research with a partner with a higher overall response rate of CG-CAHPS surveys could yield more

comments per provider immediately after coaching and provide more important information about the added value of patient comments.

CONCLUSION

Overall, we found that patient comments identified overall improvements in provider behavior when compared before and after a provider-specific intervention; these improvements in provider behavior mentioned in comments reflected the medium-to-large statistically significant improvements found earlier in a quantitative analysis of CG-CAHPS composite scores (Quigley et al., 2021). Although the comments provide evidence of performance changes similar to what is provided by CG-CAHPS closed-ended scores, patient comments provide more detailed, specifically actionable information. This implies that comments collected via the CG-CAHPS survey can be used as input for QI or as part of an evaluation of individual provider-level interventions. Tracking the valence and content of comments about providers before and after an intervention to improve care may be a practical method that can provide insight into how providers' behaviors are changing.

Although these results suggest that patient comments from the single-item open-ended CG-CAHPS question can supplement responses to closed-ended questions, further research about the value of patient comments is needed to determine how to incorporate such comments into QI efforts or assessing interventions aimed at improving patient experiences or patient-provider/staff interactions. In addition, evidence is lacking on whether

the effort required to aggregate and code the comments is worth the insight gained.

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