Students Do Not Reduce Patient Satisfaction in a Family Medicine Clinic as Measured by a Nationally Used Patient Satisfaction Instrument

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BACKGROUND AND OBJECTIVES: Patient satisfaction surveys are widely used to give physicians feedback on their treatment of patients, included in physician performance evaluation and payment, and correlated with better health outcomes. Our research uses industry-standard satisfaction measures to gauge the impact on patient satisfaction of having students involved in a patient’s medical care at the family medicine clinic of a large southwestern osteopathic medical school.

METHODS: A retrospective cohort study was conducted using the Press-Ganey Survey, a national survey commonly used by hospitals and clinics. The survey was modified to indicate the presence of a learner in the patient’s treatment room. The survey provided data on patient satisfaction with the office, the visit, and the care received.

RESULTS: Overall, 730 survey responses were used in the study, 434 from patients with whose visit included a student. There were no statistically significant differences in patient satisfaction scores, including overall satisfaction with the visit.

CONCLUSIONS: Our findings indicate that student doctors do not decrease patient satisfaction and that satisfaction scores may be useful in student evaluations. This finding should encourage outpatient physicians who teach medical students that their patient satisfaction scores on the most widely used patient satisfaction survey will not be impacted by teaching students.

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The participation of medical students in clinical clerkship rotations is an essential aspect of medical education, and in order for the medical student to benefit from the experience, the student must be accepted and appreciated by the patient. As large-scale use of patient satisfaction data becomes more important for both patient outcomes and physician reimbursement, the impact of medical students on patient satisfaction during the patient visit becomes more important as well. Increased satisfaction has been found to improve outcomes, and the Patient Protection and Affordable Care Act requires the Center for Medicare and Medicaid Services (CMS) to establish both public reporting and physician reimbursement systems that incorporate satisfaction data. Previous research has found that most patients are comfortable having a medical student present during their encounter, even in practices where patients are discussing or receiving examinations of an intimate nature: 78% of patients surveyed in an outpatient obstetrics practice would allow a student to be present for future visits. Patients prefer the additional time spent with them when a student is involved with their care and gain a sense of fulfillment by helping to train medical students. We test whether the largest, national patient satisfaction survey instrument administered by Press-Ganey Associates, Inc (PGI), whose data is widely used to meet these federal requirements, will reflect past findings on the impact of medical students on patient satisfaction.

Literature Review
A majority of patients accept student participation in their care, but meaningful opposition to the presence of students has been found, but a majority of patients in these studies still accepted students. Some investigations found that having a student present increases satisfaction. Some factors related to the nature of the visit may make patients more likely to find the experience of being involved in teaching a student unsatisfactory: patients with intimate or emotional complaints are more likely to refuse a student.

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one quarter to half of patients stated that giving permission to be seen by students was dependent on the complaint type,10 but this finding was not universal.18

Researchers find no differences in measured satisfaction or encounter quality when a student is present, in community-based practice,5,6,13,14 managed care,9 or rural settings,8 and this finding is generalizable across specialties.19 Age,20 race,11 and ethnicity16,21 do impact patients’ opinions of students, with older or non-white patients having more concerns about the presence of a student.

Methods
This study was conducted in a family medicine clinic comprised of six full-time family medicine clinical faculty members. The average age of clinic patients is 56, patients are 54% male, and 85% white, with 34% reporting Hispanic descent. About 25% are on Medicare, and 2% on Medicaid. Each month, two or three third-year medical students rotate in the family medicine clinic as a part of their first clinical year, which includes clinical clerkship rotations in cardiology, family medicine, internal medicine, obstetrics and gynecology, pediatrics, psychiatry, and general surgery. Typically, students see patients to perform a history and physical exam, then report their findings to the physician, who is present for the exam, treatment, and summary of findings. Students rotate with several faculty members each week, for 4 weeks. All faculty members saw patients in the clinic both with and without students, and no other physicians in the clinic saw patients during this time. The study period was the end of the students’ third year (rotation months 10 and 11).

Data were collected by PGI (the largest patient satisfaction survey vendor in the United States), whose surveys are used to measure satisfaction with more than 58,000 outpatient providers in 68 specialties and 8,000 sites and has been contracted since 2010 to provide patient satisfaction information to the Midwestern University Clinics. PGI uses standard psychometric practices to collect data and relate that data back to a specific provider and visit.19 PGI data has been widely used and reported in studies involving patient satisfaction.23 An indicator for student involvement was added directly to the satisfaction survey by PGI. Demographic data for the sample are not reported. Questions elicited patient satisfaction with access, moving through the visit, the nurse or medical assistant, the physician, personal issues (eg, privacy), and overall satisfaction, each measured on a 5-point Likert scale ranging from 1 (very poor) to 5 (very good). Surveys are sent to all family medicine clinic patients. Data was collected by PGI via US mail (return postage paid), and individual survey data was provided to the researchers. The study was reviewed by the Institutional Review Board of Midwestern University and found to be exempt.

Returned, completed surveys covered the visit period May 25, 2011–July 7, 2012. During this time, 830 surveys were received, for a response rate of 12.3%. Of these respondents, 434 (52%) indicated that a student was present, 296 (36%) responded that no student was present, and 99 surveys (12%) contained no answer to this question. Surveys with missing data on students were excluded from the analysis. Of the 35 items on each survey, 10 “Provider” questions were included in our analysis, as were two “Personal Issues” questions (indicating whether the practice was sensitive to the patient’s needs and whether the practice was concerned for the patient’s privacy). Other questions involved parts of the encounter in which students were not involved, such as the check-in process or the referral process.

Analysis and Results
The null hypothesis $H_0$ posited finding no measurable differences between the mean level of satisfaction reported by patients in the student group and the physician-only group for each of the 12 survey items included in the analysis. Each patient’s scores for the 12 questions were analyzed using a $t$ test for independent means (Student’s $t$) and a significance level of $P \leq 0.05$. The results are presented in Table 1.

For none of the 12 responses did the physician and student together have statistically significantly different satisfaction scores than the physician alone. This indicates that the presence of medical students does not decrease patient satisfaction despite the loss of privacy and the concerns about having a learner examine or perform procedures on the patients.

Discussion
Like other studies, we found no negative impact of students on patient satisfaction. Strengths of the study include the large sample size and the fact that the same physicians saw patients both with and without students. Important limitations of this study include that because patient identities are not collected by PGI, we cannot identify demographic characteristics, nor can we confirm that patients who indicate they were seen by a student actually had a student in their care. Other weaknesses include the typically small mail survey response rate, the fact that this is a single-site study, and that patients coming to the clinic may come because they know that they will be participating in the education of medical students. Additionally, these results may not be generalizable due to the homogenous nature of the patient population.

Using a standard patient satisfaction score to measure satisfaction with a student’s care is a novel approach to studying this issue. Previous research into patient satisfaction with student doctors has depended largely on newly developed survey instruments1,4,5,7,8,17 decreasing the ease and validity of surveying patients. While some previous studies14 have used validated instruments, using a satisfaction survey that meets the federal requirements for collection of patient experience data,10
with a student indicator, standardizes and improves data gathering in satisfaction research. This can teach students about the use of patient experience data and its relationship to outcomes and reimbursement. These data could be compared to other teaching institutions as a part of PGI’s services. Satisfaction scores can be linked to individual students just as they are linked to individual providers (date and physician identification for the visit allows matching to students) and can add an important element to the current way in which students’ humanistic skills are assessed during their clinical clerkship rotations.

Patient satisfaction with physician services is required as an important measure of health outcomes under the Affordable Care Act. PGI scores have been widely used in research, so a more critical analysis of appropriate methods are needed for these data. Finally, satisfaction score data may represent an untapped resource for performance information about medical students in their clinical clerkships. Using satisfaction scores in assessments can teach medical students how to improve patient satisfaction, and the importance of the patient experience to the health care system, to physicians and to the patient’s health.

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**References**


<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Mean (With Student)</th>
<th>Mean (Without Student)</th>
<th>Difference (Positive Values Favor Students)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly/courtesy of the care provider</td>
<td>4.90</td>
<td>4.87</td>
<td>0.03</td>
<td>.798</td>
</tr>
<tr>
<td>Explanations the care provider gave you about your problem or condition</td>
<td>4.75</td>
<td>4.76</td>
<td>-0.01</td>
<td>.893</td>
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<tr>
<td>Concern that the care provider showed for your questions or worries</td>
<td>4.80</td>
<td>4.77</td>
<td>0.03</td>
<td>.408</td>
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<td>Care provider’s efforts to include you in decisions about your treatment</td>
<td>4.78</td>
<td>4.74</td>
<td>0.04</td>
<td>.392</td>
</tr>
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<td>Information the care provider gave you about medications (if any)</td>
<td>4.71</td>
<td>4.76</td>
<td>-0.05</td>
<td>.261</td>
</tr>
<tr>
<td>Instructions the care provider gave you about follow-up care (if any)</td>
<td>4.74</td>
<td>4.69</td>
<td>0.05</td>
<td>.257</td>
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<td>Degree to which care provider talked with you using words you could understand</td>
<td>4.84</td>
<td>4.84</td>
<td>0.00</td>
<td>.989</td>
</tr>
<tr>
<td>Amount of time the care provider spent with you</td>
<td>4.74</td>
<td>4.71</td>
<td>0.03</td>
<td>.416</td>
</tr>
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<td>Your confidence in this care provider</td>
<td>4.83</td>
<td>4.76</td>
<td>0.06</td>
<td>.130</td>
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<td>Staff’s concern for your privacy</td>
<td>4.74</td>
<td>4.76</td>
<td>-0.02</td>
<td>.873</td>
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<td>Staff’s sensitivity to your needs</td>
<td>4.74</td>
<td>4.69</td>
<td>0.05</td>
<td>.223</td>
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<tr>
<td>Likelihood of your recommending this care provider to others (overall satisfaction)</td>
<td>4.82</td>
<td>4.76</td>
<td>0.06</td>
<td>.127</td>
</tr>
</tbody>
</table>


23. Katona A, Kunkel E, Arfaa J, Weinstein S, Skidmore C. Methodology for delivering feedback to neurology house staff on communication skills using AIDET (acknowledge, introduce, duration, explanation, thank you). Neurology 2014;82(10 Suppl):P1-328.