Published in final edited form as:

Health Aff (Millwood). 2019 March ; 38(3): 374–382. doi:10.1377/hlthaff.2018.05006.

Americans' Growing Exposure To Clinician Quality Information: Insights And Implications

Mark J. Schlesinger, **Lise Rybowski**, **Dale Shaller**, **Steven Martino**, **Andrew M. Parler**, **Rachel Grob**, **Melissa Finucane**, **Jennifer Cerully**

Mark J. Schlesinger is a professor of health policy and chair of the Department of Health Policy and Management, Yale School of Public Health, in New Haven, Connecticut.

Lise Rybowski is president of the Severyn Group, in Ashburn, Virginia.

Dale Shaller is a principal of the Shaller Consulting Group, in Stillwater, Minnesota.

Steven Martino is a behavioral scientist at the RAND Corporation in Pittsburgh, Pennsylvania.

Andrew M. Parler is a senior behavioral and social scientist in the Center for Decision Making under Uncertainty at the RAND Corporation in Pittsburgh.

Rachel Grob is a clinical professor at the Center for Patient Partnerships at the University of Wisconsin (UW) Law School and a senior research scientist in the Department of Family Medicine, UW Medical School, both in Madison.

Melissa Finucane is a senior behavioral and social scientist at the RAND Corporation in Pittsburgh.

Jennifer Cerully is a behavioral and social scientist at the RAND Corporation in Pittsburgh.

Abstract

For two decades, various initiatives have encouraged Americans to consider quality when choosing clinicians, both to enhance informed choice and to reduce disparities in access to high-quality providers. The literature portrays these efforts as largely ineffective. But this depiction overlooks two factors: the dramatic expansion since 2010 in the availability of patients' narratives about care and the growth of information seeking among consumers. Using surveys fielded in 2010, 2014, and 2015, we assessed the impact of these changes on consumers' awareness of quality information and sociodemographic differences. Public exposure to any quality information doubled between 2010 and 2015, while exposure to patient narratives and experience surveys tripled. Reflecting a greater propensity to seek quality metrics, minority consumers remained better informed than whites over time, albeit with differences across subgroups in the types of information encountered. An education-related gradient in quality awareness also emerged over the past decade. Public policy should respond to emerging trends in information exposure, establish standards for rigorous elicitation of narratives, and assist consumers' learning from a combination of narratives and quantified metrics on clinician quality.

---

mark.schlesinger@yale.edu.

For the past two decades, public programs (for example, Medicare's Compare sites) and private initiatives (such as the Robert Wood Johnson Foundation's Aligning Forces for Quality) have encouraged Americans to choose clinicians in quality-informed ways.[1,2] These efforts to promote medical consumerism aspired to help consumers find their preferred clinicians[3] and to reduce disparities in access to high-quality providers.[4] Spurred by these initiatives and other factors, sources of comparative quality information on individual clinicians have proliferated, appearing on a growing number of commercial, nonprofit, and government-sponsored websites.[5,6]

Despite the increased availability of quality information, the impact on public awareness has often been judged disappointing.[7,8] Although roughly half to two-thirds of consumers who visit quality-reporting websites use the information to select clinicians,[2,9,10] relatively few Americans appear to find their way to these sites.[8] Extant measures of consumer exposure show little increase over the past ten years.[11] Members of ethnic and racial minority groups see more of this information,[4,12] but their exposure to quality information also remains limited.[12,13]

Introducing Americans to comparative quality information about clinicians clearly remains a work in progress. But conventional assessments may be unduly pessimistic because they overlook two potentially important trends. The first involves content: Websites presenting quantitative performance metrics on clinicians have been joined by websites that primarily present patients' verbatim comments about their care.[14,15] The availability of comments may enhance the appeal of quality-reporting websites for some consumers who are confused or put off by quantified ratings of clinician quality.[2,8] However, because many newly emerging web-sites exclusively present patients' comments,[14] some consumers may be exposed to anecdotal comments only and miss out on other forms of quality information.[16]

A second notable trend is the emergence of new information sources. The first generation of websites that reported clinician quality were sponsored by either government agencies or state-level quality coalitions, neither of which was familiar to or trusted by most Americans.[17] Newly emerging websites, by contrast, are often sponsored by familiar internet "brand names" (for example, Yelp and Angie's List) or local health care systems, both of which are seen as trustworthy sources of information by a substantial portion of the public.[6,17] The growing availability of familiar and trusted sources may encourage more consumers to seek out performance information when searching for a new clinician.

To increase understanding of the impact of these emerging trends, it is instructive to delve deeper into consumers' awareness of physician-level quality. How did exposure to physician quality information change between 2010 and 2015? To what extent did this change depend on how consumers encountered information? Finally, how did this change affect disparities in information exposure? In this article we explore these questions using survey data that provide a more detailed portrait of the information that Americans observe, and we consider implications of these insights for research and contemporary health policy.

Study Data And Methods

DATA

The data for this article came from three surveys of our own design, fielded in 2010, 2014, and 2015. These surveys were components in three studies of consumers' choice of clinicians.[18] Different objectives for each study shaped the sampling strategy for each survey.

All surveys drew participants from the internet-based Knowledge Panel of over 60,000 households recruited and maintained by the research firm GfK. This panel is representative of the US noninstitutionalized population in terms of demographic characteristics and health status, with internet access provided by GfK if not otherwise available.[19] Random samples of panelists were invited to participate. In 2010 the sample was restricted to panelists ages 25–64; the latter two surveys were open to all panelists ages 18 and older.

The three surveys were fielded in July–August 2010, July–August 2014, and June 2015. Participation rates were, respectively, 49 percent, 65 percent, and 52 percent, yielding sample sizes of 849, 787, and 1,456.[20] The sociodemographic characteristics and health status of respondents were similar to those of the overall American population (online appendix A).[21] The surveys took an average of ten minutes to complete and had virtually no attrition once started. However, because there was differential participation across subgroups that tend to have different levels of exposure to quality information,[7,8,12,13] the measures of information exposure presented below were adjusted by sampling weights.

MEASURES

Three measures characterized Americans' exposure to quality information. The surveys first asked whether the respondent had seen any information comparing the quality among different health plans, hospitals, or doctors in the past twelve months (using the same wording as surveys previously fielded by the Henry J. Kaiser Family Foundation).[22,23] The remaining questions inquired about performance information for clinicians alone.

Prior studies typically grouped together all forms of comparative quality under the broad rubric of "ratings and reviews."[10,11] Our surveys instead asked about specific types of information: ratings from surveys about patients' experiences with their doctors, ratings derived from clinical records or administrative data indicating how well doctors cared for particular illnesses or acted to prevent disease, and patients' written comments about their doctors. As public reports expanded their scope, we added to the 2014–15 surveys an additional category: ratings of how well doctors prevented medical errors.

Past research on health communications suggests that information acquisition can differ substantially based on whether people actively search for information (aka "information seeking") or passively encounter it (aka "information scanning").[24] The 2014 and 2015 surveys added a question to explore this issue, asking whether respondents actively sought out quality information: "In the past 12 months, have you ever visited an internet website to learn specifically about the quality of doctors in your area?"

To assess potential disparities in public awareness, we examined differences in information seeking and exposure by educational attainment and race/ethnicity. To make these comparisons consistent with those reported in previous studies, some of our analyses statistically controlled for other characteristics correlated with education or race/ethnicity, including age, sex, income, and health status.[7,8,13,25]

STATISTICAL ANALYSIS

To assess changes over time in exposure to quality information, we adjusted for the restricted age range (ages 25–64) for the 2010 sample. Past studies have found that both younger and older adults are less likely to report having encountered quality information on health care providers online, the former because they are relatively healthy and less likely to have chosen a clinician (particularly specialists), and the latter because they are less likely to use the internet to acquire information.[13] For comparisons to earlier Kaiser Family Foundation surveys, we used data from comparable questions on the 2014 and 2015 surveys, which sampled adults ages 18 and older, to reweight the frequencies for 2010 proportional to each ten-year age stratum. For comparisons among 2010, 2014, and 2015, we limited the sample to respondents ages 25–64.

To parse out factors influencing information seeking and exposure, we estimated a set of multivariate logistic regressions. To maximize the stability and precision of these estimates, we pooled the 2014 and 2015 survey responses and used all respondents ages eighteen and older. Models were estimated for three outcome variables: having seen any information on clinician quality, having seen any quantified quality metric, and having seen narrative comments. Each regression had two specifications: The first controlled only for sociodemographic attributes and health status, while the second also controlled for whether respondents were active information seekers. Comparing across the two specifications revealed how much sociodemographic differences in each form of quality information exposure can be accounted for by differences in information seeking.

Past research suggests that disparities in information seeking reflect a combination of people’s concerns, perceptions, and circumstances. Consumers who have less trusting or less established relationships with doctors, who have had those relationships disrupted by insurance coverage instability,[26] or who are in poor health will feel a greater need to assess their options.[7,8,13] Those inclined to search the internet for information on other products may be similarly motivated for choices related to health care.[25]

These past studies also suggest other individual and household characteristics that promote or inhibit information seeking. We needed to control for these factors to accurately assess how changes over time might affect key disparities in exposure to information about clinician quality. Consequently, our regression models controlled for a set of other respondent characteristics: age, sex, racial/ethnic background, educational attainment, household income, health status (having chronic or recent serious acute health problems), and living in a state with a clinician quality report.

LIMITATIONS

Our study had several limitations. First, our survey results provide insights into the nature of clinician quality information that respondents encountered, as well as how they encountered it, but they do not indicate whether or how that information was used. Exposure to information does not guarantee that it will be used.[8,13,22] However, while awareness of information is not a sufficient condition for use, it is a necessary one. Moreover, exposure to provider quality information may be valuable in other ways, such as enhancing the public's understanding of variations in health care quality or familiarizing consumers with quality metrics that may become useful as their health needs change over time.

Also, because our survey questions did not identify the sources of the quality information to which consumers had been exposed, we could not determine whether most consumers obtained their information from a single site or multiple sites, nor can we speak to the trustworthiness of the information presented on those sites.

Study Results

INCREASING AWARENESS OF PHYSICIAN QUALITY INFORMATION

To measure trends in exposure to physician quality information over time, we present our survey findings together with those from comparably worded questions from four Kaiser Family Foundation surveys fielded in the period 1996–2008. As shown in exhibit 1, the percentage of respondents who saw comparative information on hospital quality grew modestly since 1996, from just over 20 percent in the earlier years to not quite 25 percent in 2010, 2014, and 2015. By contrast, our data point to a significant surge in Americans' awareness of physician-level information. The percentage of respondents who reported seeing information on physician quality grew substantially over the past decade, from 12 percent in 2008 to 26 percent in 2015.

GREATER EXPOSURE TO ALL QUALITY INFORMATION, BUT ESPECIALLY TO PATIENT COMMENTS

Our surveys offer a window into the specific types of quality information that people encountered in the period 2010–15. To ensure consistent comparisons over time, we limited the 2014 and 2015 samples in exhibit 2 to working-age respondents (those ages 25–64). Our measure of exposure to any quality information on clinicians also differs from the measure in exhibit 1, since in exhibit 2 we count any respondent who reported having seen at least one of the specific types of quality information identified in our surveys.

Exposure to all four types of information on physician quality—patient experience, clinical quality, patient safety, and patient comments—increased over time. In 2010, 15.1 percent of respondents ages 25–64 indicated that they had seen at least one of these types of information. That figure had doubled to 30.1 percent by 2015. This is a higher prevalence of exposure than reported on the question borrowed from the Kaiser Family Foundation surveys (exhibit 1), even after adjustment for age differences in the sample—either because more specific questions led to more accurate recall, or because some people who saw only narrative comments did not consider them to be quality information when responding to the Kaiser Family Foundation–based question.

Awareness of patient-reported information is clearly growing most rapidly, with exposure to patient experience survey results and patient comments roughly tripling from 2010 to 2015. Exposure to at least one of the quantified forms of quality information (scores for patient experience, clinical quality, or patient safety) doubled from 2010 to 2015. Because exposure to patient comments was growing even faster, the relative proportion of consumers who saw only comments grew as well, constituting a quarter of those who saw any clinician quality information in 2015.

GREATER EXPOSURE TO PHYSICIAN QUALITY INFORMATION AMONG ACTIVE AND PASSIVE CONSUMERS

To gain further insights into these trends, we contrasted quality-information exposure between active and passive information seekers. Among respondents to the 2014 survey, 18.4 percent reported themselves to be information seekers (that is, they looked specifically for information about clinician quality on the internet), consistent with previous national surveys that found that 17 percent of internet users consulted online rankings or reviews of doctors or other providers in 2012 (up modestly from the 16 percent reported by the Pew Research Center in 2010).[27] The share of respondents actively seeking information on clinician quality had climbed to 27.1 percent by 2015 (data not shown).

The difference in exposure to physician quality information between active and passive information seekers was significant. People who actively looked for quality information on the internet were often (though not always) able to find something relevant. In both the 2014 and 2015 surveys, roughly 85 percent of information seekers found at least one type of information on physician quality (appendix B).[21]

Naturally, people who were not intentionally seeking this information reported lower levels of exposure. But even though the prevalence of exposure in this group was low, it was not trivial. And that share increased from 4.5 percent of respondents in 2014 to 7.9 percent in 2015.

Thus, the increase in exposure to physician quality information between 2010 and 2015 can be attributed to three factors: the high rate of exposure among information seekers, a modest growth in the number of information seekers, and the increase in passive exposure among Americans not seeking quality metrics. We can calculate their proportional importance, based on our prevalence measures and comparisons to the Pew data on information seeking in 2010.

In 2015, out of 1,000 consumers, 184 were information seekers. Eighty-five percent of this subgroup (156 of the 1,000) found that information. Of the 816 who were not seeking information, 8 percent (64 people) were exposed to the information anyway. This means that out of the 220 Americans per 1,000 who encountered clinician quality information, 30 percent did so through passive exposure.

Although we can compare the exposure induced by information seeking across only two years (2014 versus 2015), our data also suggest that both active and passive consumers are increasingly exposed to patient comments—and a nontrivial proportion to only comments. Among information seekers, the percentage of respondents ages 25–64 who saw only comments increased in that one-year period from 13.9 percent to 22.6 percent. Among passive consumers, there was a modest increase in respondents who reported seeing only comments (from 0.7 percent to 1.7 percent) (appendix B).[21]

GREATER INFORMATION SEEKING AMONG MEMBERS OF RACIAL AND ETHNIC MINORITY GROUPS

Uneven exposure to quality information may be a consequence of sociodemographic variation in information seeking. Our regression analysis revealed that active information seeking was more common in respondents who were younger, were female, and had chronic health problems (appendix C).[21] By contrast, income and education gradients were not very pronounced. When sociodemographic differences in the sample were controlled for, it appeared that the prevalence of active information seeking for physician quality information almost doubled from 2014 to 2015.

Perhaps most consequentially for disparities in health-related information, members of racial and ethnic minority groups are significantly more likely to seek out clinician quality information (odds ratios compared to otherwise comparable white respondents were 1.66 for African Americans, 1.38 for Latinos, and 1.57 for those who reported their racial/ethnic background to be mixed or other). This last finding is consistent with some past studies that found higher levels of awareness of comparative quality information among African Americans and Latinos and identified greater information seeking among minority respondents as a key reason for this enhanced awareness.[13]

SHIFTING DISPARITIES IN EXPOSURE TO PHYSICIAN QUALITY INFORMATION

Given differences in information seeking, substantial sociodemographic differences in exposure to physician quality information in 2015 are not surprising. But many of the differences in exposure emerged quite recently, as physician quality information became more widely available. As of 2010 no disparities related to education for any type of quality information were evident (exhibit 3). Racial/ethnic differences were uneven and modest in magnitude, with African American and other racial/ethnic groups (largely Asian American) showing moderately elevated exposure to quality information, while Latinos and mixed-race respondents did not.

By 2015 marked changes were evident. Exposure to all forms of quality information became significantly related to educational attainment. Previously uneven disparities by race/ethnicity became consistent and larger, with whites less likely to see clinician quality information than any other subgroup. Some subtle differences also emerged in the types of information seen by each subgroup. Between 2010 and 2015 the white–African American differential for quantified quality metrics more than doubled, from 4.4 percentage points to 10.8 percentage points (exhibit 3), whereas the white–African American differential for comments declined slightly. By contrast, the primary differences between whites and either

Latinos or other racial/ethnic groups were far larger for comments than for quantified metrics. For multiracial respondents, differences with whites grew for both forms of quality information.

The regression models that controlled for associations with other respondent characteristics provided additional insights into the nature of these differences (exhibit 4). When other sociodemographic characteristics were controlled for, education became consequential only for college graduates, who had higher exposure to all forms of clinician quality information than did people with a high school education or less. Racial/ethnic differences were pronounced for all subgroups, though they were largest for African Americans related to quantifiable metrics and largest for Latinos related to narrative comments.

How much of this is due to differences in the propensity to search for quality data? In models that incorporated a measure of active information seeking, the greater exposure to quality information among the college educated remained unaltered. But the African American–white differential for patient comments, the Latino-white differential for quantifiable metrics, and the mixed or other race differential for all forms of quality information largely vanished after information seeking was controlled for. Some differences persisted, however—most strikingly, the propensity of Latinos to have been exposed to comments.

The regressions also allowed us to identify the relationship between other respondent characteristics and exposure to clinician quality information (exhibit 4). Adults younger than age thirty-five were more likely than older adults to see any physician quality information and especially more likely to see patient comments. Information exposure was also higher for women than for men. In both cases, differences in the propensity to actively search for information accounted for the relationships involving quantifiable metrics, but even after active searching was controlled for, sex and age differences persisted in exposure to comments.

Respondents from higher-income households were also significantly more likely to report all forms of information exposure, after educational attainment was controlled for. Because income was not related to information seeking, this income gradient persisted even after the propensity to search was controlled for. A final predictive factor was the presence of a chronic condition or the experience of a serious or life-threatening medical need in the previous year. Having a chronic condition increased awareness of both quantified metrics and patient comments. For quantified metrics, this relationship is a by-product of more active information seeking. But here again, respondents with chronic conditions reported greater awareness of patient comments, even when that behavior was controlled for. Having had a serious or life-threatening medical need, on the other hand, galvanized attention to quantified metrics of quality. However, this remained unaffected by the propensity to search for information.

Discussion

Our findings suggest that Americans have recently become much more aware of information that compares clinician quality—a contrast with the pessimistic assessments commonly found in the literature. Americans are also somewhat more active in seeking out this information and have been exposed to different forms of quality-related information than in the past. Most strikingly, more people are viewing patients' comments about doctors. Members of racial/ethnic minority groups continue to see quality information more frequently, in part because they tend to seek it.

Our surveys were fielded during a period characterized by increases in both information availability and information seeking. It is unclear how long this expansionary period will persist, or what longer-term impact might emerge if it does. Past studies estimate that as much as 40 percent of the public might consider seeking out a new clinician each year.[14,15] Because 40 percent is a substantially larger portion of the public than our 2015 survey identified as seeking quality information, there is considerable potential for continued growth in the number of active information seekers.

The extent to which passive exposure could expand among consumers is harder to assess. Because much of this exposure likely comes from internet searches that involve other consumer services, factors that promote web-based consumerism would likely foster passive exposure to health care quality information. This would include generational transitions, as older cohorts are replaced by younger people more accustomed to using the internet as consumers.[25,27]

Additional research is required to help interpret some of our findings. First, it would be helpful to better understand how consumers make sense of their search results when they encounter only some forms of quality information. For example, are those consumers not exposed to clinical quality or safety metrics aware that they are missing potentially useful information? Past research on hospitals suggests that the valence (the comment's tone on a positive-negative spectrum) of online comments is positively correlated with clinical quality metrics.[28] But this correlation is not high, and it remains unclear whether the same correlations hold for outpatient settings. When consumers encounter only comments from patients, are they aware that they could also seek other measures of patient experience with clinicians that, in combination with comments, would offer a more representative or complete picture of clinical care?

The origins of the racial/ethnic disparities in health information exposure also merit some additional study, because they represent a rare case where minority consumers are considerably better informed than otherwise comparable non-Latino whites. As noted above, several possible explanations exist for this anomaly. Greater distrust in health care may motivate minority patients to seek comparative performance information as a form of self-protection from discriminatory or unreliable providers.[12,13] Alternatively, groups with less stable insurance coverage may have more frequently disrupted relationships with clinicians and therefore more reason to seek out new providers.[26]

However, there is little reason to think that distrust or insurance instability grew from 2010 to 2015. Nonetheless, minority patients became distinctly more exposed to quality information on clinicians during that time. What might account for this—or for the greater exposure of Latinos to patient comments—warrants further investigation.

Finally, it is striking that, after sociodemographic characteristics were controlled for, respondents with chronic health conditions were more exposed to patient comments, even after accounting for their greater propensity to search for quality information. This, too, merits additional research.

Although there remain unanswered questions about emerging forms of information seeking and exposure regarding clinician quality, some policy-relevant observations already seem clear. First, as patient comments become a dominant source of information for consumers, creating standards for rigorously eliciting patient narratives that are representative and complete as well as for thoughtfully integrating narratives into quality-reporting websites becomes a high priority for contemporary health policy.[16] Second, given the persisting propensity for consumers from ethnic and racial minority groups to more actively seek out comparative quality information, new policy initiatives could constructively leverage these differences to reduce disparities in exposure to other essential health-related information.[26]

Conclusion

After decades of stagnation, public awareness of information about health care quality is undergoing a sea change, albeit one largely overlooked in the health services literature. This transformation is driven by newly available forms of quality information, with patient comments about physicians at the forefront. It therefore behooves proponents of medical consumerism to pay careful attention to the content and impact of patient narratives and other innovative quality metrics.[15] More troublingly, exposure to clinical quality and safety metrics lags behind patient-reported information. And emerging gradients related to education portend potentially larger future disparities in information exposure.

Because a larger portion of the public searches for a new clinician each year than selects hospitals or health plans, clinician quality data become a lens for educating the public about health care quality. This process of learning and extrapolation deserves more attention from policy makers as they strive to more effectively harness consumer choice as a tool for making the health care system more responsive to patients.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

This research was supported by cooperative agreements between the Agency for Healthcare Research and Quality (AHRQ) and Yale University (Agreement No. 1U18HS016978) and the RAND Corporation (Agreement No. 2U18HS016980–06), as well as a grant from AHRQ to Yale University (Grant No. 1R21HS021858). Mark Schlesinger served as an expert witness for a case under the auspices of the law firm Robins Kaplan LLP. This case involved health care practices but was in no way related to the substance of this article. The project on which this article is based was facilitated by feedback from a variety of sources, including the broader Consumer Assessment of Healthcare Providers and Systems research team (principal investigators: Paul Cleary, Susan Edgman-Levitan, Ron Hays, and Marc Elliott); the authors' project officers at AHRQ (Chris Crofton and Caren Ginsberg); and participants at the Narratives Summit, a small invitational conference hosted by AHRQ in Rockville, Maryland, in September 2016.

NOTES

1. Christianson JB, Volmar KM, Alexander J, Scanlon DP. A report card on provider report cards: current status of the health care transparency movement. J Gen Intern Med. 2010;25(11):1235–41. [PubMed: 20625849]
2. Bardach NS, Hibbard JH, Greaves F, Dudley RA. Sources of traffic and visitors' preferences regarding online public reports of quality: web analytics and online survey results. J Med Internet Res. 2015;17(5): e102–13. [PubMed: 25934100]
3. Sinaiko AD, Eastman D, Rosenthal MB. How report cards on physicians, physician groups, and hospitals can have greater impact on consumer choices. Health Aff (Millwood). 2012;31(3):602–11. [PubMed: 22392672]
4. SteelFisher GK, Schneider EC, Zaslavsky AM, Blendon RJ. Can quality reports help address health care disparities? Use and awareness of comparative quality information by African Americans. J Health Care Poor Underserved. 2009;20(3): 884–95. [PubMed: 19648714]
5. Findlay SD. Consumers' interest in provider ratings grows, and improved report cards and other steps could accelerate their use. Health Aff (Millwood). 2016;35(4):688–96. [PubMed: 27044970]
6. Holliday AM, Kachalia A, Meyer GS, Sequist TD. Physician and patient views on public physician rating websites: a cross-sectional study. J Gen Intern Med. 2017;32(6): 626–31. [PubMed: 28150098]
7. Shi Y, Scanlon DP, Bhandari N, Christianson JB. Is anyone paying attention to physician report cards? The impact of increased availability on consumers' awareness and use of physician quality information. Health Serv Res. 2017;52(4): 1570–89. [PubMed: 27468943]
8. Bhandari N, Scanlon DP, Shi Y, Smith RA. Why do so few consumers use health care quality report cards? A framework for understanding the limited consumer impact of comparative quality information. Med Care Res Rev. 2018 5 1 [Epub ahead of print].
9. Emmert M, Meier F, Pisch F, Sander U. Physician choice making and characteristics associated with using physician-rating websites: cross-sectional study. J Med Internet Res. 2013;15(8):e187. [PubMed: 23985220]
10. PricewaterhouseCoopers Health Research Institute. Scoring health-care: navigating customer experience ratings. London: PwC; 2012.
11. Huckman RS, Kelley MA. Public reporting, consumerism, and patient empowerment. N Engl J Med. 2013; 369(20):1875–7. [PubMed: 24131139]
12. Duke CC, Stanik C, Beaudin-Sieler B, Garg P, Leis H, Fields J, et al. Right place, right time: improving access to health care information for vulnerable patients: consumer perspectives [Internet]. Ann Arbor (MI): Altarum Institute; 2017 1 [cited 2019 Feb 5]. Available from: https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2017/jan/right-place-right-time/RPRT_Altarum.pdf
13. Greene J, Fuentes-Caceres V, Verevkina N, Shi Y. Who's aware of and using public reports of provider quality? J Health Care Poor Under-served. 2015;26(3):873–88.
14. Lagu T, Metayer K, Moran M, Ortiz L, Priya A, Goff SL, et al. Website characteristics and physician reviews on commercial physician-rating websites. JAMA. 2017;317(7):766–8. [PubMed: 28241346]
15. Schlesinger M, Grob R, Shaller D, Martino SC, Parker AM, Finucane ML, et al. Taking patients' narratives about clinicians from anecdote to science. N Engl J Med. 2015;373(7): 675–9. [PubMed: 26267629]
16. Sick B, Abraham JM. Seek and ye shall find: consumer search for objective health care cost and quality information. Am J Med Qual. 2011; 26(6):433–40. [PubMed: 21918015]
17. Gerteis M, Thomas C, Blatt L, Crelia S, Ward AM, Moriarty K, et al. Quality reporting on Medicare's Compare sites: lessons learned from consumer research, 2001–2014 [Internet]. Princeton (NJ): Mathematica Policy Research; 2015 12 14 [cited 2019 Jan 30]. Available from:

https://www.mathematica-mpr.com/our-publications-and-findings/publications/quality-reporting-on-medicares-compare-sites-lessons-learned-from-consumer-research-20012014

18. Schlesinger M, Kanouse DE, Martino SC, Shaller D, Rybowski L. Complexity, public reporting, and choice of doctors: a look inside the blackest box of consumer behavior. Med Care Res Rev. 2014; 71(5, Suppl):38S–64S. [PubMed: 23999489]
19. Chang L, Krosnick JA. National surveys via RDD telephone interviewing versus the internet: comparing sample representativeness and response quality. Public Opin Q. 2009;73(4):641–78.
20. Respondents to the 2010 survey were eligible to participate in the later surveys. However, respondents to the 2014 survey were excluded from the sample in 2015.
21. To access the appendix, click on the Details tab of the article online.
22. Henry J Kaiser Family Foundation. 2008 update on consumers’ views of patient safety and quality information [Internet]. San Francisco (CA): KFF; 2008 9 30 [cited 2019 Jan 30]. Available from: https://www.kff.org/health-reform/poll-finding/2008-update-on-consumers-views-of-patient-2/
23. The Kaiser Family Foundation also fielded these questions in 2015, incorporated into the foundation’s tracking survey on attitudes toward the Affordable Care Act. Our analyses suggest that this politicized context led to substantial underreporting of exposure to quality information, so we excluded from exhibit 1 the reported findings from this version of the Kaiser survey.
24. Niederdeppe J, Hornik RC, Kelly BJ, Frosch DL, Romantan A, Stevens RS, et al. Examining the dimensions of cancer-related information seeking and scanning behavior. Health Commun. 2007;22(2):153–67. [PubMed: 17668995]
25. Associated Press–NORC Center for Public Affairs Research. Finding quality doctors: how Americans evaluate provider quality in the United States [Internet]. Chicago (IL): The Center; 2014 7 [cited 2019 Jan 30]. Available from: http://www.apnorc.org/PDFs/Finding%20Quality%20Doctors/Finding%20Quality%20Doctors%20Research%20Highlights.pdf
26. Garcia Mosqueira A, Hua LM, Sommers BD. Racial differences in awareness of the Affordable Care Act and application assistance among low-income adults in three southern states. Inquiry. 2015;52:1–4.
27. Fox S, Duggan M. Health online 2013 [Internet]. Washington (DC): Pew Research Center; 2013 1 15 [cited 2019 Jan 30]. Available from: http://www.pewinternet.org/2013/01/15/health-online-2013/
28. Glover M, Khalilzadeh O, Choy G, Prabhakar AM, Pandharipande PV, Gazelle GS. Hospital evaluations by social media: a comparative analysis of Facebook ratings among performance outliers. J Gen Intern Med. 2015;30(10):1440–6. [PubMed: 25749881]

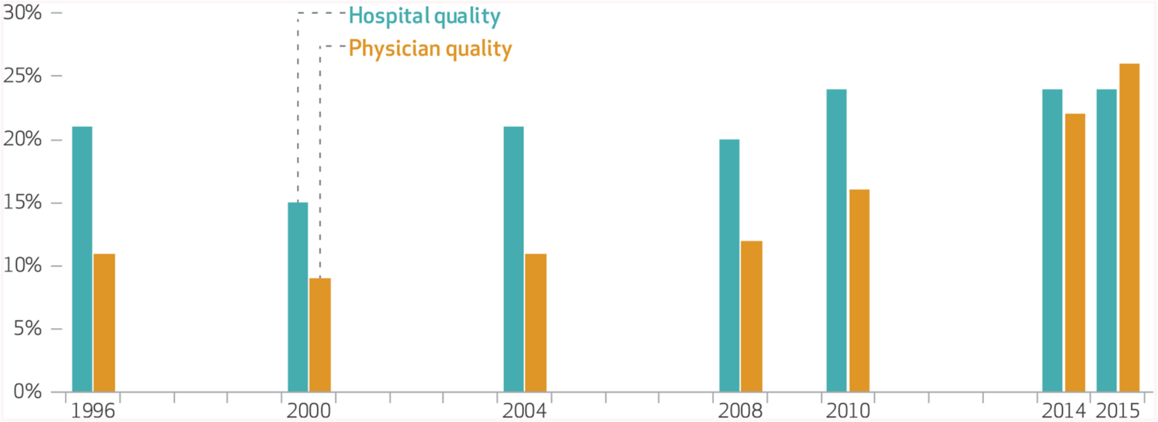

EXHIBIT 1.

Percent of US survey respondents ages 18 and older who saw comparative quality information on physicians and hospitals, selected years 1996–2015

SOURCE Authors' analysis of data for 2010–15 from their own surveys and of data for 1996–2008 from Henry J. Kaiser Family Foundation. 2008 update on consumers' views of patient safety and quality information (see note 22 in text).

EXHIBIT 2

Percent of survey respondents ages 25–64 exposed in the past 12 months to physician quality information, by type of information, selected years 2010–15

Type of information	**2010 (*n* = 847)**	**2014 (*n* = 579)**	**2015 (*n* = 1,012)**
Patient experience surveys	6.8%	13.5%	17.7%
Clinical quality metrics	7.9	6.7	10.4
Patient safety metrics	–[a]	2.4	4.0
Patient narrative comments	8.7	15.5	23.1
Of the types of information above:			
Saw any quality information	15.1	20.7	30.1
Saw at least one quantified metric	11.7	17.4	22.4
Saw qualitative comments only	3.4	3.3	7.7

SOURCE Authors’ analysis of data for 2010, 2014, and 2015 from their own surveys.

[a] Question about exposure to safety metrics not asked on the 2010 survey.

EXHIBIT 3

Percent of survey respondents ages 25–64 exposed in the past 12 months to physician quality information, by education and race/ethnicity, 2010 and 2015

	In 2010, saw:			In 2015, saw:		
	Any physician information	Any quantified metric	Patient narrative comments	Any physician information	Any quantified metric	Patient narrative comments
EDUCATION						
High school or less (ref)	14.9%	11.5%	7.6%	23.3%	17.2%	17.2%
Some college	16.5	12.4	10.7	30.7	22.5	23.2
College degree or more	14.2	11.3	8.4	34.9[**]	26.3[**]	27.4[**]
RACE/ETHNICITY						
White (ref)	13.7%	11.0%	7.8%	27.3%	20.9%	20.7%
African American	23.1	15.4	13.2	37.8[**]	31.7[**]	24.4
Latino	13.5	10.8	8.1	38.1[**]	23.9	32.7[**]
Other	21.2	18.2	12.1	36.8[**]	21.1	29.0[**]
Multiracial	17.8	8.7	13.1	44.4[**]	33.3[**]	33.3[**]

SOURCE Authors’ analysis of data for 2010 and 2015 from their own surveys.

NOTE Sample sizes are in exhibit 2.

[**] $p < 0:05$

EXHIBIT 4

Odds that survey respondents ages 18 and older would have seen physician quality information, compared to selected reference groups, combined 2014–15 sample

	Saw any physician information		Saw any quantified metric		Saw patient narrative comments	
Explanatory variable	**Overall**	**Controlling for search**[a]	**Overall**	**Controlling for search**[a]	**Overall**	**Controlling for search**[a]
EDUCATION (REF: HIGH SCHOOL OR LESS)						
Some college	0.76*	0.95	0.80	1.01	0.83	1.10
College degree or more	1.31*	1.44*	1.30*	1.32	1.40*	1.51*
OTHER SOCIODEMOGRAPHIC CHARACTERISTICS						
Income	1.13*	1.17*	1.15*	1.17*	1.15*	1.19*
Age	0.78*	0.83*	0.82*	0.92	0.74*	0.79*
Female (ref: male)	1.47*	1.30	1.29*	1.01	1.59*	1.46*
Race/ethnicity (ref: white)						
African American	1.68*	1.41	1.70*	1.40	1.41*	0.95
Latino	1.56*	1.63*	1.27	1.07	1.61*	1.60*
Multiracial or other	1.49*	1.16	1.35	0.98	1.40	0.98
HEALTH STATUS (REF: HEALTHY)						
At least one acute condition	1.22	1.24	1.40*	1.52*	1.30	1.34
At least one chronic condition	1.73*	1.56*	1.44*	1.08	1.93*	1.70*
OTHER CHARACTERISTICS						
Physician quality report available (ref: no)						
Yes	0.88	0.90	0.88*	0.91	0.86	0.84
Sample year (ref: 2015)						
2014	0.52*	0.62*	0.64*	0.92	0.55*	0.76
Sought quality information (ref: no)						
Yes	–[b]	72.20*	–[b]	33.90*	–[b]	48.10*
Proportion of variance explained	0.10	0.64	0.06	0.57	0.10	0.59
Number of observations	2,243	2,243	2,243	2,243	2,243	2,243

SOURCE Authors' analysis of data from their own surveys.

NOTES The exhibit shows the odds ratios from logistic regressions on the combined 2014–15 sample. The age and income variables are modeled without a single reference group; their odds ratios are associated with moving up one category for each variable.

[a] Models include a measure for whether consumers actively sought out information on clinician quality. After information seeking is controlled for, the remaining significant differences are those among each type of quality information.

[b] Measure of information search excluded from baseline models.

[*] $p < 0.05$