Patient Satisfaction with Wait Times at an Emergency Ophthalmology On-Call Service

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ABSTRACT ●

Objective: To assess patient satisfaction with emergency ophthalmology care and determine the effect provision of anticipated appointment wait time has on scores.

Design: Single-centre, randomized control trial.

Participants: Fifty patients triaged at the Hamilton Regional Eye Institute (HREI) from November 2015 to July 2016.

Methods: Fifty patients triaged for next-day appointments at the HREI were randomly assigned to receive standard-of-care preappointment information or standard-of-care information in addition to an estimated appointment wait time. Patient satisfaction with care was assessed postvisit using the modified Judgements of Hospital Quality Questionnaire (JHQQ). In determining how informing patients of typical wait times influenced satisfaction, the Mann-Whitney *U* test was performed. As secondary study outcomes, we sought to determine patient satisfaction with the intervention material using the Fisher exact test and the effect that wait time, age, sex, education, mobility, and number of health care providers seen had on satisfaction scores using logistic regression analysis.

Results: The median JHQQ response was "very good" (4/5) and between "very good" and "excellent" (4.5/5) in the intervention and control arms, respectively. There was no difference in patient satisfaction between the cohorts (Mann-Whitney $U = 297.00$, $p = 0.964$). Logistic regression analysis demonstrated that wait times influenced patient satisfaction (OR = 0.919, 95% CI 0.864–0.978, $p = 0.008$). Of the intervention arm patients, 92.0% (N = 23) found the preappointment information useful, whereas only 12.5% (N = 3) of the control cohort patients noted the same ($p < 0.001$).

Conclusion: Provision of anticipated wait time information to patients in an emergency on-call ophthalmology clinic did not influence satisfaction with care as captured by the JHQQ.

Performance-monitoring frameworks (PMFs) have increasingly been adopted by the health service sector in an attempt to improve efficacy and efficiency of care.[1,2] In Ontario, a prominent PMF is the quality-based procedures (QBP) system. Here, expert advisory panels develop practice recommendations for a given procedure and outline indicators to monitor quality improvements in a modified version of the Balanced Scorecard (BSC) structure initially proposed by Kaplan and Norton.[3] Reimbursement has historically been tied to the quality indicators in an attempt to drive systemwide improvements.

Appropriate quality indicators and metrics that sufficiently discriminate patient satisfaction are salient issues for the QBPs. The current QBPs for ophthalmic care emphasize patient satisfaction and strive to place "the patient/user at the center of the care delivery" and include "patients' values, preferences and expressed needs in the care they receive."[4] Patient satisfaction, however, is a complex outcome and is influenced by a plethora of factors. Uncertainty, cultural perceptions, and lack of perceived control over circumstances appear to modify satisfaction ratings.[5–7] Moreover, the patient satisfaction metric may diverge from other PMF quality indicators because higher patient satisfaction scores have been associated with both higher overall health care expenditures and increased mortality.[8] Herein, we sought to assess the current state of patient satisfaction in an emergency ophthalmology on-call clinic setting using the modified Judgements of Hospital Quality Questionnaire (JHQQ) by Ware. In addition, the effect provision of anticipated wait times had on satisfaction ratings was evaluated.

Methods

Study design and eligibility

Patients presenting to the Hamilton Regional Eye Institute, Hamilton, Ont., for an emergency ophthalmology on-call consultation from St. Joseph Hospital Emergency Department and St. Joseph Hospital Urgent Care Center in Hamilton between November 1, 2015, and July 31, 2016, were asked to participate in this study. Patients were included in this study if they were 18 years or older at the time of the appointment, proficient in English, and both willing and able to give informed consent for study participation. Potential study participants were excluded if

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they had a mental or physical disability that precluded accurate survey completion. If a patient presented with poor vision and was willing to participate in the study, a masked trained research assistant aided the patient in completing study documentation. This study received ethics approval from the local institutional review board (REB#0498) and adhered to the tenants of the Declaration of Helsinki.

Study participants were randomized to either a control or intervention cohort. The control cohort received preappointment information that included the visit time and date, clinic location, and physician name if known at the time. This was consistent with the Hamilton Regional Eye Institute's standard of practice at the time. The intervention cohort received identical preappointment information with the addition of details regarding anticipated wait times, a descriptor of a typical patient encounter at the clinic, and a suggested list of items patients could bring with them to the appointment should they so choose. A copy of study intervention material is provided in Appendix 1. The intervention specifically addressed uncertainty regarding wait times, explaining the reasons behind potentially longer-than-expected wait times, and introduced the concept of possible triaging among patients at the eye clinic. Randomization was performed in blocks of 4 with an allocation ratio of 1:1 between study cohorts. The ophthalmologists evaluating study participant were blinded to cohort assignment at the time of evaluation.

After the patient–physician encounter, study participants were given a copy of the modified JHQQ. The questionnaire is available for reference in Appendix 2. The JHQQ is a validated metric[9] that assesses patient satisfaction and has historically been applied to an English-speaking ophthalmic population.[6] The JHQQ assesses satisfaction on using a 5-point Likert response scale, with response options consisting of "poor," "fair," "good," "very good," and "excellent" for most domains.

Statistical analysis

Participant demographic information is summarized as means and standard deviations for continuous variables or frequency with associated percentages for categorical measures. Survey responses were scored on a 5-point Likert scale, with 1 being the lowest or most disagreeable score and 5 being the highest or most agreeable score. This was true of all questions except the final question, which assessed patient satisfaction on a 3-point scale. We treated the survey scores as ordinal data. For ordinal data, the preferred measures of central tendency and dispersion are the median and interquartile range, respectively. Survey responses were reported using this convention. To assess the influence that informing the patient of typical wait times for an emergency on-call ophthalmology clinic appointment had on perceived satisfaction as captured by survey responses, the Mann-Whitney U test was performed. For all questions, the exact, 2-sided p-value was calculated, with the standard alpha error of <0.05 considered significant.

As a secondary study outcome, we sought to determine what effect wait time to see a physician; patient age, sex, education, and mobility; and number of health care providers seen at the appointment had on patient satisfaction. The wait time satisfaction response was dichotomized as scores at or above the 50th percentile and scores below the 50th percentile. A score at or above the 50th percentile corresponded to a survey response of "excellent." To preserve degrees of freedom, mobility was dichotomized as no help required or help required, and the number of health care providers was dichotomized as one provider seen or more than one provider seen. A forward logistic regression model was then performed; only those variables that achieved statistical significance were included in the model. The odds ratios (ORs) of significant variables with 95% confidence intervals (95% CIs) were calculated and reported. The p-value of the Hosmer-Lemeshow goodness-of-fit test was reported for the model. Study participants were asked to assess their satisfaction with the preappointment information as either satisfied or not satisfied. The Fisher exact test was used to compare responses between intervention and control cohorts.

Analysis was performed on SPSS software (IBM, version 22.0). Post hoc, a histogram of patient wait time satisfaction scores by intervention, control, and all study participants was generated on SPSS. If a given participant's survey was missing a response to the primary research question, the entire survey was excluded from analysis. However, if a response option other than the primary endpoint was left blank, the survey was still included in the primary analysis but was excluded in the analysis of the missing domain.

Results

From November 1, 2015, to July 31, 2016, 50 patients consented to study participation. One of the 50 patients failed to provide a survey response to the primary outcome and was subsequently removed from analysis. The study cohort consisted almost equally of male (46.9%) and female (53.1%) participants. The mean age of study participants was 54.4 ± 18.0 years. Total wait time to see the doctor upon arrival at the eye clinic averaged 20.5 ± 23.6 minutes. Subsequent demographic information is provided in Table 1. The survey response to question 2, which reads, "Compared to your expectations, the wait was poor, fair, good, very good, or excellent," served as the dependent variable for the primary research question. The median response was 4.00 for the intervention cohort and 4.50 for the control cohort, meaning that the median