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Patient satisfaction in the hand surgery clinic: An analysis of factors that impact the Press Ganey survey

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Abstract

Purpose: Our purpose was to test the null hypothesis that no patient or clinic visit characteristics affect satisfaction of hand surgery outpatients, as measured by the Press Ganey Outpatient Medical Practice Survey (PGOMPS).

Methods: Adult patients (≥ 18 years) evaluated by five fellowship-trained hand surgeons between January 2014 and December 2016 for a new patient clinic visit at a single tertiary academic medical center, were included. Prospectively-collected PGOMPS data were reviewed retrospectively for each visit. Chart review was performed to collect demographic and visit characteristics data. Satisfaction was defined *a priori* as achieving a PGOMPS score above the 33rd percentile. Both the PGOMPS Total Score (primary outcome) and Provider Sub-Score (secondary outcome) were analyzed using univariate and multivariable logistic regression.

Results: Of 748 included patients, mean age was 51.7 ± 15.5 years, and 64% were female. Leading diagnoses included tendonitis (19%), neuropathy (19%), arthritis (16%), and fracture/dislocation (13%). Multivariable modelling of the PGOMPS Total Score revealed that older age, shorter wait times, and scheduling surgery were significantly associated with greater satisfaction. PGOMPS Provider Sub-Score multivariable modelling revealed that older age, shorter wait times, scheduling surgery, and administering injections were significantly associated with greater satisfaction. Diagnostic category and insurance status did not affect satisfaction.

Conclusions: Increasing patient age, decreased wait time, and receiving an intervention (scheduling of surgery or injection) are associated with increased satisfaction among newlypresenting hand surgery clinic patients as measured by the Press Ganey Outpatient Medical Practice Survey. Diagnosis and access to healthcare (insurance status and distance to clinic) did not influence patient satisfaction.

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Keywords

Age; Hand surgery; Injection; Patient satisfaction; Press Ganey Outpatient Medical Practice Survey; Sex; Surgery

Introduction:

In recent years, there has been an increased emphasis on measuring patient satisfaction in the United States. The Press Ganey Outpatient Medical Practice Survey (PGOMPS) is one metric that has notable prevalence in this arena, and has been used to assess physician performance, modify provider compensation, and in general to inform systematic changes on how outpatient health care is delivered.^{1–3} Despite the widespread use of the PGOMPS,⁴ the factors that influence patient satisfaction in the hand surgery patient population have yet to be fully elucidated. An improved understanding of these factors may aid in the interpretation of scores, and may provide an opportunity to improve patient satisfaction.

Prior studies in orthopaedic and non-orthopaedic patient populations has led to somewhat inconsistent findings, with some authors reporting an adverse effect of perceived wait time on patient satisfaction,^{5–8} while others found no association⁹ or the opposite effect.¹⁰ Other studies have attempted to determine the effect of previously unmeasured factors such as medical student involvement in patient care,¹¹ implementation of an emergency department fast track,¹² or prescription of opioid analgesics on PGOMPS scores.¹³ We are unaware of prior studies specific to a hand surgery outpatient population. An investigation of these factors may provide the opportunity to better understand and ultimately improve the patient experience in outpatient hand surgery clinics, as measured by a commonly-used patient satisfaction instrument.

The purpose of our study was to test our null hypothesis that no factors affect PGOMPS scores in an outpatient hand surgery clinic.

Methods:

As part of an ongoing quality improvement initiative, our institution has contracted with the Press-Ganey Corporation to measure patient satisfaction in all outpatient encounters. All patients who complete an encounter in the hand clinic are contacted automatically by email following their clinic appointment with a request to complete the PGOMPS electronically. Those patients who do not complete the survey within 5 days are sent another email. The links to the online survey are live for 30 days following the clinic visit. Data were compiled by the Press-Ganey Corporation.

The PGOMPS consists of 24 questions grouped into 6 domains that evaluate an individual patient's perception of several aspects of health care delivery in the outpatient setting. Questions include those related to access (4 questions), moving through your visit (2 questions), nurse/assistant (2 questions), care provider (10 questions), personal issues (4 questions), and overall assessment (2 questions).¹⁴ The Provider Sub-score is calculated from the 10 care provider questions (Appendix I). Each question offers a numerical response

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ranging from 1 “very poor” to 5 “very good” on a Likert scale. As part of the survey, patients are also queried to report wait time as a free text numerical entry for both the waiting room and clinic exam room. The equations used to calculate the Total Score and Provider Sub-Score are proprietary; therefore, the scores were calculated by the Press-Ganey Corporation and reported to our institution in association with each specific clinic visit. A greater score indicates a higher level of patient satisfaction for both the Total Score and the Provider Sub-Score. A psychometrics report for PGOMPS is available from the vendor, providing assessments of reliability and validity based on 1791 surveys from 8 practices across 5 states.¹⁵ This report describes a 34-question version of the survey with “no problems encountered” with missingness and response variability.¹⁵ More recently a peer-reviewed publication confirmed satisfactory psychometric properties of the PGOMPS for measuring patient satisfaction, however a high ceiling effect was observed.¹⁴

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All adult patients (≥ 18 years) evaluated by one of five fellowship-trained orthopaedic hand surgeons between January 2014 and December 2016 for a new patient clinic visit were considered for inclusion. Return and postoperative patient visits were excluded. PGOMPS data collected at each visit was reviewed retrospectively for each visit. Chart review was performed to collect demographic variables and visit characteristics including the provider, diagnosis, distance from patients’ homes to clinic, and insurance status, as well as data on whether surgery was recommended or an injection performed. Total wait time was calculated as the sum of waiting room wait time and exam room wait time.

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Satisfaction was analyzed based upon the overall encounter (PGOMPS Total Score), and separately for the care provider (PGOMPS Provider Sub-Score). Patients were categorized as ‘dissatisfied’ if their mean Total Score was ≤ the 33rd percentile. Patients with scores > 33rd percentile were categorized as ‘satisfied’. This threshold was chosen *a priori* based on previously-established methodology for Press-Ganey satisfaction to account for the substantial ceiling effect of this scoring system. The 33rd percentile corresponded to a value of 87.5 for Total Score and 91.7 for Provider Sub-Score in our study.^{14,16} Since the time between the office visit and survey completion are reported by Press Ganey as the week of completion rather than the exact date, the mean lower (days between the office visit and first day of the week of completion) and upper end (days between the office visit and last day of the week of completion) were both calculated and reported. Cronbach’s alpha was used to estimate the internal consistency and reliability of the PGOMPS in our sample, where values exceeding 0.7 are considered to indicate reliability.¹⁷

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Continuous variables were summarized as mean ± standard deviation (SD), and median with interquartile range (IQR). Categorical variables were summarized as count and percentages (%). Univariable logistic regression models were used to predict the odds of patient satisfaction from patient demographics, visit characteristic, access to clinic variables, and intervention variables. Multivariable logistic regression was then used to evaluate for potential relationships between potential predictive variables of patient satisfaction and all variables from the univariate analysis were included, noting the precedent to relax the rule-of-thumb of 10 events per predictor for logistic regression models down to 6 events per predictor.¹⁸ Provider was included as a predictor in all multivariable regression models to address the potential association between this variable and satisfaction. Separate univariate

and multivariable models were performed for Total Score and Provider Sub-Score. Odds ratios (ORs), corresponding 95% confidence intervals (CIs) and Wald chi-squared test p-values were provided for each variable. Significance was evaluated at a 0.05 level, and all tests were two-tailed.

Results:

A total of 748 unique new outpatient hand surgery patient encounters met the inclusion criteria after excluding 73 pediatric patients and 3 return visit encounters that were miscoded as new patient visits. The included patients' mean age was 51.7 ± 15.5 years, and 36% were male. Leading diagnoses included tendonitis (19%), neuropathy (19%), arthritis (16%), and fracture/dislocation (13%) (Table 1). The average time to questionnaire completion by the patient was 3 ± 5 days at the low-end (time between the office visit and first day of the week of survey completion), and a mean of 9 ± 5 days at the upper end (time between the office visit and last day of the week of survey completion). The 748 included encounters represent patients who returned the survey, with an overall PGOMPS response rate estimate of 8.9% for new patient visits (748/8438). Cronbach's alpha for the care provider domain (10 items) was 0.98, and for the entire PGOMPS it was 0.96 (25 items), indicating high internal consistency in our sample.

Univariate modelling of the PGOMPS Total Score revealed that older patients, decreased wait times, and patients scheduled for surgery were more satisfied (Table 2). These associations remained significant in the multivariable model (Table 2). Multivariable modelling revealed that for each 1-year increase in age, the odds of satisfaction increased by 3% (OR 1.03; 95% CI 1.02 – 1.05, $p < 0.01$). Each additional minute of wait time decreased the odds of satisfaction by 5% (OR 0.95; 95% CI 0.93, 0.96, $p < 0.01$) as illustrated in Figure 1. Those patients who scheduled surgery had an 83% greater odds of being satisfied (OR 1.83; 95% CI 1.21 – 2.80, $p < 0.01$). Patients in the "Other Diagnoses" category in Table 2 included a total of 7 patients with various diagnoses including post-traumatic contractures, spastic contractures, or Madelung's deformity. There was a significant association between having one of these diagnoses and a greater Total Score, indicating higher patient satisfaction, in our multivariable analysis (OR 4.74; 95% CI 1.56 – 17.13, $p < 0.01$) that was not present in the univariate analysis. However, additional differences were not observed for any other diagnostic category in the univariate and multivariable models for Total Score.

Similarly, univariate modelling of the PGOMPS Provider Sub-Score revealed that older patients, those with less wait time, and those receiving an injection or scheduling surgery were more satisfied with their physician (Table 3). These associations remained significant in the multivariable model (Table 3). Multivariable modelling revealed that for each 1-year increase in age, the odds of provider satisfaction increased by 4% (OR 1.04; 95% CI 1.03 – 1.06, $p < 0.01$). Each additional minute of wait time decreased the odds of satisfaction by 3% (OR 0.97, $p < 0.01$; 95% CI 0.95 – 0.98) as illustrated in Figure 2. Patients who were scheduled for surgery had a significantly greater odds of being satisfied with their provider (OR 2.31; 95% CI 1.52 – 3.56, $p < 0.01$). Patients receiving an injection in clinic were also significantly more satisfied with their provider (OR 2.73; 95% CI 1.61 – 4.69, $p < 0.01$).

Diagnostic category was not associated with provider satisfaction in the univariate or multivariable analyses for Provider Sub-Score.

There was no association between access to healthcare variables and satisfaction on the Total Score or Provider Sub-Score, as no association with patient insurance status and distance to clinic were observed in our study population. A trauma diagnosis (versus non-trauma) did not affect overall or provider satisfaction in either logistic regression model.

Discussion:

The Centers for Medicare & Medicaid Services has recognized the Press Ganey Outpatient Medical Practice Survey as an important evaluation of patient satisfaction.^{1–4,19} While modifiable and non-modifiable factors in several practice environments and healthcare specialties have been identified, our study focuses on the hand surgery outpatient population. Notably, but not surprisingly, increased wait time for patients in this study adversely affected the PGOMPS Total Score and Provider Sub-Score. While the findings of this study are in line with prior studies on the topic of patient wait time and satisfaction,^{6,7} there is some evidence the issue may be more complex. For instance, Patterson *et al* found that it was time spent with the provider, rather than the actual wait time, that significantly correlated with patient satisfaction as measured by the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey for orthopaedic patients.⁹ Given the magnitude of the effect we report here, however - whereby each additional minute of wait time decreased the odds of satisfaction by 3% - we feel that increasing wait time is an important driver of patient satisfaction in outpatient hand clinics. However, the current study did not evaluate for a possible effect of time spent with the provider on patient satisfaction, as this is not a variable contributing to the Press Ganey score.

Additional findings of the current study include that increasing age of patients was associated with greater satisfaction, which is consistent with several prior studies that have demonstrated a similarly strong effect of age on patient satisfaction.^{9,20–23} Non-modifiable factors such as the clinical diagnosis (specific to the upper extremity) and sex were not significantly associated with PGOMPS in the current study, and the lack of association with sex is consistent with prior studies.^{6,21} Furthermore, factors such as access to healthcare as measured by driving distance and insurance status were not significantly associated with PGOMPS scores in the current study.

Interestingly, we found that administering a steroid injection or scheduling a surgical procedure significantly increased the odds of satisfaction with the care provider, and scheduling surgery was associated with a greater likelihood of achieving satisfaction on the Total Score. It remains unclear whether this increased satisfaction is a function of patients' perceptions that their presenting problem is being taken seriously, whether it is related to an immediate therapeutic response to an injection or merely due to the fact that patients are being scheduled for an intervention. Patient expectations and preferences may differ between those receiving an intervention and those who do not. Perhaps, a portion of the increased satisfaction observed in the intervention cohort can be attributed to the "sunk cost" bias of receiving an intervention as patients may be more invested in their care. It is also possible

that there is a measurement bias in the PGOMPS that systematically over-represents the weight of patients' perceptions that their presenting problem is being taken seriously. This could lead to higher PGOMPS scores in patients offered an intervention. As such, we urge caution against changing practice patterns in attempt to improve PGOMPS scores. We encourage providers to employ a shared decision-making model with patients to determine the most appropriate initial treatment when presenting with elective diagnoses.

Our study showed a significant association between having "Other Diagnoses" and increased satisfaction on the Total Score multivariable analysis. This group included 7 patients with relatively rare and heterogeneous diagnoses that included post-traumatic contractures, spastic contractures, or Madelung's deformity. We interpret this significant finding with a high suspicion of type I error, particularly given the wide confidence interval and low sample size in this sub-group. Furthermore, no association was noted for any of the more common diagnostic categories. However, it is still possible that patients with rare, challenging diagnoses referred to a tertiary care center are more satisfied with their care.

This study has limitations that deserve mention. Generalizing our results beyond a non-shoulder hand and upper extremity population should be performed with caution. Furthermore, our study population was homogenous with 92% of patients self-reporting as Caucasian. This limits our ability to examine the potential confounding effect of race. Although patient diagnosis and presence of a trauma etiology was recorded, disease severity was not directly evaluated. It is possible that disease severity may affect patient satisfaction, however our study design precludes us from drawing conclusions in this regard. Our study is also subject to the limitations associated with use of the PGOMPS survey, namely a low response rate and potential for nonresponse bias for the survey. A prior study found that patients responding to the PGOMPS systematically differed from those who did not in terms of age, sex, insurance type, and orthopaedic subspecialty.²⁴ Wait time data were extracted from individual item-level patient responses for each PGOMPS score and reflect a value entered by the patient that was not corroborated by actual timing of the visits. Although this is a limitation of our study, it is also a limitation of the PGOMPS scoring algorithm in which the value for wait time entered by the patient is used in score calculations, rather than using wait times based on actual measurements by the clinic.

A limited response rate is an additional study limitation, which is also a limitation of the real-world use of PGOMPS survey data. While all patient satisfaction surveys suffer from a degree of non-response with their associated non-response biases, the Press-Ganey response rate is particularly poor. Our observed response rate of 8.9% is lower than the 12.6% institutional rate for 2014, and the 16.5% rate for the orthopaedic patient population inclusive of all sub-specialties at our institution in 2013.^{14,24} However, Lee et al. noticed that our institutional rates have declined over time, from 19.1% in 2011 to 12.6% in 2014.²⁵ In comparison, the Consumer Assessment of Healthcare Providers and Systems (CAHPS) implementations do tend to have higher response rates.^{26,27} Our observed low response rate could be our patient selection criteria for this study, which included only new patient encounters, in comparison to the prior mentioned studies that included follow-up patients that may be more likely to respond. It is unclear where our observed response rate stands among that of other studies or institutions, as the majority of Press Ganey studies do not

publish their response rate. This may be because Press Ganey sometimes administers their survey to a random subset of all outpatient encounters, in which the denominator remains undisclosed. Thus, the non-response rate is not easy to calculate. In order to provide context to the results of such studies, we encourage readers to publish future PGOMPS studies with their response rates. Regardless of the reason, our observed low response rate raises concern for potential non-response bias, which has been previously demonstrated in an orthopaedic outpatient population using the PGOMPS.²⁴ However, it is unclear whether this affects the results of the current study, and this is also a criticism of the PGOMPS metric in general as these data are being utilized without regard for the very low response rates and nonresponse biases that are likely present.

In conclusion, this study identified several variables that can affect patient satisfaction in an outpatient hand clinic patient population. Decreasing patient wait times appears to offer a method by which to increase patient satisfaction. More complex, however, is the finding that offering an intervention increased both overall and care provider satisfaction. This finding should be interpreted with caution, and we encourage a shared decision-making model with patients to determine the most appropriate initial treatment. Given that PGOMPS may be used as a surrogate for physician performance or even quality of care in some institutions, it is important to interpret providers' scores in the context of these influential factors.

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Appendix

Appendix Table 1 -

Press Ganey Outpatient Medical Practice Survey Questions

Access
Ease of getting clinic on the phone
Convenience of office hours
Ease of scheduling appointment
Courtesy of staff in registration area
Ability to get desired appointment
Moving through visit
Informed of any delays
Wait time at clinic
Nurse/Assistant
Friendliness of nurse
Concern nurse showed for problem
Care Provider (CP) *
Friendliness of CP
Explanations provided for problem

Concern for your questions
Efforts to include you in treatment
Information about medications (if any)
Instructions for care (if any)
Understandable explanations
Time spent with you
Your confidence in CP
Likelihood of recommending CP
Personnel issues
Staff protected your safety
Our sensitivity to your needs
Our concern for your privacy
Cleanliness of our practice
Staff work together
Likelihood of recommending practice
Wait time
Time in waiting area
Time waiting for provider in room

Total score was a roll-up of all of the above questions in the survey

* Provider Sub-score was a roll-up of the ten care provider questions

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Figure 1 –.
Effect of total wait time on Press Ganey Outpatient Medical Practice Survey Total Scores.
Black line represents the mean, and gray represents a 95% confidence interval.

Figure 2 –.
Effect of total wait time on Press Ganey Outpatient Medical Practice Survey Provider Sub-Scores. Black line represents the mean, and gray represents a 95% confidence interval.

Table 1 -

Baseline Patient Characteristics

Factor	Summary	
	Mean $\pm$ SD or Count (%)	Median (Interquartile Range)
Demographics and Patient Factors		
Age (years)	51.7 $\pm$ 15.5	54 (37, 64)
Driving distance (miles)	57.4 $\pm$ 198.9	16.4 (8.9, 28.3)
Insurance		
Self Pay	25 (3%)	-
Commercial	503 (67%)	-
Medicaid	23 (3%)	-
Medicare	167 (22%)	-
Worker's Compensation	9 (1%)	-
Other	19 (3%)	-
Sex (male)	272 (36%)	-
Race (Caucasian)	680 (92%)	-
Wait time (minutes)	15 $\pm$ 15 (Range 0 – 135)	10 (5, 20)
Time to Questionnaire Completion (days)	3.4 $\pm$ 4.5 to 9.4 $\pm$ 4.5 (Range 3 to 33)	-
Diagnostic and Treatment Factors		
Diagnosis (Traumatic)	184 (25%)	-
Diagnosis Category		
Arthritis	116 (16%)	-
Dupuytren's	16 (2%)	-
Fracture-Dislocation	102 (13%)	-
Mass	87 (12%)	-
Nerve (atraumatic)	143 (19%)	-
Pain not otherwise specified	14 (2%)	-
Postoperative second opinion	19 (3%)	-
Soft tissue traumatic	80 (11%)	-
Tendonitis	146 (19%)	-
Other ^a	25 (3%)	-
Second Opinion	40 (5%)	-
Treatment		
Injection Performed	182 (24%)	-
Surgery Recommended and Performed	226 (30%)	-

^aOther includes a total of 7 patients, with post-traumatic contractures, spastic contractures, or Madelung's deformity.

Missing values: Insurance=2, Diagnosis (Traumatic) = 2, Second Opinion=1, Infection Performed=1, Surgery Recommended and Performed = 1.

Table 2 -

Predictors of Satisfaction on the Press Ganey Total Score

Factor	Univariate Analysis		Multivariable Analysis [#]	
	Odds Ratio and 95% Confidence Interval	p-value	Odds Ratio and 95% Confidence Interval	p-value
Demographics and Patient Factors				
Age ^a	1.02 (1.01 • 1.03)	<0.05	1.03 (1.02 • 1.05)	<0.05
Driving distance ^b	1.00 (0.99 • 1.01)	0.85	1.00 (0.99 • 1.01)	0.55
Insurance				
Commercial	1.05 (0.44 • 2.39)	0.90	1.05 (0.38 • 2.72)	0.92
Medicaid	1.29 (0.39 • 4.41)	0.68	1.73 (0.44 • 7.05)	0.44
Medicare	1.39 (0.56 • 3.32)	0.46	0.86 (0.29 • 2.41)	0.78
Worker's Compensation	0.28 (0.05 • 1.33)	0.12	0.34 (0.05 • 2.00)	0.25
Other	0.96 (0.28 • 3.4)	0.95	0.91 (0.22 • 3.69)	0.89
Sex (male versus female)	0.86 (0.63 • 1.17)	0.34	0.94 (0.65 • 1.37)	0.75
Waittime ^c	0.95 (0.94 • 0.97)	<0.05	0.95 (0.93 • 0.96)	<0.05
Time to Questionnaire Completion (days) ^d	0.98 (0.95 • 1.02)	0.32	0.99 (0.95 • 1.03)	0.47
Diagnostic and Treatment Factors				
Diagnosis (Traumatic versus Atraumatic)	0.97 (0.69 • 1.39)	0.88	1.75 (0.73 • 4.26)	0.21
Diagnosis Category				
Dupuytren's	1.07 (0.36 • 3.6)	0.90	1.10 (0.32 • 4.10)	0.88
Fracture-Dislocation	0.93 (0.53 • 1.64)	0.81	1.19 (0.41 • 3.47)	0.75
Mass	1.21 (0.66 • 2.23)	0.54	1.95 (0.96 • 4.03)	0.07
Nerve (atraumatic)	0.76 (0.45 • 1.26)	0.29	1.22 (0.67 • 2.24)	0.52
Pain not otherwise specified	0.65 (0.21 • 2.1)	0.45	1.20 (0.32 • 4.66)	0.79
Postoperative second opinion	0.67 (0.25 • 1.86)	0.43	1.06 (0.32 • 3.65)	0.92
Soft tissue traumatic	0.90 (0.5 • 1.66)	0.74	1.29 (0.46 • 3.74)	0.63
Tendonitis	1.03 (0.61 • 1.73)	0.92	1.40 (0.75 • 2.62)	0.29

<u>Factor</u>	<u>Univariate Analysis</u>		<u>Multivariable Analysis[‡]</u>	
	Odds Ratio and 95% Confidence Interval	p-value	Odds Ratio and 95% Confidence Interval	p-value
Other Diagnoses ^e	1.95 (0.72 • 6.21)	0.21	4.74 (1.56 • 17.13)	<0.05
Second Opinion	0.68 (0.36 • 1.31)	0.24	0.86 (0.37 • 2.02)	0.72
Treatment				
Injection Performed	1.25 (0.87 • 1.8)	0.23	1.33 (0.80 • 2.23)	0.28
Surgery Scheduled and Performed	1.63 (1.16 • 2.31)	<0.05	1.83 (1.21 • 2.8)	<0.05

Bolded p-values are statistically significant ($p < 0.05$).

^aPer additional 1 year of age.

^bPer additional 1 mile of driving distance.

^cPer additional 1 minute of wait time.

^dBased upon the upper limit (last day of the week) of the 1-week interval of survey completion, rather than the actual completion date, provided by Press Ganey.

^eOther includes a total of 7 patients, with post-traumatic contractures, spastic contractures, or Madelung's deformity.

[‡] Additional variables included in the model but not shown: day of the week, month of the year, and provider.

Table 3 -

Predictors of Satisfaction on the Press Ganey Provider Sub-Score

<u>Factor</u>	<u>Univariate Analysis</u>		<u>Multivariable Analysis[‡]</u>	
	<u>Odds Ratio and 95% Confidence Interval</u>	<u>p-value</u>	<u>Odds Ratio and 95% Confidence Interval</u>	<u>p-value</u>
Demographics and Patient Factors				
Age ^a	1.03 (1.02 • 1.04)	<0.05	1.04 (1.03 • 1.06)	<0.05
Driving distance ^b	1.00 (0.99 • 1.01)	0.39	1.00 (0.98 • 1.00)	0.13
Insurance				
Commercial	1.23 (0.52 • 2.76)	0.62	1.25 (0.46 • 3.27)	0.65
Medicaid	1.04 (0.32 • 3.34)	0.95	1.39 (0.36 • 5.37)	0.63
Medicare	1.71 (0.70 • 4.05)	0.23	0.95 (0.32 • 2.69)	0.92
Worker's Compensation	1.33 (0.28 • 7.49)	0.72	1.81 (0.3 • 12.29)	0.52
Other	1.44 (0.42 • 5.28)	0.57	1.57 (0.37 • 6.89)	0.54
Sex (male versus female)	1.05 (0.77 • 1.45)	0.75	1.16 (0.8 • 1.7)	0.43
Wait time ^c	0.97 (0.96 • 0.98)	<0.05	0.97 (0.95 • 0.98)	<0.05
Time to Questionnaire Completion (days) ^d	0.98 (0.94 • 1.01)	0.15	0.97 (0.94 • 1.01)	0.19
Diagnostic and Treatment Factors				
Diagnosis (Traumatic versus Atraumatic)	0.97 (0.69 • 1.39)	0.88	1.75 (0.73 • 4.26)	0.21
Diagnosis Category				
Dupuytren's	1.52 (0.49 • 5.71)	0.49	1.85 (0.52 • 7.68)	0.36
Fracture-Dislocation	0.96 (0.54 • 1.68)	0.87	1.62 (0.55 • 4.83)	0.39
Mass	1.07 (0.59 • 1.94)	0.83	1.81 (0.89 • 3.72)	0.10
Nerve (atraumatic)	0.85 (0.51 • 1.42)	0.54	1.73 (0.93 • 3.24)	0.09
Pain not otherwise specified	1.27 (0.4 • 4.85)	0.70	3.91 (0.98 • 17.84)	0.06
Postoperative second opinion	0.87 (0.32 • 2.49)	0.78	1.67 (0.49 • 6.00)	0.42
Soft tissue traumatic	1.23 (0.67 • 2.31)	0.51	1.88 (0.65 • 5.56)	0.25
Tendonitis	1.00 (0.6 • 1.68)	0.99	1.01 (0.53 • 1.89)	0.99
Other Diagnoses ^e	0.76 (0.32 • 1.89)	0.54	2.73 (0.99 • 7.87)	0.06
Second Opinion	0.68 (0.36 • 1.31)	0.24	0.86 (0.37 • 2.02)	0.72
Treatment				
Injection Performed	1.59 (1.10 • 2.32)	<0.05	2.73 (1.61 • 4.69)	<0.05
Surgery Scheduled and Performed	1.85 (1.31 • 2.64)	<0.05	2.31 (1.52 • 3.56)	<0.05

Bolded p-values are statistically significant (p < 0.05)

^aPer additional 1 year of age.^bPer additional 1 mile of driving distance.^cPer additional 1 minute of wait time.

^dBased upon the upper limit (last day of the week) of the 1-week interval of survey completion, rather than the actual completion date, provided by Press Ganey.

^eOther includes a total of 7 patients, with post-traumatic contractures, spastic contractures, or Madelung's deformity.

[†]Additional variables included in the model but not shown: day of the week, month of the year, and provider.

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