What are Swiss patients saying about their physicians online? An analysis of 849 comments from Swiss physician rating websites

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Submitted to: Journal of Medical Internet Research
on: April 10, 2019

Table of Contents

What are Swiss patients saying about their physicians online? An analysis of 849 comments from Swiss physician rating websites

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Abstract

Background: The majority of physician rating websites (PRWs) provide users the option to leave narrative comments about their physicians. Narrative comments potentially provide richer insights into patients' experiences and feelings that cannot be fully captured in predefined quantitative rating scales, and are increasingly being examined. However, the contents and nature of narrative comments on Swiss PRWs has not been examined to date.

Objective: To examine the contents and nature of narrative comments on Swiss PRWs.

Methods: A random stratified sample of 966 physicians was generated from the regions of Zürich and Geneva. Every selected physician was searched for on three PRWs (okdoc.ch, docapp.ch, and medicosearch.ch) and google.ch and narrative comments collected. Narrative comments were analysed and classified according to a theoretical categorization framework of physician, staff, and practice related issues.

Results: The selected physicians in the sample had a total of 849 comments. In total, 43 sub-categories addressing the physician (n=21), the staff (n=8), and the practice (n=14) were identified. None of the PRWs' comments covered all 43 sub-categories of the categorization framework; comments on google covered 86% (37/43) of the sub-categories, medicosearch covered 72.1% (31/43), docapp covered 60.5% (26/43), and okdoc covered 55.8% (24/43). In total, 2441 distinct issues were identified within the 43 sub-categories of the categorization framework; 83.6% (2042/2441) of the issues related to the physician, 6.6% (162/2441) related to staff, and 9.7% (237/2441) related to the practice. Overall, 95.3% (41/43) of the sub-categories of the categorization framework and 81.6% (1992/2441) of the distinct issues identified were concerning aspects of performance (interpersonal skills of physician and staff, infrastructure, organisation and management of practice) that are considered assessable by patients. Overall, 83% (705/849) of comments were classified as positive, 2.5% (21/849) as neutral, and 14.5% (123/849) as negative. However, there were significant differences between PRWs, regions, and speciality regarding negative comments: 90.2% (111/123) of negative comments were on google (?????=180.1,P<.001), 74.7% (92/123) were from physicians in Zurich (?????=30.3,P<.001), and 73.2% (90/123) were from specialists (?????=26.4, P<.001).

Conclusions: Interpersonal issues make up nearly half of all negative issues reported the narrative comments analysed and it is recommended that physicians should focus on improving these issues. The current suppression of negative comments by Swiss PRWs is concerning and there is a need for a consensus-based criteria to be developed to determine which comments should be publically published. Finally, it would be helpful if Swiss patients are made aware of the current large differences between Swiss PRWs regarding the frequency and nature of ratings, to help them determine which PRW will provide them with the most useful information.

ClinicalTrial: N/A

(JMIR Preprints 10/04/2019:14336) DOI: https://doi.org/10.2196/preprints.14336

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Original Manuscript

Paper type: Original Paper

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Conclusions: Interpersonal issues make up nearly half of all negative issues reported the narrative comments analysed and it is recommended that physicians should focus on improving these issues. The current suppression of negative comments by Swiss PRWs is concerning and there is a need for a consensus-based criteria to be developed to determine which comments should be publically published. Finally, it would be helpful if Swiss patients are made aware of the current large

differences between Swiss PRWs regarding the frequency and nature of ratings, to help them determine which PRW will provide them with the most useful information.

Keywords: Physician Rating Websites; Patient Satisfaction

Introduction

Physician rating websites (PRWs) are another sign of the growing digitalisation of the patient-health professional relationship, allowing patients to anonymously rate their physicians' online as a source of information for others [1-8]. Typically grounded in the assumptions of a theoretical consumer choice model [9], PRWs aim to improve patient welfare through: 1) influencing patient decision-making by increasing the chance that those patients who obtain information from PRWs will choose better quality physicians and benefit from this [10]; and 2) driving quality improvement by identifying aspects of care needing improvement so that changes can be made in practice [10].

A recent systematic search of PRWs internationally analysed 143 different websites from 12 countries [11]. The majority of websites were commercially operated by for-profit companies and were registered in the United States and Germany. It was found that 15.3% of these websites only provided the option to give feedback on a predefined quantitative rating scale, 4.2% of websites only provided the option for narrative comments, while 76.9% of websites provided the option to give both types of feedback [11].

Narrative comments potentially provide richer insights into patients' experiences and feelings that cannot be fully captured in predefined quantitative rating scales, and are increasingly being examined with content analysis [4,8,12-15], and more recently with machine learning [16-17]. Narrative comments, however, have proved contentious due to concerns that they will used for "doctorbashing" or defamation [4,18-20]. Although previous research suggests that this concern is largely unfounded [4,8,12-15], physicians´ fear of receiving negative comments on PRWs can have a direct impact of the patient-health professional relationship. For instance, physicians may try to prevent patients from posting negative reviews on PRWs (for example, by asking patients to sign contracts stating they will not make negative comments) and legally challenge negative comments that are posted [3]. Due to the lack of expert knowledge of most patients regarding medicine, there are also concerns about the relevance and significance of their evaluation of physicians' performance [21]. Although recent research suggests that patients acknowledge their inability to rate physicians'

technical competency [21], analysis of 3000 narrative comments from the German PRW jameda from 2012 found that the physicians' competence was the most frequent issue that patients mentioned in their comments (1874/3000; 63%) [4]. It is unclear whether this apparent contradiction, between patients' agreement about their inability to evaluate physicians' technical skills and their actual ratings, exists on other PRWs and countries, but need for more research on this issue has been highlighted [21].

Although the first PRWs in Switzerland, okdoc and medicosearch, were established in 2008 at the same time as many international PRWs, there has been a lack of research conducted on PRWs in Switzerland to date. However, a study recently examined for the first time the frequency of quantitative ratings and narrative comments on Swiss PRWs [22]. It found that many of the selected physicians could not be identified (42.4% to 87.3%), few of the identifiable physicians had been rated quantitatively (4.5% to 49.8%) or received narrative comments (4.5% to 31.2%) at least once. Rated physicians also had on average a low number of quantitative ratings (1.47 to 3.74 rating) and narrative comments (1.23 to 3.03 comments) [22]. However, there were significant differences between PRWs, with google having substantially more quantitative ratings and narrative comments than the three dedicated Swiss PRWs in the past 2 and a half years [22].

Although the contents and nature of narrative comments on Swiss PRWs has not been examined to date, the controversial nature of negative comments on Swiss PRWs has received media attention in Switzerland [23-26]. Furthermore, following a decision of a federal data commissioner that negative comments had to be removed, the PRW okdoc now only allows recommendations and explicitly states that any negative comments will be deleted ("Only positive comments recommending your doctor will be accepted. Any negative post will be deleted. Thank you for respecting okdoc's principles!" [author translation]). While the PRW medicosearch allows negative comments, it informs the concerned physician before publishing it online so the physician can decide if the negative feedback is activated. However, if the physician refuses, the feedback function is deactivated, removing also the positive comments [23]. This situation potentially raises important implications not only for the frequency of ratings on Swiss PRWs but also for the types of comments that may be available for PRWs users. This study therefore aims to examine the content and nature of narrative comments published on Swiss PRWs. Gaining better understanding regarding this issue may help identify issues Swiss physicians should focus on to improve patient satisfaction, and will also help inform future research and health policy in Switzerland in relation to PRWs.

Methods

Sample

A random stratified sample of 966 physicians was generated from the regions of Zürich and Geneva. Zürich is the largest city in Switzerland and is located in north-central Switzerland. Zürich has a total population of 402,762 (12.2016). Geneva is the second largest city in Switzerland and is located in south-western Switzerland. Geneva has a total population of 198,979 (12.2016). The regions of Zürich and Geneva were chosen due to language (German vs French) and comparable number of total physicians (Zürich 3254 physicians, Geneva 2780 physicians) considerations.

In November 2017, all physicians in these regions working in general practice, obstetrics & gynaecology, paediatrics and dermatology and venereology were searched for on the FMH's medical registry (Ärzteverzeichnis). From each region, a random sample was generated for each specialty based on a 95% confidence level and 5% confidence interval. From Zürich, the random sample consisted of 254 of 747 general practice physicians, 85 of 109 obstetrics & gynaecology physicians, 74 of 92 paediatrics physicians, and 53 of 61 dermatology and venereology physicians. Therefore, the Zürich sample of 466 physicians represents 46.18% of a total of 1009 physicians. From Geneva, the random sample consisted of 272 of 930 general practice physicians, 86 of 111 obstetrics & gynaecology physicians, 96 of 128 paediatrics physicians, and 46 of 52 dermatology and venereology physicians. Therefore, the sample of the 500 physicians represents 40.95% of a total of 1221 physicians.

Data Collection

In order to identify PRWs on which patients can rate and review physicians in Switzerland, a systematic online search was conducted in June 2016 from a patient´s perspective [22]. A website was included if it allowed users to quantitatively and/or qualitatively (narratively) assess their experience or satisfaction with a Swiss physician in a structured manner without having to open an account or log onto the website. Websites that were not dedicated to Swiss physicians were excluded. A total of three PRWs were included: okdoc.ch, docapp.ch, and medicosearch.ch. In addition, google.ch itself allows users to rate and comment on physicians via google reviews and was therefore also included in the study. As far as this author is aware, this is the first time google has

been included in a study examining physician ratings internationally. Selected physicians were therefore searched for on a total of four websites: okdoc, docapp, medicosearch, and google. On each website, every selected physician was searched for between November 2017 and July 2018 and any narrative comments recorded.

Data Analysis

The content of each narrative comment was analysed and classified according to a theoretical categorization framework of physician, staff, and practice related issues. The categorization framework was adapted from Emmert et al. [4], with modifications being made where necessary. Narrative comments were also classified as overall positive, neutral, negative. If a comment included both positive and negative aspects and no clear tendency can be determined, the comment was categorised as neutral. Descriptive statistics included means and standard deviations for continuous variables and percentages for categorical variables. To analyse whether difference exist between difference groups, chi-squared tests were used for categorical data and t-tests for continuously distributed data. All analyses were performed with a significance level alpha set to 0.05 and two-tailed tests, using SPSS v24.

Results

Nature of comments

The selected physicians in the sample had a total of 849 comments. **Table 1** shows the breakdown of the number of comments by region, speciality, and gender. Overall, comments were significantly more likely to be from physicians in Zurich (668/849; 78.7%), specialists (545/849; 64%), and male physicians (477/849; 56.2%). However, there were important differences between PRWs. Although specialists (373/520; 71.7%) had significantly more comments on google ($\chi^2_{(1)}$=98.2,*P*<.001), there was no significant differences between general practitioners and specialists on the okdoc, docapp, or medicosearch. Furthermore, while male physicians had more comments on okdoc (24/38; 63.2%) and significantly more ($\chi^2_{(1)}$=33.5,*P*<.001) on google (326/520; 62.7%), female physicians had more comments on docapp (30/57; 52.6%) and significantly more ($\chi^2_{(1)}$=4.9,*P*<.03) on medicosearch (134/234; 57.3%).

The 849 comments had a mean length of 253.5 characters (SD: 298), ranging from 15 to 3258

characters. There was a significant difference in the mean character length of the following groups:

- Positive comments (M=222, SD=224) and negative comments (M=436, SD=533); t(130)=-4.4, *P*<.001.
- Physicians from Zurich (M=231, SD=242) and physicians from Geneva (M=335, SD=439); t(210)=-3.1, *P*=.003.
- General practitioners (M=193, SD=167) and specialists (M=288, SD=347); t(830)=-5.4, *P*<.001.
- Okdoc (M=154, SD=126), docapp (M=296, SD=202), medicosearch (M=174, SD=146), and google (M=292, SD=354); F(3)=10.4, *P*<.001.

However, there was no significant difference in the mean character length of male physicians (M=256, SD=291) and female physicians (M=250, SD=307); t(847)=.3, *P*=.77.

Table 1. Physicians with comments

	okdoc	docapp	medicosearch	google	Total
Physican Region					
Zurich	20/38 (52.6)	56/57 (98.2)	206/234 (88)	386/520 (74.2)	668/849 (78.7)
Geneva	18/38 (47.4)	1/57 (1.8)	28/234 (12)	134/520 (25.8)	181/849 (21.3)
Chi-squared-test	$\chi^2_{(1)}$=.11, *P*<.75	**$\chi^2_{(1)}$=53.1, *P*<.001**	**$\chi^2_{(1)}$=135.4, *P*<.001**	**$\chi^2_{(1)}$=122.1, *P*<.001**	**$\chi^2_{(3)}$=46.7, *P*<.001**
Physician Speciality					
General practitioners	23/38 (60.5)	28/57 (49.1)	108/234 (46.2)	147/520 (28.3)	306/849 (26)
Specialists	15/38 (39.5)	29/57 (50.9)	126/234 (53.8)	373/520 (71.7)	543/849 (64)
Chi-squared-test	$\chi^2_{(1)}$=1.6, *P*<.19	$\chi^2_{(1)}$=.02, *P*<.90	$\chi^2_{(1)}$=1.4, *P*<.24	**$\chi^2_{(1)}$=98.2, *P*<.001**	**$\chi^2_{(3)}$=38.1, *P*<.001**
Physician Gender					
Male	24/38 (63.2)	27/57 (47.4)	100/234 (42.7)	326/520 (62.7)	477/849 (56.2)
Female	14/38 (36.8)	30/57 (52.6)	134/234 (57.3)	194/520 (37.3)	372/849 (43.8)
Chi-squared-test	$\chi^2_{(1)}$=2.6, *P*<.11	$\chi^2_{(1)}$=.20, *P*<.70	**$\chi^2_{(1)}$=4.9, *P*<.03**	**$\chi^2_{(1)}$=33.5, *P*<.001**	**$\chi^2_{(3)}$=28.7, *P*<.001**

Categorisation of issues

Analysis of the 849 comments identified 43 sub-categories addressing the physician (n=21), the staff (n=8), and the practice (n=14) (see **Table 2**).

Table 2. Categorization Framework

Physician (n=21)	Staff (n=8)	Practice (n=14)
• Overall assessment	• Friendliness	• Atmosphere

• Competence • Communication • Recommendation • Friendliness • Caring attitude • Satisfaction with treatment • Professionalism • Time spent with patient • Trust • Treatment cost/billing • Being taken seriously • Cooperation with medical specialists • Alternative medicine • Patient involvement • Telephone availability • Individualised service • House visits • Available outside normal hours • Privacy • Health insurance differentiation	• Service/assistance • Overall assessment • Professionalism • Communication • Availability by telephone • Recommendation • Time spent with patient	• Waiting time within practice • Ability to get appointment • Overall assessment • Location • Organisation • Equipment • Online appointment • Recommendation • Parking space • Consultation hours • Waiting room entertainment • Availability by telephone • Barrier free access

None of the PRWs' comments covered all 43 sub-categories of the categorization framework (see **Table 3**); comments on google covered 86% (37/43) of the sub-categories, medicosearch covered 72.1% (31/43), docapp covered 60.5% (26/43), and okdoc covered 55.8% (24/43).

Table 3. Sub-categories covered by PRWs' comments

Sub-categories	okdoc	docapp	medicosearch	google
Physician (n=21)	16/21 (76.2)	14/21 (66.6)	17/21 (80.9)	18/21 (85.7)
Staff (n=8)	3/8 (37.5)	4/8 (50)	5/8 (62.5)	6/8 (75)
Practice (n=14)	5/14 (35.7)	8/14 (57.1)	9/14 (64.3)	13/14 (92.9)
Total (N=43)	24/43 (55.8)	26/43 (60.5)	31/43 (72.1)	37/43 (86.0)

In total, 2441 distinct issues were identified within the 43 sub-categories of the categorization framework; 83.6% (2042/2441) of the issues related to the physician, 6.6% (162/2441) related to staff, and 9.7% (237/2441) related to the practice (see **Table 4**). Overall, the two most frequently issues mentioned were the overall assessment of the physician (300/849; 35.3%) and the physician's competence (300/849; 35.3%); the vast majority of these comments were positive (92.7% and

94.7%, respectively). Other frequently mentioned issues regarding the physician included: 27.3% (232/849) of comments referred to the physician's communication (84.9% positive); 26.5% (225/849) recommended the physician (86.2% positive); 25.3% (215/849) the physician's friendliness (88.8% positive); 22.6% (192/849) the physician's caring attitude (87.5%); 17.6% (149/849) satisfaction with treatment (79.2% positive); 15.2% (129/849) the physician's professionalism (76.7% positive); 12.6% (107/849) time spent with patient (87.9% positive); and 9.7% (82/849) the physician's trustworthiness (89% positive). In relation to staff issues, the most frequently mentioned issue was regarding the staffs' friendliness (92/849; 10.8%); 84.8% of which were positive. Concerning practice issues, frequently mentioned issues included 6.9% (59/849) of comments mentioned the atmosphere of the practice (91.5% positive), 6.8% (58/849) the waiting time within the practice (72.4% positive), and 4.6% (39/849) the ability to get an appointment (79.5% positive). Regarding the relative distribution, the most frequently mentioned negative comments referred to treatment cost or billing (32/43; 74.4%), communication with staff (7/13; 53.8%), the staff's professionalism (4/15; 26.7%), waiting time within practice (12/58; 20.7%), ability to get an appointment (8/39; 20.5%), the physician's professionalism (26/129; 20.2%), and satisfaction with treatment (27/149; 18.1%).

Table 4. Categorisation of issues

Issue	Total (%)	Evaluation +/=/- (%)
Physician		
Overall assessment	300/849 (35.3)	278(92.7) / 7(2.3) / 15(5.0)
Competence	300/849 (35.3)	284(94.7) / 5(1.7) / 11(3.7)
Communication	232/849 (27.3)	197(84.9) / 2(0.9) / 33(14.2)
Recommendation	225/849 (26.5)	194(86.2) / 0(0) / 31(13.8)
Friendliness	215/849 (25.3)	191(88.8) / 5(2.3) / 19(8.8)
Caring attitude	192/849 (22.6)	168(87.5) / 3(1.6) / 21(10.9)
Satisfaction with treatment	149/849 (17.6)	118(79.2) / 4(2.7) / 27(18.1)
Professionalism	129/849 (15.2)	99(76.7) / 4(3.1) / 26(20.2)
Time spent with patient	107/849 (12.6)	94(87.9) / 2(1.9) / 11(10.3)
Trust	82/849 (9.7)	73(89) / 0(0) / 9(11)
Treatment cost/billing	43/849 (5.1)	10(23.3) / 1(2.3) / 32(74.4)
Being taken seriously	30/849 (3.5)	25(83.3) / 0(0) / 5(16.7)
Cooperation with medical specialists	11/849 (1.3)	11(100) / 0(0) / 0(0)
Alternative medicine	5/849 (0.6)	5(100) / 0(0) / 0(0)
Patient involvement	5/849 (0.6)	5(100) / 0(0) / 0(0)
Telephone availability	5/849 (0.6)	4(80) / 0(0) / 1(20)
Individualised service	4/849 (0.5)	4(100) / 0(0) / 0(0)
House visits	3/849 (0.4)	3(100) / 0(0) / 0(0)
Available outside normal hours	2/849 (0.2)	2(100) / 0(0) / 0(0)
Privacy	2/849 (0.2)	2(100) / 0(0) / 0(0)
Health insurance differentiation	1/849 (0.1)	0(0) / 0(0) / 1(100)
Staff		
Friendliness	92/849 (10.8)	78(84.8) / 6(6.5) / 8(8.7)

Service/assistance	19/849 (2.2)	17(89.5) / 0(0) / 2(10.5)
Overall assessment	18/849 (2.1)	16(88.9) / 1(5.6) / 1(5.6)
Professionalism	15/849 (1.8)	10(66.7) / 1(6.7) / 4(26.7)
Communication	13/849 (1.5)	5(38.5) / 1(7.7) / 7(53.8)
Availability by telephone	3/849 (0.4)	3(100) / 0(0) / 0(0)
Recommendation	1/849 (0.1)	1(100) / 0(0) / 0(0)
Time spent with patient	1/849 (0.1)	1(100) / 0(0) / 0(0)
Practice		
Atmosphere	59/849 (6.9)	54(91.5) / 3(5.1) / 2(3.4)
Waiting time within practice	58/849 (6.8)	42(72.4) / 4(6.9) / 12(20.7)
Ability to get appointment	39/849 (4.6)	31(79.5) / 0(0) / 8(20.5)
Overall assessment	22/849 (2.6)	20(90.0) / 1(4.5) / 1(4.5)
Location	15/849 (1.8)	13(86.7) / 0(0) / 2(13.3)
Organisation	13/849 (1.5)	10(76.9) / 1(7.7) / 2(15.4)
Equipment	9/849 (1.1)	8(88.9) / 0(0) / 1(11.1)
Online appointment	5/849 (0.6)	5(100) / 0(0) / 0(0)
Recommendation	5/849 (0.6)	5(100) / 0(0) / 0(0)
Parking space	5/849 (0.6)	5(100) / 0(0) / 0(0)
Consultation hours	2/849 (0.2)	2(100) / 0(0) / 0(0)
Waiting room entertainment	2/849 (0.2)	2(100) / 0(0) / 0(0)
Availability by telephone	2/849 (0.2)	1(50) / 0(0) / 1(50)
Barrier free access	1/849 (0.1)	0(0) / 1(100) / 0(0)

However, there were some significant differences between PRWs, regions, specialities, and gender (See **Multimedia Appendices 1-4** for full results). Regarding the PRWs, there were significant differences between comments on google and the three dedicated PRWs in a number of sub-categories. For instance, comments on google (161/520; 29.0%) mentioned the physician's competence significantly more ($\chi^2_{(3)}$=185.2, P<.001) than comments on okdoc (17/38; 44.7%); docapp (24/57; 42.1%), and medicosearch (98/234; 41.8%). Although, regarding the relative distribution, google had a much lower percentage of comment referring to the physician's competence compared to the other PRWs. Comments on google also referred to satisfaction with treatment (11/520; 21.3%) significantly more ($\chi^2_{(3)}$=204.1, P<.001) than okdoc (1/38; 2.6%); docapp (10/57; 17.5%), and medicosearch (27/234; 11.5%). Furthermore, 97.7% (42/43) of the references to treatment cost or billing issues were made in comments from google. There were significant differences between comments regarding physicians from Zurich and Geneva in a number of sub-categories. For instance, comments regarding physicians from Zurich mentioned the physician's competence (263/668; 39.3%) significantly more ($\chi^2_{(1)}$=170.3, P<.001) often than comments from Geneva physicians (37/181; 20.4%). However, regarding the relative distribution, physicians from Geneva had a higher percentage of comments referring to the physician's communication (60/181; 33.1% vs 172/668; 25.7%), the physician's caring attitude (50/181; 27.6% vs 142/668; 21.2%), the physician's professionalism (39/181; 21.5% vs 90/668; 13.4%), and trust in the physician (24/181; 13.2% vs 58/668; 8.6%). Comments regarding specialists significantly more often referred to the

physician's communication ($\chi^2_{(1)}$=8.3, *P*=.004), recommended the physician ($\chi^2_{(1)}$=43.6, *P*<.001), the physician's caring attitude ($\chi^2_{(1)}$=40.3, *P*<.001), satisfaction with treatment ($\chi^2_{(1)}$=37.8, *P*<.001), treatment cost and billing ($\chi^2_{(1)}$=22.3, *P*<.001), staff friendliness ($\chi^2_{(1)}$=34.1, *P*<.001), staff service and assistance ($\chi^2_{(1)}$=8.9, *P*=.003), practice atmosphere ($\chi^2_{(1)}$=20.8, *P*<.001), and waiting time within practice ($\chi^2_{(1)}$=8.3, *P*=.004). However, regarding the relative distribution, general practitioners (94/306; 30.7%) had a higher percentage of comments mentioning communication than specialists (138/543; 25.4%). Comments regarding male physicians (102/477; 21.3%) were significantly more ($\chi^2_{(1)}$=20.3, *P*<.001) likely to refer to satisfaction with treatment than comments about female physicians (47/372; 12.6%). However, comments regarding female physicians (22/372; 5.9%) were significantly more ($\chi^2_{(1)}$=6.5, *P*=.01) likely to mention that the patient felt like they had been taken seriously than comments about male physicians (8/477; 1.6%).

Evaluation results

Overall, 83% (705/849) of comments were classified as positive, 2.5% (21/849) as neutral, and 14.5% (123/849) as negative (see **Table 5**). However, there were significant differences between PRWs, regions, and speciality regarding negative comments: 90.2% (111/123) of negative comments were on google ($\chi^2_{(2)}$=180.1,*P*<.001), 74.7% (92/123) were from physicians in Zurich ($\chi^2_{(1)}$=30.3,*P*<.001), and 73.2% (90/123) were from specialists ($\chi^2_{(1)}$=26.4, *P*<.001). There was no significant difference ($\chi^2_{(1)}$=2.4,*P*=.13) between males (70/123; 56.9%) and females (53/123; 43.1%) regarding negative comments.

Table 5. Evaluation results

	okdoc (%)	docapp (%)	medicosearch (%)	google (%)	Total (%)
Zurich					
Positive	19/20 (95)	54/56 (96.4)	192/206 (93.2)	293/386 (74.9)	558/668 (83.5)
Neutral	1/20 (5)	0/56	5/206 (2.4)	12/386 (3.1)	18/668 (2.7)
Negative	0/20	2/56 (3.6)	9/206 (4.4)	81/386 (21)	92/668 (13.8)
Geneva					
Positive	18/18 (100)	1/1 (100)	27/28 (96.4)	101/134 (75.4)	147/181 (81.2)
Neutral	0/18	0/1	0/28	3/134 (2.2)	3/181 (1.7)
Negative	0/18	0/1	1/28 (3.6)	30/134 (22.4)	31/181 (17.1)
Overall					
Positive	37/38 (97.4)	55/57 (96.5)	219/234 (93.6)	394/520 (75.8)	705/849 (83)
Neutral	1/38 (2.6)	0/57	5/234 (2.1)	15/520 (2.9)	21/849 (2.5)
Negative	0/38	2/57 (3.5)	10/234 (4.3)	111/520 (21.3)	123/849 (14.5)

Discussion

This is the first study to examine the content and nature of narratives comments on Swiss PRWs and has resulted in a number of key findings: 1) the vast majority of issues mentioned were concerning aspects of performance (interpersonal skills of physician and staff, infrastructure, organisation and management of practice) that are considered assessable by patients; 2) overall the vast majority of comments were positive; and 3) there were significant differences between comments on google and comments on the three dedicated PRWs.

Content of comments

The five most frequently mentioned issues identified from the narratives comments were: 1=) the overall assessment of the physician (300/849; 35.3%) and the physician's competence (300/849; 35.3%); 2) the physician's communication (232/849; 27.3%); 3) recommending the physician (225/849; 26.5%); 4) the physician's friendliness (215/849; 25.3%); and 5) the physician's caring attitude (192/849; 22.6%). In contrast, the top five mentioned issues identified by Emmert and colleagues' analysis of 3000 narrative comments from the German PRW jameda from 2012 were: 1) the physician's competence (1874/3000; 62.5%); 2) the physician's friendliness and caring attitude (1148/3000; 38.3%); 3) the time the physician spent with the patient (987/3000; 32.9%); 4) the friendliness of the staff (667/3000; 22.2%); and 5) the information and advice from the physician (630/3000; 21%) [4].

Although both studies found that narrative comments most frequently mentioned the physician's competence, it should be noted that while this study kept the issues of "the physician's friendliness" and "the physician's caring attitude" separate, Emmert et al. combined the two issues [4]. If this study also combined these two issues, the physician's friendliness and caring attitude would become the most frequently mentioned issue (407/849; 47.9%). Indeed, it is important to recognise that 95.3% (41/43) of the sub-categories of the categorization framework and 81.6% (1992/2441) of the distinct issues identified were concerning aspects of performance (interpersonal skills of physician and staff, infrastructure, organisation and management of practice) that are considered to be assessable by patients [21]. Although a number of narrative comments also mentioned the physician's competency (300/849; 35.3%), the proportion of comments that mentioned this issue were substantially lower that reported by Emmert el at. (62.5%) [4].

Unsolicited critical comments on PRWs can be seen as a type of complaint, which can offer a

"window of opportunity" to improve health services [27]. Indeed, one of the aim of PRWs is to drive quality improvement by identifying aspects of care needing improvement so that changes can be made in practice [10]. Overall, 123 comments were classified as negative. Within these negative comments, 293 distinct issues were identified. Nearly half of all negative issues (132/293; 45.1%) concerned interpersonal issues: the physician's communication (n=33), the physician's friendliness (n=19), the physician's caring attitude (n=21), the physician's professionalism (n=26), the physician's trustworthiness (n=9), being taken seriously by the physician (n=5), the friendliness of the staff (n=8), the professionalism of staff (n=4), and staff communication (n=7). Given these interpersonal issues make up nearly half of all negative issues, and that improving these issues will potentially also improve patient's overall assessment and recommendation of physicians (46/293; 15.7% of negative issues), it is recommended that physicians should focus on improving interpersonal interactions with patients. However, the health care setting can be a very stressful and emotional draining environment due to external (including workload, exposure to patient suffering, time pressures, documentation requirement, financial issues etc.) and internal (including personality characteristics, and poor emotional regulation etc.) factors [28]. This can lead to stress, dissatisfaction, increased cynicisms, burnout, and compassion fatigue among health care professionals and staff [28,30]. In recent decades, the Switzerland health care system has experienced a number of changes that have caused greater economic constraints, increased administrative workload, and decreased professional autonomy [29]. A study published in 2010 founded that burnout levels among Swiss physicians had increased throughout the country over the last decade [29]. The increased burnout levels among Swiss physicians may be contributing to the suboptimal interpersonal issues reported in the narrative comments. Although there are strategies that individual physicians can use to improve their interpersonal skills [28], to really address this issue whole-system approaches may be required to improve the well-being of physicians [30].

Nature of comments

The analysis of the 849 narrative comments on Swiss PRWs reveals that 83% (705/849) of all comments were positive, 2.5% (21/849) were neutral, and 14.5% (123/849) were negative. This finding is very similar to previous analysis of narrative comments on PRWs in other countries [4,8,12-15]. For example, Emmert and colleagues analysis of 3000 narrative comments from the German PRW jameda from 2012 found that 80% of all comments were positive, 4% neutral, and 16% negative [4]. While this finding suggests that the users of Swiss PRWs are mostly satisfied with their physicians, the veracity of the level of satisfaction must be called into question given the

explicit practice of the dedicated PRWs of not allowing negative comments or removing them if physicians do not want them published. On okdoc, 0 of the 38 comments were negative; on docapp, 2 of the 57 comments were negative; and on medicosearch, 10 of the 234 comments were negative. Although google had 90.2% (111/123) of negative comments, the author has become aware that some negative comments that were online during data collection have since been removed. It is, therefore, unclear how many negative comments are being supressed on Swiss PRWs. However, the current suppression of negative comments by Swiss PRWs is concerning and goes against their overall aim of achieving more transparency. There are, no doubt, challenges in finding the correct balancing between protecting physicians from harm and promoting the health literacy benefits for patients. However, a blanket ban on negative comments or removing comments simply because the physician in question does not like a particular comment, seems inappropriate and it leading to a biased and inaccurate picture of patients' experiences and satisfaction. There is a need for a consensus-based criteria for determining which comments are not to be publically published on Swiss PRWs, which applies to all PRWs and is clearly publicised so users of PRWs. Indeed, a recent qualitative study conducted with a random sample of residents of four North German cities reported that a lack of rating guidance in terms of allowable content was a disincentives for rating a physician on a PRW [31]. It is also likely that the removal of a comment on the whims of a PRW operator is a disincentive for users to give further physician ratings in the future.

Google

As far as this author is aware, this is the first time google has been included in a project examining physician ratings internationally. It has already been reported that google had the highest average number of quantitative ratings (3.74 ratings) and narrative comments (3.03 comments) ratings per identifiable physician [22]. This analysis of the content and nature of the narratives comments on Swiss PRWs reveals that the comments on google are also far richer than the comments on the other Swiss PRWs; comments on google covered the most sub-categories of the categorization framework (37/43; 86%), and also had the majority of negative comments (111/123; 90.2%). It therefore appears that google has not only become the most used website in Switzerland for physician ratings in recent years, but also potentially the most useful. It would be helpful if Swiss patients are made aware of the current large differences between Swiss PRWs regarding the frequency and nature of ratings, to help them determine which PRW will provide them with the most useful information. However, future updates would be helpful to assess whether google, given its general market dominance, will take an even bigger share of the PRW ratings away from the dedicated PRWs competitors, or

whether the dedicated PRWs will be able to increase the quantity and quality of ratings. Indeed, medicosearch has already started to shift its business strategy towards online appointments, something that google does not currently offer, which may allow them to gain a bigger market share and increase the number of ratings. However, it may be necessary for okdoc to reflect on whether their continued existence in the Swiss PRWs market is providing value or in fact is causing harm. It has already been reported that okdoc had the lowest average number of quantitative ratings (1.47 ratings) and narrative comments (1.23 comments) ratings per identifiable physician, and only had one comment posted for all 966 physicians in the sample during the last 5 and a half years (2012-2018) [22]. This analysis of the content and nature of the narratives comments has also found that okdoc covered the least amount sub-categories of the categorization framework (24/43; 55.8%) and that is does not have any negative comments.

Limitations

This study has a number of limitations that should be taken into account when interpreting the results. First, while a systematic online search of Swiss PRWs was conducted, there may be other types websites that allow Swiss physicians to be rated that were not included in this study (e.g. the telephone directory local.ch). However, the author is confident that this study includes the four most important websites for physician ratings in Switzerland. Second, the sample was only taken from two regions in Switzerland, which may limit the generalizability of the results. While the study used a representative random sample from a German speaking and French speaking region of Switzerland with comparable number of physicians, given the significant differences found between the two regions it would be helpful for further research to include other regions to examine whether these differences are found between other German and French speaking regions and in the Italian speaking region of Ticino. Third, a distinction was only made between general practitioners and specialists, and there may be further differences between the different specialities. Finally, the socio-demographic information of the rating patients in unknown and may not be representative of Swiss patients in general.

Acknowledgments

This work was supported by the German Research Foundation (DFG) and the Technical University of Munich (TUM) in the framework of the Open Access Publishing Program.

Conflict of Interest

This work was funded by the Swiss Academy of Medical Sciences' Käthe-Zingg-Schwichtenberg-Fonds, which had no role in the project design, in the collection, analysis or interpretation of data, in the writing of the article or in the decision to submit the paper for publication. The author has no other conflict of interests to declare.

Multimedia Appendices

1. Multimedia Appendix 1: Categorisation of issues by PRWs
2. Multimedia Appendix 2: Categorisation of issues by regions
3. Multimedia Appendix 3: Categorisation of issues by specialities
4. Multimedia Appendix 4: Categorisation of issues by gender

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Supplementary Files

Multimedia Appendixes

Multimedia Appendix 1. Categorisation of issues by physician rating websites (PRWs).
URL: https://assetapi.jmir.pub/assets/7b6229a9083786ed11bef7c329677030.docx

Multimedia Appendix 2. Categorisation of issues by regions.
URL: https://assetapi.jmir.pub/assets/7e1e30c6228511428fe22e24dbd53b64.docx

Multimedia Appendix 3. Categorisation of issues by speciality.
URL: https://assetapi.jmir.pub/assets/62cb729555fea3817fd0ccb306a39cad.docx

Multimedia Appendix 4. Categorisation of issues by gender.
URL: https://assetapi.jmir.pub/assets/6c0b939100d8859f9122c465afa52e36.docx