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Patient experience in outpatient clinics: Does appointment time impact satisfaction?

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Abstract

The objective of this study is to understand patient experience by appointment time by analyzing the Consumer Assessment of Hospital Provider and Systems (CAHPS) scores at a granular level across pre-determined time periods (AM and PM). This study utilized quantitative and qualitative methods. A deidentified secondary data set from the University of Alabama at Birmingham's Press Ganey website was used to analyze the difference in CAHPS scores across AM and PM time periods. Unstructured survey responses were analyzed as a way to further enrich the quantitative findings. The data sample consisted of 821 responses from a dermatology clinic for the period of May 2017 to May 2018. Results suggested more positive patient experience for AM appointments when compared to PM appointments. The only positive experience for PM appointments was associated with the support staff and timeliness of care. This study indicated that time of day of the appointment is one of the contributing factors for patient satisfaction in the outpatient setting. While this study was conducted in a dermatology setting, it has applicability to the broader outpatient environment.

Keywords

Patient satisfaction, patient experience, CAHPS scores, outpatient clinic

Introduction

As described in the literature, patient satisfaction is associated with adherence to treatment and health outcomes.¹ Patient satisfaction scores are important indicators of quality of care provided at an organization.² Consumer Assessment of Hospital Providers and Systems (CAHPS) scores have been included into Centers for Medicare and Medicaid Services (CMS) Value-Based Purchasing Program (VBP) in order to underscore the importance of patient experience as a key quality metric.^{3,4} These scores are retrieved from a series of standardized patient surveys used to evaluate patients' perspectives of the care provided by the organization. The CAHPS survey is comprised of components that encompass critical aspects of the hospital experience, such as communication with providers, staff responsiveness, environment, and overall rating of hospital.³ Improving patient satisfaction rates is of importance as CAHPS scores represent the quality of care provided at an organization, and determine how CMS will reimburse the organization.⁴

Using ambulatory CAHPS scores, this study sought to understand to what degree does the appointment time contribute to patient satisfaction in outpatient clinics.

Factors influencing CAHPS Scores

CAHPS scores are considered as direct representation of patient care quality for healthcare organizations across the US.³ The recent move towards a pay-for-performance model and quality-focused healthcare in the U.S. have increased the utilization of quality measurement tools such as the CAHPS scores.⁵ The overarching goal behind administration and utilization of the CAHPS survey is to improve the quality of care by reporting survey results to evaluate patient experience.³ CAHPS scores describe the shortfalls at organization and provider levels and emphasize the need for improvements in the delivery of quality of care. Understanding, utilization, and interpretation of these data in order to create actionable goals and improvement initiatives remains a challenge in healthcare today.⁶ In order to address this challenge, the fundamental set of the CAHPS questions can be merged with organization specific data to evaluate the association between CAHPS outcomes and organization specific factors.³ This association can be utilized to create relevant solutions in order to improve quality care outcomes for organizations.

Literature suggests that physician performance,¹ organization type,⁷ wait times,^{8,9} and length of stay,^{8,9} are some of the organizational level factors influencing

CAHPS scores. A few of the studies reported a direct significant association between appointment time and patient satisfaction.⁸⁻¹¹ One of the studies suggested an indirect association between appointment time and patient satisfaction. To elaborate further, one study posited that towards the end of the day, the provider unconsciously tries to finish scheduled procedures in shorter period of time, which may result in increased patient satisfaction.¹² On the other hand, another study reported no correlation between appointment time and overall patient satisfaction.¹³ In order to evaluate whether the appointment time influences CAHPS scores, this study analyzes the CAHPS scores across pre-determined time periods (AM and PM).

Methods

This study is comprised of descriptive quantitative and qualitative methods. This study utilized deidentified secondary data from the University of Alabama at Birmingham's (UAB) Press Ganey website in order to analyze the difference in CAHPS scores across AM and PM time periods. Unstructured survey responses were analyzed as way to further enrich the descriptive quantitative findings.

According to the most recent CAHPS template, the surveys include over 60 various standardized questions in ten different domains, thirteen non-standard questions, and an additional patient comments section that contribute to patient experience and satisfaction with visits at outpatient clinics. For the scope of this study, the data were filtered by "dermatology" as the clinic type. The sample consisted of 821 responses from May 24, 2017 through May 24, 2018. Microsoft Excel[®] was used for data analysis and Tableau[®] was used as a data visualization tool. This study was in accordance with UAB IRB#300003087.

Data analysis was conducted across three phases. Phase I included identification of CAHPS measures and criteria that scored lowest in ranking across all clinics. This phase also identified the greatest contributors to the dermatology clinics' annual CAHPS scores. Phase II evaluated the differences between the AM and PM time periods across all dermatology clinics. Phase III included a granular approach to explore the non-standard quality measures and unstructured patient comments across the AM and PM time periods.

Phase I: Contributors to annual CAHPS score

Phase I of the analysis included determining the average scores for all standard CAHPS categories and measures for the year of 2017-2018. CAHPS measures were scored from best to worst depending on their averages in order to determine the categories and individual measures that required most improvement. The initial data analysis phase highlighted primary areas that needed attention, in addition

to providing insight into specific themes or components of care that may be missing among the clinics.

Data formats from Press Ganey generated reports are not ideal for in-depth analysis. In order to be able to analyze the data, a substantial restructuring was required.⁷ In order to compare CAHPS measures directly with one another and to sort data as required, we consolidated Press Ganey reports and organization schedule data in an analysis-friendly format. This format used standard response categories as headers to be able to compare measures across different time periods. Similar to the Costigan et al. (2020) study, different response types were grouped together based on their similarity to another response.⁷ For example, one response subgroup "No/Never" was formed by combining "no" and "never" responses. Similarly, "Yes, definitely/Yes/Always" subgroup was formed by combining "Yes, definitely," "Yes," and "Always" responses. For the purpose of this study, only the highest and lowest response categories were used, and CAHPS responses "Yes, somewhat/Sometimes" and "Usually" were not included. Table 1 describes a sample of data that were restructured.

Phase II: CAHPS by time period

Press Ganey data can be viewed by visit times and days. After determining the measures of focus from Phase I, these measures were compared across the pre-determined time periods. Data were analyzed using Microsoft Excel[®] and visualized using Tableau. First, the focus categories were compared by time period. This analysis was followed by further exploration of the focus categories, by comparing the focus measures included in each focus categories by time period. Provider ratings and likelihood of recommending provider by time period was also analyzed in this phase.

Phase III: Unstructured patient comments

The final phase of data analysis included a granular approach to further explore unstructured patient comments. Standard groups were created by assigning similar text comments into the same group, which allowed comparison among patient comments across different time periods. This phase consisted of a detailed review of all patient comments for dermatology clinics and categorizing them into four different response themes: positive, negative, indifferent, and N/A. Comments that were assigned to the "positive" and "negative" categories were then categorized into subthemes according to the aspects of care to which they were related most frequently.

Results

This study consisted of 821 participants, with 56% of the respondents being female. A majority of the participants were white (83%), had some college education (87.2%), and were between 50-79 years of age (Table 2).

Table 1. Restructured data from Press Ganey survey responses

CAHPS Measure (2017-2018)	Category	Sample Size (n)	No/Never (n)	No/Never (%)	Yes, definitely/Yes, Always (n)	Yes, definitely/Yes, Always (%)
Recommend this provider office	Global	776	16	2.1	706	91
Provider explain in way you understand	Physician Communication Quality	777	14	1.8	724	93.2
Provider listen carefully to you	Physician Communication Quality	776	18	2.3	723	93.2
Talk with your provider regarding problem/concern	Physician Communication Quality	775	94	12.1	681	87.9
Give easy to understand instructions	Physician Communication Quality	681	8	1.2	628	92.2
Know important information regarding medical history	Physician Communication Quality	775	32	4.1	647	83.5
Show respect for what you say	Physician Communication Quality	775	7	0.9	734	94.7
Spend enough time with you	Physician Communication Quality	777	16	2.1	710	91.4
Clerks/receptionist helpful	Office Staff Quality	776	19	2.4	673	86.7
Clerks treat with courtesy/respect	Office Staff Quality	775	3	0.4	718	92.6

Table 2 Survey respondents demographics (N=821)

Characteristic	Participants
Gender, n(%)	
Female	464 (56.5%)
Male	357 (43.5%)
Ethnicity, n(%)	
White	650 (83%)
African American	93 (11.9%)
Asian	7 (0.9%)
Hispanic/Latino	(0.7%)
Hawaiian/Pacific Islander	2 (0.3%)
American Indian/Alaska Native	3(0.4%)
Other	13 (1.7%)
Age, n(%)	
0-17	8 (1%)
18-34	79 (9.6%)
35-49	86 (10.5%)
50-64	254 (30.9%)
65-79	335 (40.8%)
80 or older	59(7.2%)
Education	
8 th grade or lower	7 (0.9%)
Some high school	12 (1.6%)
High school graduate	80 (10.4%)
Some college	195 (25.4%)
4 years college graduate	183 (23.8%)
Greater than 4 years of college	292 (38%)

Table 3 Contributors to annual CAHPS score

CAHPS Category (2017-2018)	Sample size (N)	% No/Never	% Yes, definitely/Yes/Always
Physician Communication Quality	781	2.10%	91.40%
Office Staff Quality	776	1.40%	89.70%
Access To Care 3 Month	780	9.00%	79.70%
Between Visit Communication	537	56.80%	43.20%
Care Coordination	778	10.40%	74.30%
Shared Decision-Making	772	26.30%	73.70%
Education About Medication	258	17.20%	82.80%
Access To Specialists	4	0.00%	62.50%
Health Promotion And Education	757	49.00%	51.00%
Stewardship Of Patient Resources	674	67.80%	32.20%

Phase I Results: Contributors to annual CAHPS score

Phase I involved a high-level breakdown of standard CAHPS measures for the year of 2017-2018. Table 3 displays the overall standing for each CAHPS category with the average scores for the lowest and highest response types. The sample size for each category is included for reference, as some of the categories had a lower response rate than the others, such as Access to Specialist, which could contribute to skewed results. Stewardship Patient Resources shows as the most poorly rated category, while Physician Communication Quality is the category with the highest positive rating.

Phase II Results: CAHPS by time of the day

Moving to the second phase of data set – comparison by appointment time – the findings show that satisfaction scores associated with morning appointments were higher for most focus categories. Access to Care 3 Month and Office Staff Quality were the only two categories with slightly higher satisfaction rates for afternoon appointments. See Table 4.

Within each focus category, there are focus measures. The focus measures help to provide more granularity to each focus category. Figure 1 (Appendix) shows the focus measures by time period. As shown, morning appointments scored highest on average for a majority of focus measures. The focus measures related to helpfulness and professionalism of receptionists as well as ability to get an appointment were the only measures scoring higher in satisfaction for afternoon appointments.

Assessing the global provider ratings by time period, it was discovered that patients that were seen in the morning (AM time period), gave higher ratings (on the scale of 0 to 9-10) to the providers (Figure 2, Appendix).

Patients seen in the morning are also more likely to recommend their providers (Figure 3 Appendix). These findings reinforce the observations from the prior data set comparisons by time of day.

Looking at the comparison of averages calculated for the alternative quality indicators (health/illness advice, staff provided safe and secure care, staff worked together, and wait time at clinic) by time period, the results also indicate a higher rating of patient satisfaction for these measures for morning appointments as compared to those in the afternoon. While the margins between AM and PM averages for each measure may not be substantial, the consistency at which average scores for morning appointments are higher than those for the morning is evident (Figure 4, Appendix).

Phase III Results: Breakdown of unstructured patient comments by time period

The breakdown of patient comments by time period further supports the theme of higher patient satisfaction averages across data sets for AM appointments (N=2492) when compared with PM appointments (N=1,949). Some examples of overall positive comments are, “the experience was pleasant & stress free,” “everyone was friendly and helpful,” “always glad to see her (the provider). She is both competent and personable,” and “when I called to ask a question they had the answer right away.” Some of the negative comments were, “curt and disengaged,” “I just waited forever (over an hour past my appointment time), It was very frustrating,” and “doctor needs to use sterile technique when performing excisional biopsy in the office.” The sample sizes include positive and negative comments and exclude any comments that were neutral. With this in mind, a higher percentage of positive comments is contributed by AM appointments (Figure 5, Appendix).

Table 4 Comparison of focus categories by time of day

CAHPS Measures (2017-2018)	AM		PM	
	% No/Never	%Yes, definitely/ Yes/Always	% No/Never	%Yes, definitely/ Yes/Always
Physician Communication Quality Overall	1.00%	93.80%	3.20%	88.70%
Office Staff Quality Overall	1.60%	88.70%	1.20%	90.80%
Access to Care 3 Month Overall	7.60%	80.00%	10.80%	80.30%
Between Visit Communication Overall	54.70%	45.30%	59.30%	40.70%
Care Coordination Overall	8.70%	74.90%	12.20%	73.80%
Shared Decision-making Overall	24.20%	75.80%	28.60%	71.40%
Education About Medication Overall	15.20%	84.80%	19.80%	80.20%
Access to Specialists Overall	0.00%	50.00%	0.00%	66.70%
Health Promotion and Education Overall	46.90%	53.10%	51.10%	48.90%
Stewardship of Patient Resources Overall	67.10%	32.90%	68.60%	31.40%

Discussion

This study analyzed CAHPS scores for a large academic medical center's dermatology clinics to answer the question, "To what degree does the appointment time contribute to patient satisfaction in outpatient clinics?" The data were collected for private dermatology specialty clinics, where patients make an appointment in advance with the dermatologist of their choice. Relative to patient experience by time period of the appointment (AM vs. PM), it was found that morning appointments have a higher satisfactory response across almost all quality measures for each data set. The results from this study are consistent with the findings from the literature, which indicate that time of day of the appointment plays a role in overall patient experience at emergency departments and primary care clinics.⁸⁻¹¹

This study illuminated a relationship between patient satisfaction scores and appointment times; identifying the drivers of these determined relationships is outside the scope of this study and represents an area of future research. For example, areas for consideration include understanding workflow and operations similarities and differences between AM and PM time periods. For instance, there could be different receptionists that work during AM vs PM that may need additional training or mornings could have fewer patients booked as compared to afternoons. A final recommendation in relation to this concern would be to inform clinic staff of the dip in patient satisfaction for the afternoons. Simple awareness

of this fact may influence efforts towards better patient satisfaction for a better patient experience for the indicated times of operation.

Limitations

This study has several limitations. First, the Press Ganey data were already summarized, which limited the statistical approaches that could be utilized for further analysis. Hence, analysis and reporting findings for this study was limited to descriptive statistics. Second, the CAHPS survey does not include a "not applicable" response, which forces patients to answer with "No/Never" when that may not really be the case. This limitation can result in an artificial increase of the negative responses. Third, inconsistent sample sizes may result in skewed results. It is worth noting that even considering the valuable associations between patient satisfaction and appointment time revealed in this study, these may be loose associations and in no way imply causality.

Conclusion

This study reports that time of day when the appointment is scheduled is a contributing factor towards patient satisfaction, thus enhancing the patient experience. Previous studies have focused on emergency departments and primary care and not on specialty clinics, such as dermatology. As such, this study's findings make a valuable contribution to understanding patient satisfaction by appointment time in dermatology clinics, and perhaps

in specialty clinics. However, further research to better understand the drivers behind the differences in satisfaction between AM and PM appointments could contribute to best practices in primary or other specialty clinics and lend to increased generalizability of the results. Additionally, future research could examine physician performance relative to the time of the appointment and further investigate the relationship between patient experience and physician performance.

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Appendix

Figure 1. Comparison of focus measures by appointment time

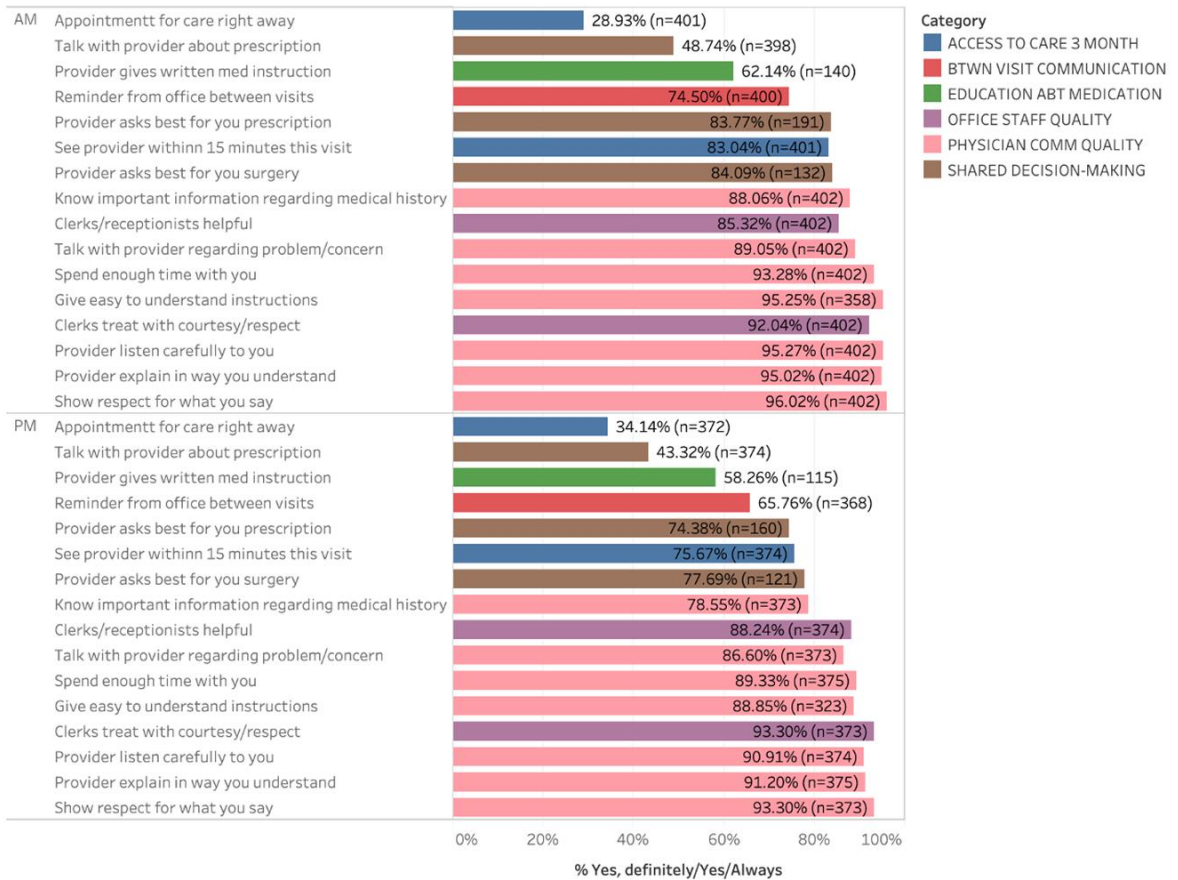


Figure 2. Provider rating by appointment time

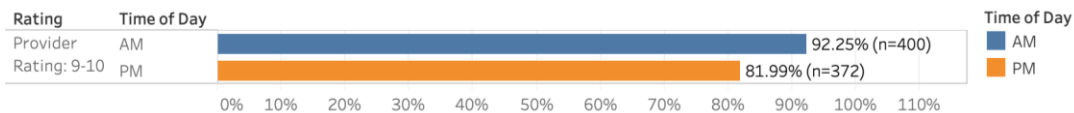
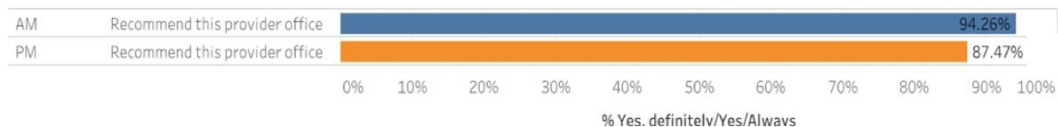


Figure 3. Likelihood of patient to recommend provider by time of day



Appendix (cont'd.)

Figure 4. Non-standard quality measures by time of day

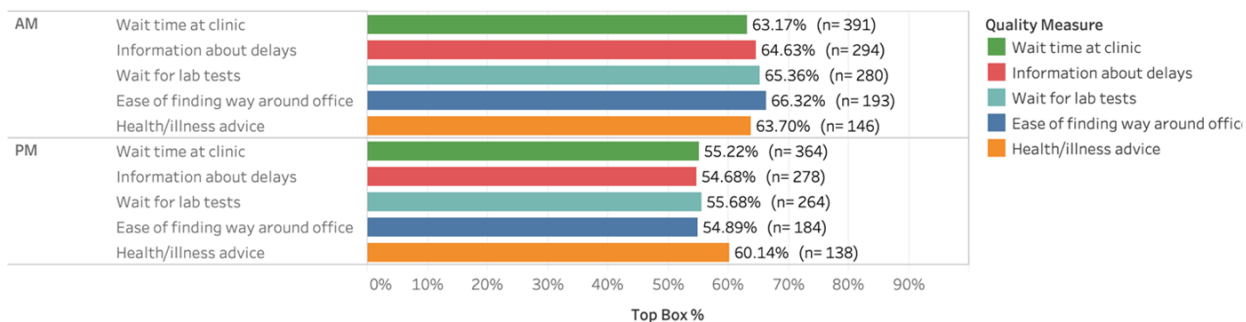


Figure 5. Patient comment comparison by time period

