


Online Ratings of Primary Care Physicians: Comparison of Gender, Training, and Specialty

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Abstract

The purpose of this study was to explore patient perceptions of primary care providers and their offices relative to their physician's philosophy (medical degree [MD] vs doctorate in osteopathic medicine [DO]), specialty (internal medicine vs family medicine), US region, and gender (male vs female). Using the Healthgrades website, the average satisfaction rating for the physician, office parameters, and wait time were collected and analyzed for 1267 physicians. We found female doctors tended to have lower ratings in the Midwest, and staff friendliness of female physicians were rated lower in the northwest. In the northeast, male and female MDs were rated more highly than DOs. Wait times varied regionally, with northeast and northwest regions having the shortest wait times. Overall satisfaction was generally high for most physicians. Regional differences in perception of a physician based on gender or degree may have roots in local culture, including proximity to a DO school, comfort with female physicians, and expectations for waiting times.

Keywords

healthgrades, osteopathic, allopathic, gender, online reputation

Background

Patient satisfaction has been an important indicator of a physician's overall performance. Scores can impact a provider's employment, insurance reimbursement such as Medicare, and most importantly can affect a patient's overall health outcome. Online reviews are one method of evaluating a patient's satisfaction and allow an anonymous and simple review for a patient to express their opinion on a recent visit with their provider. Healthgrades is an online forum which reports data from the National Provider Identifier Registry (a government-based active provider directory of health care providers), patient surveys, claims data, and information from providers or their medical offices. The patient surveys limit responses to 1 per patient per provider, and they cover areas relating to the provider's office environment and ability to communicate with patients.

Previous work has reported that patient ratings of health care providers do not necessarily correlate to ratings from physician peers (1) but vary based on other factors such as specialty (2), geography (3), and concordance of gender (4) or race between physician and patient (5). Learning more about the nuanced roles such factors play in determining

patient perceptions of the interaction with the health care provider can help educators at schools for health care providers and for continuing medical education help health care providers improve patient satisfaction scores, which can also improve patient outcomes.

In the United States today, there are 2 types of fully licensed physicians, those with medical degrees (MDs, also known as allopathic medicine) and those with a doctorate in osteopathic medicine (DOs). According to the American Osteopathic Association (AOA) 2019 Osteopathic Medical Profession Report, there are 121 006 DOs in the United States with currently 30 367 individuals enrolled in Osteopathic Medical Schools around the nation. Additionally, 56.4% of DOs are in primary care specialties and 42% of

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actively practicing DOs are women (6). According to the American Association of Medical Colleges in 2017, MDs comprised 63.6% of all residents enrolled in an Accreditation Council for Graduate Medical Education Residency Program while DOs made up 12.5%. The remainder of the spots were filled by international medical graduates. Additionally, women made up 35.2% of the active physician workforce in the United States in 2017 (7).

In addition to the 2 types of physicians in the United States, there are numerous specialties in the medical field that both MDs and DOs can pursue. The 2 most common specialties, internal medicine (IM; representing 42.8% of practicing physicians) and family medicine (FM; representing 41.9% of practicing physicians (national center) are both primary care areas. Patient ratings and physician peer ratings are strongly related for FM and IM (Mcgrath), providing some validity to the patient ratings. Similarities exist between the 2, such as a minimum length of training of 3 years and a required wide breadth of knowledge for practice. The differences, however, create a unique skill set and societal need for each type of physician. The American College of Physicians (ACP) website explains the differences well (8). The first characteristic distinguishing the 2 is patient population, with IM providers specifically focused on adult medicine and FM providers expanding their scope to include children. Internal medicine practitioners receive training in both inpatient and outpatient settings and require exposure to many subspecialties (cardiology, endocrinology, and neurology to name a few). Family medicine practitioners are trained in both settings as well; however, there is more of a focus during their training on the outpatient/community setting as well as the subspecialties of obstetrics/gynecology, pediatrics, sports medicine, and geriatrics. Finally, the general philosophy of practice between the 2 specialties imparts great significance to each specialty and the patient population for which they care. The ACP describes internists homing in on the “science” of medicine, allowing them to care for patients with multiple comorbidities in outpatient and inpatient settings. Although FM doctors also treat patients with many afflictions, they utilize the longstanding rapport they have developed with their patients and their family members to address issues of mental health, wellness, and disease prevention. The lines in primary care specialties may be blurred depending on region and practitioner preference, but overall remain relatively distinct.

In order to better understand the variations in health scores based on gender, geography, degree (DO/MD), and specialty (IM/FM), patient reviews from Healthgrades were used to measure how patients perceived their interaction with a provider. More specifically, this study draws comparisons between how patients perceive different types of practicing physicians across the United States with a focus on the following categories: allopathic physicians (MDs) versus osteopathic physicians (DOs), IM versus FM, and male physicians versus female physicians. Within each category, varying components of the patient’s office experience and

interaction with their physician are taken into account. The purpose of this study was to summarize results from publicly available, voluntary, reviews from patients that are frequently interpreted as indicators of doctor and office quality. We hypothesized that there would be systematic trends related to doctor types, specialties, gender, and geographical regions that could be used to inform future efforts in physician training, particularly in the areas of interpersonal interaction and office management.

Study Methods

Physician ratings were obtained from the Healthgrades website, using the search term “Primary Care”. A physician rating was included if it met the inclusion criteria: MD or DO practicing in the United States, at least 5 reviews on Healthgrades, one of the first 250 reviews within a geographical region. Five regions of the United States were sampled, including southeast, southwest, Midwest, northeast, and northwest. Specific states and cities are listed in the Supplemental Table S1.

Healthgrades has a profile for every physician who is active under the National Provider Identifier Registry. Users cannot differentiate between patients who found the website on their own and those asked to complete a review by their physician. Once accessed, users can leave 1 review per email address per physician, with the option of keeping the review anonymous. Healthgrades has multiple categories for customer ratings, including trustworthiness, explains condition, answers questions, time well spent, office scheduling, office environment, and staff friendliness. Satisfaction was indicated on a 5-star scale, with 5 being the highest rating and one the lowest.

The allopathic/osteopathic designation, gender, region of the country, city of primary practice, average rating, number of reviews, average wait time, scores for each satisfaction category, and specialty were collected for each physician. Physicians cannot pay for positive reviews to be added to their Healthgrades page; they are also unable to remove negative reviews from the page (9).

The sampling was stratified to contain approximately 250 physicians per region. Despite efforts to increase the number of IM doctors and female physicians in the sample by stratifying within the region, it was often the case that there were not enough IM specialists or women to have equal representation of IM and FM and of men and women. In those cases, additional FM or male physicians were included to keep sample size approximately equal among regions.

Statistical Methods

Healthgrades provided a mean rating in each category based on available data, so doctors had a rating in each category unless all review respondents declined to respond to a particular question. One data point was missing for trustworthiness, 2 for office scheduling, and 2 for specialty. The doctors with missing data points were removed from any analysis

Table 1. Demographics of Patient-Reviewed Physicians.^a

Gender	Family medicine				Internal medicine			
	DO		MD		DO		MD	
	F	M	F	M	F	M	F	M
Midwest	43 (864)	75 (1078)	54 (566)	73 (1423)	1 (54)	0 (0)	2 (25)	1 (5)
Northeast	33 (995)	46 (771)	28 (459)	24 (477)	17 (312)	22 (373)	22 (400)	55 (1042)
Northwest	39 (538)	68 (1374)	46 (829)	54 (1136)	13 (192)	12 (145)	11 (170)	14 (240)
Southeast	35 (607)	57 (1187)	28 (504)	68 (1310)	7 (151)	8 (125)	20 (417)	37 (894)
Southwest	40 (813)	70 (1245)	40 (883)	67 (1331)	1 (14)	7 (184)	10 (258)	15 (246)
Total	190 (3817)	316 (5655)	196 (3241)	286 (5677)	39 (723)	49 (827)	65 (1270)	122 (2427)

Abbreviations: DO, doctorate in osteopathic medicine; F, female; M, male; MD, medical degree.

^aThe number of physicians followed by (number of reviews) analyzed in this study is classified by specialty, medical degree, gender, and region. Two MDs, 1 for family medicine (8 reviews) and 1 for internal medicine (15 reviews), who did not indicate a gender were not included in the table.

Table 2. Spearman Correlations Among Ratings.^a

	Trustworthiness	Explains conditions well	Answers questions	Time well spent	Office scheduling	Office environment
Explains conditions well	0.93					
Answers questions	0.94	0.94				
Time well spent	0.90	0.92	0.92			
Office scheduling	0.71	0.69	0.69	0.70		
Office environment	0.71	0.70	0.70	0.71	0.71	
Staff friendliness	0.74	0.72	0.73	0.73	0.77	0.79

^aHealthgrades allows patients to review physicians in the categories listed in the left column. The block of variables defined in the gray box were averaged to produce the doctor rating variable.

which included a missing data point. Spearman correlations were used to assess the relationships among the response variables to help guide the use of variables in the analysis.

Upon initial analysis of the data, the majority of collected ratings were 4 to 5 on the Likert scale, although a few were as low as 2. As a result, nonparametric tests were employed to compare groups of interest. There was a dearth of samples for IM (Table 1), so first an analysis was done comparing IM versus FM doctors within gender and doctor type using Mann-Whitney tests. Further analysis proceeded on data which aggregated IM and FM physicians. Within each region, differences in gender and differences between DOs and MDs within gender for doctor rating and office ratings were analyzed using Mann-Whitney tests. Wait times were collected in 5 ordered time categories (under 10 minutes, 10-15 minutes, 16-30 minutes, 31-45 minutes, and over 45 minutes) and were analyzed as Likert data in the same way as the ratings. Analyses were done using Rv3.6.1, and statistical significance was assessed at $\alpha = 0.01.14$.

Results

Supplemental Table S1 details the sampling design by US state within the region. For each region, between 250 and 260 doctors were sampled, and between 4020 and 5195 reviews were included. Despite efforts to balance the

sampling, there were far fewer IM doctors than FM doctors included in the sample, and more males were sampled than females, reflecting existing gender bias in the profession (Table 1). The ratings associated specifically with the doctor were highly correlated ($r > 0.90$), and doctor ratings were therefore represented in the analysis by their mean, which had a correlation greater than 0.96 with each component variable (Table 2). The 3 ratings associated with the office were not as highly correlated with each other and were therefore analyzed independently (Table 2).

Doctor Ratings

For MDs, IM doctors (median [interquartile range, IQR]: 4.8 [4.4-5.0]) tended to have higher doctor ratings than FM doctors (4.5 [4.0-5.0]; $W = 447\ 374$, $P < .001$) but not DOs (IM: 4.5 [3.9-4.7]; FM: 4.5 [4.0-4.9]; $W = 352\ 528$, $P < .001$). Overall, female doctors (median = 4.5, IQR = 4.0-4.9) were rated lower than male doctors (median = 4.5, IQR = 4.0-5.0), where 24.5% of female doctors had a 5.0 score from all raters, whereas 29.5% of male doctors had a 5.0 rating.

There was regional variation in ratings by medical degree and gender. Females had lower ratings in the Midwest region, but no other regions (Table 3). Female and male MDs had higher ratings than DOs in the northeast, whereas the

Table 3. Effects of Gender and Doctor Type Within Gender on Doctor and Office Ratings by Region.

		Midwest	Northeast	Northwest	Southeast	Southwest
Doctor ratings	Gender	5790 <.01	6631 .18	7194 .13	7381 .64	6795 .42
	Degree type (F)	1417 .20	892 .01	1294 .25	969 .75	858 .18
	Degree type (M)	2786 .97	1698 <.01	2577 .57	2248 <.01	2641 .07
Office scheduling	Gender	6005 .01	6733 .28	7022 .08	6749 .11	6679 .30
	Degree type (F)	1325 .51	962 .04	1400 .73	1025 .89	880 .23
	Degree type (M)	2391 .13	1624 <.01	2581 .57	2896 .09	2798 .20
Office environment	Gender	6488 .07	6853 .33	7751 .56	7128 .34	7308 .89
	Degree type (F)	1364 .32	1044 .13	1614 .39	1000 .95	1050 .84
	Degree type (M)	2749 .92	1950 <.01	2953 .33	2817 .04	2969 .50
Staff friendliness	Gender	6213 .02	6847 .34	6969 .05	7270 .50	7089 .78
	Degree type (F)	1339 .44	1048 .14	1504 .89	993 .90	921 .38
	Degree type (M)	2800 .92	1945 <.01	2749 .91	2820 .05	2788 .19
Wait time	Gender	7780 .52	7792 .35	8688 .21	7842 .70	6837 .40
	Degree type (F)	1293 .63	1127 .31	1612 .31	998 .93	989 .74
	Degree type (M)	2962 .45	2830 .52	3036 .16	3094 .25	3200 .87

Abbreviations: DO, doctorate in osteopathic medicine; F, female; M, male; MD, medical degree.

^aW values are reported from the Mann-Whitney test, and *P* values considered statistically significant ($\alpha = 0.01$) are in bold. Degree type refers to comparison of DO and MD physicians.

same pattern was present for male doctors in the southeast region (Table 3).

Office Ratings

In office ratings, there was more evidence for regional variation. The trends for office scheduling closely matched the trends for doctor rating (Table 3) where females had lower ratings than males in the Midwest, and DOs of both genders had lower ratings than their MD counterparts in the northeast. For staff friendliness, female physicians were rated lower than male physicians in the Midwest and the northwest. In the northeast and southeast, male DOs had lower staff friendliness ratings than male MDs.

There were no differences between genders or MDs and DOs for wait time (Table 3), although there were clear regional differences (analysis of variance results: $d/f = 4,1258$, $F = 28.7$, $P < .001$). In the northwest and northeast, 85% or more of patients waited less than 15 minutes; whereas in the southwest, Midwest, and southeast, fewer patients (72%, 74%, and 68%, respectively) waited less than 15 minutes (Table 3).

Discussion

Doctor Ratings

Generally, ratings for doctors are very high. The patient–physician relationship relies on the unwavering trust of the patient in the physician. When seeking a physician’s help, the patient is putting their confidence in the physician, entrusting that they will act in their best interest. It is their fiduciary obligation (10). Just by the nature of this relationship, this tells us patients have high regard for physicians, likely contributing to overall high ratings. It is also important to look at the questions asked. Rather than reveal different facets of a doctor’s skills, the questions are highly correlated and may instead be indicators of the patient’s general feelings about the physician, a “likability” score if you will. Questions refer to trustworthiness, explaining of conditions, and how time was spent, but asking more incisive questions could yield different results.

Understanding that ratings were generally high, we can look then at specific differences: Female physicians received lower ratings than male physicians, and there were no differences among the female physician population if they were

an MD or DO. It is also worth noting that far fewer females were sampled than males, which is a reflection of current gender representation in the United States. Data from the Kaiser Family Foundation in 2019 show that males make up 64% of the physician workforce, while females only make up 34% (11). Although it does continue to slowly improve, the representation gap between male and female physicians does still exist. The differences in female and male ratings could be due to the fact that many Americans are still not used to the idea of having a female physician. According to the American Medical Association, women only made up 6% of the workforce in 1950, meaning the older generations in this country had very little exposure to female physicians growing up (12). Furthermore, the lower ratings could be attributed to society's cultural expectations of female behavior. In 2011, Hall et al conducted a meta-analysis including over 100 000 patients and 4000 physicians comparing patients' satisfaction with male versus female physicians based on questionnaires (13). Their study found that female physicians are not evaluated as highly by patients relative to their male counterparts. Another study in 2013 specifically focused on patient satisfaction rates as predicted by the patient-centeredness of the male or female physician (14). This study found that male physicians got higher satisfaction ratings than their female counterparts that exhibited the same patient-centered care. They concluded that patient-centeredness was more highly valued by patients of male physicians, implying that female physicians do not receive sufficient credit for a medical competence behavior that many believe women "naturally" have. As discussed above, the ratings seem to better represent patients' feelings about the physician as a person, their "veneer of confidence," rather than their ability as a physician. A 2017 study in *JAMA Internal Medicine* actually demonstrated that elderly hospitalized patients treated by female internists have lower mortality and readmissions compared with those cared for by male internists (15). It has been shown that female physicians tend to follow clinical guidelines more often, provide more preventive care, and give more counseling than their male counterparts (16). Female physicians are not failing to diagnose and treat, therefore the objective abilities of a female physician are not necessarily correlated with how they are perceived by patients.

As far as the comparison of MD versus DO physicians, in the eastern US, male MDs had higher ratings than male DOs. The greatest density of osteopathic medical schools is in the Midwest and the east, however, the highest concentration of practicing DOs (21.3%) is in the Midwest according to the American Association of Colleges of Osteopathic Medicine. Studies that have been performed comparing patient perceptions of MDs and DOs in locations that have higher proportions of DOs tend to rate DOs higher. The Maine Osteopathic Outcomes Study (MOOS) used a 26-item index of physician-patient communications to compare DO and MD interactions with patients via audiotapes (17). According to the MOOS study, osteopathic physicians scored higher than

allopathic physicians on many of the items including discussing preventative measures specific to the chief complaint, health issues related to family and social life, and the patient's emotional state. Two more studies also explored the differences between DOs and MDs in regard to patient satisfaction: the First Osteopathic Survey of Health Care in America (OSTEOSURV-I) and the Second Osteopathic Survey of Health Care in America (OSTEOSERVE-II) (1,18). Based on telephone surveys, these studies found that patients of DOs reported greater levels of satisfaction on items including wellness, use of educational materials, and time spent with health care providers. OSTEOSERVE-II also found that awareness of osteopathic physicians was directly associated with Midwest residence. Although, it is important to note that our data did not show a significantly higher perception of DOs in the Midwest compared to MDs.

A possible explanation for these differences could be where DOs tend to practice. As suggested by a study looking specifically at ENTs in Pennsylvania, DO physicians tend to practice in areas with smaller populations compared to MD physicians (19). One limitation of this study is that data were mostly drawn from major cities. If DOs commonly practice in smaller towns, then it is expected they would have fewer online reviews compared to their big city MD counterparts. Our study design precluded physicians with 5 or fewer reviews from being added to the data, so many well-reviewed DO physicians may not be receiving the minimum number of reviews to meet our inclusion criteria. If the study was to be repeated with both an expanded search to smaller cities and lowering the minimum number of reviews, it is possible that the results could vary. Finally, another explanation for the lower DO ratings is public knowledge and exposure to osteopathic medicine. Although the number of practicing DO physicians is growing yearly, the AOA reports over 150 000 osteopathic physicians and medical students compared to the American Association of Medical Colleges report of over 500 000 practicing MDs (20). Patients may view DOs as inferior to MDs due to a lack of knowledge regarding the training requirements for osteopathic physicians.

Another interesting result of the study was MD internal medicine physicians tended to have higher ratings in comparison to MD family medicine physicians (this trend was not seen in DO physicians). These findings are quite different compared to a 2003 study looking at communication patterns between FM physicians and IM physicians. Paasche-Orlow and Roter found that although patient satisfaction was similar for both specialties, satisfaction was more closely linked to measures of rapport and patient-centeredness for patients of FM physicians than for patients of internists (21). Although internists rated higher in data gathering in the 2003 study, FM physicians rated more favorably in empathy, patient-centeredness, rapport-building, and psychosocial information giving. Given that internists may commonly see higher acuity patients, it is understandable that they implement more detailed data

gathering compared to FM physicians. In addition, FM physicians usually develop a rapport with their patients due to seeing them over a period of years. Time helps build a solid connection between provider and patient, which contributes to greater levels of empathy and psychosocial conversations on behalf of the family physician. Our study, however, shows that MD internal medicine physicians rate higher than MD family physicians. As discussed above, providing more incisive questions may tease out similar divisions seen in the 2003 study. For example, the website Healthgrades asks its reviewers to rate the general trustworthiness of a physician (9). To 1 reviewer, a physician is more trustworthy if they are more empathetic, while to another reviewer a physician's assumed fund of knowledge makes them more trustworthy. Without more specific questions, it is difficult to tell which specialty has a higher affinity to certain qualities. Thus, patients of these primary care physicians may be rating more based on other factors such as perceived physician knowledge, "likeability," or patient outcomes rather than the specific qualities they are asked to rate.

Office Ratings

Although the office ratings are part of the overall rating, it is important to discuss these ratings separately and how they affect the overall rating, given that they are not a direct judgment of the physician but rather a part of the patient experience. First of all, an interesting point is that wait time does not relate well to the office ratings. Wait time is a common complaint among patients, but that was not a determining factor in the patients' overall satisfaction for these ratings. A possible explanation is the serial position bias. This cognitive bias is the tendency for people to remember either the beginning (primacy) or the end of a task (recency), but not what happened in between. Therefore, it is possible that a kind greeting and a smooth checkout could have been all that was needed for a good review. And, in contrast, an unfriendly greeting or a long, difficult checkout process could have led to poor overall reviews. Another bias worth exploring is the negativity bias, which is "the propensity to attend to, learn from, and use negative information far more than positive information" (22). Unfortunately for the business owner, this may lead to negative interactions acting as a catalyst for a patient to write a poor review. In a physician's office, a dismissive farewell from the medical assistant could lead to a bad online review, regardless of the positive interactions they may have had with a physician. In addition, patients can unjustly equate a poor office experience to poor medical practice on behalf of the physician. The importance of both serial position bias and negativity bias should be taken into account when physicians are organizing their office and staff. These findings should encourage physicians that treating patients with dignity and respect can make up for long wait times in the office.

With the findings of our study in mind, the main idea is to reflect on how patients are perceiving certain qualities about

their physician. Our study is not a definitive declaration of who is a superior physician, as addressed by the other cited studies that yielded different results. Instead, our goal is to shed light on how patients might be passing judgment on their primary care practitioner. Patient perceptions matter because, for better or worse, online reviews can affect the success and reputation of a provider's practice. It is important for physicians to keep in mind the ways in which they are perceived by patients. The expectations of physicians by their patients are influenced by the patient's personal background, including age, location, and prior experience with other health care providers. Patient care guided by evidence-based medicine should always be the top priority of a physician, but taking care to instill qualities of trustworthiness and empathy into their interactions with patients may bolster the patient-physician relationship. Physicians can emphasize these qualities by taking into account the patient's background and anticipating their needs. In turn, this has the potential to improve patient perceptions of physicians, leading to high ratings on websites designed to "grade" physicians. Members of the public may use these websites to select their physician, so it would be in the best interest of the physician to improve the patient experience by implementing positive changes to their approach and practice.

Limitations

The greatest limitation of this study relates to the voluntary nature of the ratings and the resulting biases in sampling. Given the source of the data, it would be unsupportable to assume that the representation of degrees/specialties/geographical areas/genders in Healthgrades is representative of the entire population. The analysis was conservative in that the comparisons were made between specific groups and are therefore likely to be accurate in terms of effect direction and size. However, the unequal sample size compromised the availability or precision of many estimates, and a more balanced design would be needed to understand the relative patient perceptions based on membership to a particular group. There may have been variation in how specialties were categorized within Healthgrades. The small number of IM physicians suggests that the keyword "primary care" was not widely used for IM.

Although sponsored doctors were not used to avoid bias, it is possible that Healthgrades orders physicians based on the number of reviews or other information that may have biased the sampling.

The interface did not allow a specific search for DOs versus MDs on Healthgrades, so sample sizes were unequal as the majority of physicians rated were MDs.

Other limitations include the fact that some parts of the county did not have as many reviews as others and some states had more reviews than others. Hence if a medical/osteopathic school was located in the geographical area, they might have more of a "search presence" than those of other degrees or specialties.

Additionally, most physicians that populated the search had less than 5 reviews. Many of the DO's had fewer reviews than the MD's, hence could not be included in our study, having specified a provider needed to have at least 5 reviews.

Conclusion

The analysis of the data collected from Healthgrades must be viewed through the lens of patient perception. In the United States today, medicine tends to be viewed as a business and patients are the customers, with patients using their individual experiences and expectations to draw conclusions about a physician and their practice. A patient is able to share these conclusions through an online customer review, but as such it is not an objective evaluation of a doctor's ability and knowledge. Studies may be done that attempt to obtain objective measures of performance between physicians, but correlation between objective findings, success of practice, or patient experience should not be assumed.

The purpose of this study was to summarize the results from publicly available, voluntary reviews by patients who are frequently interpreted as indicators of doctor and office quality. We hypothesized that there would be systematic trends related to doctor types, specialties, gender, and geographical regions that could be used to inform future efforts in physician training, particularly in the areas of interpersonal interaction and office management. Based on the Healthgrades reviews collected, physician ratings are overall generally high. When looking at the different comparisons, it was found that MD physicians in the east rated higher than DO physicians in the East, allopathic IM physicians rated higher than allopathic FM physicians, and male physicians rated higher than female physicians regardless of the type of medical degree, location, or specialty. These patient perceptions appear to correlate to the current breakdown of different types of physicians in medicine, considering that both females and DO physicians are still not well established and less numerous when compared to their male and MD counterparts, respectively. When looking at the discrepancy between allopathic IM and FM, it appears that reviews may better reflect the patients' general feelings about their physician and rapport that they share. Based on differences in specialties and practice structure, FM better lends itself to creating that patient-physician relationship. However, our data did not show that patients noticed a difference between osteopathic FM and IM physicians. Now having an idea of patients' perceptions of physicians based on these reviews, it offers an opportunity to look at what is being asked by websites like Healthgrades, and how physicians can anticipate patient expectations and implement positive changes into their approach and practice.


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Supplemental Material

Supplemental material for this article is available online.

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Brandon Nichols is an osteopathic medical student at Touro University Nevada. He is anticipating to graduate in 2022, as he aims to have a career in primary care medicine. He has experience in pulmonology and breast cancer.

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Jerry Wang is a fourth-year osteopathic medical student at Touro University Nevada. He has a background in Public Health and Tropical Medicine. In June 2021, he will be starting residency in Washington state for family medicine.

Ivy Dang is a current fourth-year medical student at Touro University Nevada and will be starting her family medicine training in July at Grandview Medical Center. Her medical interests include preventative medicine, community medicine, and advocacy.

Paul Kalekas, DO, FACOI, serves as Chair of the Primary Care Department and an associate professor of Medicine at Touro University Nevada for the past 17 years. Additionally, he is an associate program director for the Internal Medicine Residency at Valley Hospital Medical Center and regional academic officer for OPTI-West Residency Sponsoring Institution.

Cheryl Vanier is the chief research officer at Touro University Nevada and a Biostatistician with more than 20 years of experience working with professional scientists, faculty, medical clinicians, and students. In her current position, she is deeply involved in helping students produce original research to help inform their future practice.