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Association of sex, location, and experience with online patient ratings of dermatologists

To the Editor: Physician rating websites are popular venues for patients to express satisfaction or displeasure with their clinical care.[1,2] While physicians were traditionally rated by patients using standardized surveys, such as Press-Ganey,[3] consumer-reported websites are more easily accessible by patients, can be searched by physician name, and provide contact information for scheduling appointments.[4] The primary goal of this study was to assess whether physician demographics, including sex, years in practice, or location, affect online reviews of dermatologists.

The American Medical Association physician directory was used to compile a list of all dermatologists in the top 10 ZIP codes with the highest and lowest dermatologist density (dermatologists per capita).[5] Equal numbers of men and women were randomly selected from the more dense areas, and all dermatologists from less dense areas were included to maximize sample size. Data on years in practice, average ratings, and number of reviews were obtained from the sites that were most likely to appear on the first page of a Google search of the physician's name: Google, Yelp, ZocDoc, HealthGrades, Vitals, and WebMD. Average ratings were weighed by number of reviews. Descriptive statistics were generated to describe the study population, and a multivariable logistic regression model was used to assess the association between average rating and sex, location, and years of experience. Statistical significance was set at 0.05.

The final analysis included 167 physicians, with 81 female (48.5%) and 86 male (51.5%) dermatologists (Supplement 1, available at Mendeley https://doi.org/10.17632/3dpvb6cy3n.2). There was no significant difference between average ratings of male vs female dermatologists in the most dermatologist-dense ZIP codes (male, 4.076; female, 4.119; $P = .713$), the least dermatologist-dense ZIP codes (male, 3.86; female, 3.79; $P = .625$), or overall (male, 4.02; female, 4.1; $P = .435$) (Table I). Physicians in high dermatologist-dense areas had an average rating of 4.1, whereas those in low dermatologist-dense areas had an average rating of 3.85, but this difference was not statistically significant ($P = .101$) (Table II).

We used an average rating score cutoff of 4.15 (50th percentile) to separate dermatologists into "high average rating" and "low average rating" groups. A multivariable logistic regression model demonstrated an odds ratio of 1.56 for achieving a high rating for a male vs female physician, which was not statistically significant ($P = .226$). Physicians in high dermatologist-dense areas had a greater likelihood of achieving a high rating, adjusting for sex and years of experience (odds ratio, 2.61; $P = .048$). When adjusting for density and sex, the odds of obtaining a higher average rating decreased by 4% with every 1-year increase in experience (odds ratio, 0.96), a statistically significant relationship ($P = .006$).

Limitations include small sample size from "dermatologist poor" areas with mostly men and variation in number of ratings on each site.

Table I. Comparison of average ratings of dermatologists by sex and location*

Variable	Mean of average physician rating	SD	Median	Q1	Q3	*P* value
Most dense ZIP codes						
Female	4.119	0.695				
Male	4.075	0.686				.713
Female + male	4.1	0.69	4.28	3.77	4.53	
Least dense ZIP codes						
Female	3.79	0.75	3.92	3.15	4.53	
Male	3.86	0.75	3.93	3.15	4.53	.625
Female + male	3.85	0.74	3.93	3.13	4.53	
All ZIP codes						
Female	4.1	0.7	4.2	3.77	4.53	
Male	4.02	0.7	4.08	3.53	4.53	.435

Q1, Quartile 1 (25th percentile); *Q3*, quartile 3 (75th percentile); *SD*, standard deviation.
*The mean of the overall rating of dermatologists included in this sample grouped according to sex and location.

Table II. Factors influencing achieving high rating*

Predictor	Higher rating (> 4.15 average score) Odds ratios	95% CI	*P* value
Intercept	0.87	0.29-2.63	.8
Sex: male	1.56	0.76-3.20	.226
Density: most dense	2.61	1.01-6.79	.048
Years of experience	0.96	0.94-0.99	.006
Observations	163		
Cox & Snell R^2/ Nagelkerke R^2	0.070/0.094		

CI, Confidence interval.
*The effect of sex, location, and years of experience on the odds ratio of achieving a rating above the 50th percentile.

Most patients gave high ratings and expressed satisfaction in their reviews. Although our study found no bias in ratings toward a particular sex, patient reported greater satisfaction with younger dermatologists and those in more dense areas. Younger physicians in urban areas may use newer technologies, have more resources available, and spend more time with patients as they build their practices.

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Bullous disorders associated with PD-1 and PD-L1 inhibitors: Pharmacovigilance analysis of the United States Food and Drug Administration Adverse Event Reporting System from the Research on Adverse Drug Events And Reports Program

To the Editor: Although bullous disorders (BDs) are increasingly recognized as associated with programmed cell death 1 (PD-1) inhibitors (nivolumab, pembrolizumab) and PD ligand 1 (PD-L1) inhibitors (atezolizumab, avelumab, durvalumab), the characterization of BD events in the full prescribing information for these agents is not well delineated as represented by the full prescribing information for nivolumab (PD-1)[1] and avelumab (PD-L1).[2]

When used as monotherapy, the most recent full prescribing information for these agents, collectively through 2018, simply reports dermatologic events as "rash, all grades" (up to 40% of patients) and "rash, grades 3-4" (up to 1.6% of patients). Moreover, although "rash, grades 3-4" is variously described, it is not specific to BDs. Yet, a retrospective analysis of data from 853 oncodermatology patients, each of whom were treated with 1 of the 5 PD-1 or PD-L1 inhibitors, found nearly 1% of patients experienced a BD.[3]

We therefore aimed to determine whether an association exists between PD-1/PD-L1 agents and BDs in the United States Food and Drug Administration (FDA) Adverse Event Reporting System (FAERS). We used Research on Adverse Drug Events And Reports Program (RADAR) methodology[4] to search FAERS from the first FDA approval date (Table I)[5] to the last quarter for which data were available (first quarter of 2018).

The FAERS database was searched using Medical Dictionary for Regulatory Activities (MedDRA MSSO, McLean, VA) BD terms (pemphigoid, pemphigus, and bullous dermatitis) for patients receiving PD-1 (nivolumab, pembrolizumab) and PD-L1 inhibitors (atezolizumab, avelumab, durvalumab) and linked to a serious outcome (death, disability, hospitalization, life-threatening, required intervention to prevent permanent impairment/damage, or other serious). The proportional reporting ratio (PRR) was