

UC Irvine

UC Irvine Previously Published Works

Title

California hospital networks are narrower in Marketplace than in commercial plans, but access and quality are similar.

Permalink

<https://escholarship.org/uc/item/5zn289b9>

Journal

Health affairs (Project Hope), 34(5)

ISSN

0278-2715

Authors

Haeder, Simon F
Weimer, David L
Mukamel, Dana B

Publication Date

2015-05-01

DOI

10.1377/hlthaff.2014.1406

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

By Simon F. Haeder, David L. Weimer, and Dana B. Mukamel

California Hospital Networks Are Narrower In Marketplace Than In Commercial Plans, But Access And Quality Are Similar

DOI: 10.1377/hlthaff.2014.1406
HEALTH AFFAIRS 34,
NO. 5 (2015): 741-748
©2015 Project HOPE—
The People-to-People Health
Foundation, Inc.

ABSTRACT Do insurance plans offered through the Marketplace implemented by the State of California under the Affordable Care Act restrict consumers' access to hospitals relative to plans offered on the commercial market? And are the hospitals included in Marketplace networks of lower quality compared to those included in the commercial plans? To answer these questions, we analyzed differences in hospital networks across similar plan types offered both in the Marketplace and commercially, by region and insurer. We found that the common belief that Marketplace plans have narrower networks than their commercial counterparts appears empirically valid. However, there does not appear to be a substantive difference in geographic access as measured by the percentage of people residing in at least one hospital market area. More surprisingly, depending on the measure of hospital quality employed, the Marketplace plans have networks with comparable or even higher average quality than the networks of their commercial counterparts.

Simon F. Haeder (haeder@wisc.edu) is a doctoral student in the Department of Political Science at the University of Wisconsin-Madison.

David L. Weimer is the Edwin E. Witte Professor of Political Economy at the University of Wisconsin-Madison.

Dana B. Mukamel is a professor in the Department of Medicine at the University of California, Irvine.

After years of legal and political turmoil, the major provisions of the Affordable Care Act (ACA) have gone into effect and now provide health insurance coverage to millions of Americans. Many of these people obtained coverage from a health plan purchased through an insurance exchange, or Marketplace. However, concerns have been raised that favorable premiums and standardized benefits are provided at the expense of access to health care providers and to high-quality care.

In this analysis we compared the hospital networks available to California consumers in two types of insurance in the initial Marketplace enrollment period: private commercial coverage and coverage obtained through the state insurance Marketplace, called Covered California. We sought to answer two questions. First, are the networks of hospitals available through Marketplace plans narrower than those provided in comparable commercial plans? Second, how

do these networks compare in terms of the quality of the available hospitals?

To answer these two questions, we gathered data from Covered California to identify insurers that were offering plans and to identify their associated hospitals. We found insurers in each region that offered comparable plans through both Covered California and the commercial market. The resulting dyads of plans hold constant region, insurer, and plan type, which allows for a direct comparison of networks. We then compared the networks in terms of percentages of hospitals in the region, percentages of residents in the region within hospital markets, and average quality of included hospitals using three different quality measures. Although the hospital networks for Marketplace plans do appear to be, on average, narrower than those for the commercial plans, the Marketplace networks have comparable quality for two of the quality measures and actually have higher average quality for the third.

The ACA And Insurance Marketplaces

The ACA serves as the most fundamental transformation of the US health care system since Lyndon Johnson's Great Society.¹ A key component is the insurance exchange, or Marketplace, whose main role is to improve the amount and quality of information available to consumers shopping for health insurance by facilitating plan comparisons, assessing and regulating plan quality, and streamlining enrollment. Equally important is the Marketplace's role in assessing consumers' eligibility for state Medicaid programs and the Children's Health Insurance Program (CHIP), as well as the determination of eligibility for federal subsidies for the purchase of insurance. While offering a program floor and federal backstop—that is, by setting certain minimum standards and by ensuring access to coverage under a federal Marketplace in states that refuse to establish their own—the ACA allows states substantial leeway in determining Marketplace governance, structure, and function.

Despite a divided state government with a Republican governor and a strongly Democratic legislature, California was the first state to establish a health insurance Marketplace, Covered California, in late 2010.² Enrollment in Covered California started October 1, 2013. Implementation in California, while not without problems,^{3,4} was deemed a success by politicians and residents alike⁵ as the state surpassed its initial enrollment estimates of 487,000–696,000 enrollees, with 728,410 people registered by the end of January 2014.⁶ Overall, Californians have been overwhelmingly supportive of the reform.⁷

Network Adequacy Under The ACA

In section 1311, the ACA tasks the secretary of health and human services (HHS) and the states with addressing network adequacy issues for plans sold in the Marketplaces through its qualified health plan provisions. *Network adequacy* refers to a health plan's ability to provide access to a sufficient number of primary care and specialty physicians within the plan's network as well as all health care services included under the terms of the contract. HHS implemented these requirements by rulemaking in March 2012, providing states with state-based insurance Marketplaces substantial leeway in the determination of network adequacy.⁸ In states with federally facilitated Marketplaces, HHS either resorted to existing state adequacy standards or relied on National Committee for Quality Assurance (NCQA) and Utilization Review Accreditation Commission (URAC) requirements.⁹

Network adequacy in Covered California is

based on both federal and state regulations. In addition to the aforementioned regulatory authority of HHS, Covered California plans are regulated by the California Department of Insurance or the California Department of Managed Health Care, depending on the type of coverage offered. In addition, Covered California puts additional requirements on qualified health plans offered in the Marketplace with respect to network adequacy in terms of the number of general and specialty providers, as well as their geographic location. In California, carriers must also maintain the same provider networks across coverage tiers; that is, across all plans ranging from bronze to platinum.¹⁰

Although the debate about narrow networks predates the ACA,¹¹ the law's implementation has added publicity and urgency to the public debate. The discussion about narrow networks has also provided new ammunition to Republicans, who have used it to illustrate what they deem to be another failure of the ACA.¹² It has also put the Obama administration in an awkward position between supporting low premiums, characteristic of plans with narrow networks, on the one hand, and broad access on the other. Not surprisingly, controversies have erupted around the nation in the wake of the first enrollment period, as about half of all plans sold in Marketplaces nationwide were so-called narrow networks.¹³ California has been described as “ground zero” for this controversy with particularly heated debates about the complete exclusion of Cedars-Sinai Medical Center and the partial exclusion of the UCLA Medical Center from many of these plans.¹⁴ Concerns about deliberate consumer misinformation—for example, providing outdated and overstated network information to consumers—resulted in California's insurance commissioner issuing emergency regulations in early 2015, although concerns largely focused on providers and not hospitals.¹⁵

The Centers for Medicare and Medicaid Services (CMS) has reacted to this controversy by proposing new rules for the 2015 enrollment period that would require insurers to submit their networks to CMS for evaluation of “reasonable access,” while also increasing the percentage of “essential community providers” required to be included.¹⁴ In addition, states such as Maine have sought to require insurers to disclose explicitly the narrowness of their networks.¹⁶ Other states have discussed “any willing provider” or “freedom of choice” laws as a response.¹⁷

Study Data And Methods

We obtained the data for this analysis from a variety of sources. We based our analysis on Cov-

ered California's nineteen pricing regions for the 2013–14 enrollment period (Exhibit 1).^{18,19} Hospital data, including quality information, were obtained from California's Office of Statewide Health Planning and Development (OSHPD). We excluded all specialty and psychiatric facilities from our data set and focused solely on general acute care hospitals as defined by OSHPD. Based on the OSHPD data, we were left with a total of 338 hospitals in the nineteen regions. The number of hospitals per region ranged from 5 to 84, with a mean of 19.0 and a median of 13.5.²⁰

In terms of insurance carriers, we focused on insurers that offered comparable products in the commercial insurance market and Covered California. We refer to the two markets as “insurance types.” We selected the four major California insurance carriers for inclusion in our sample, all of which provide complete and comprehensive coverage to their customers. In addition to Blue Cross, which is California's largest provider of individual coverage inside and outside of the exchange (47 percent and 30 percent of covered individuals in these markets, respectively), we

selected Blue Shield (19 percent and 29 percent), Health Net (3 percent and 18 percent), and Kaiser Permanente (20 percent and 18 percent).¹⁹ Together, these four carriers cover 89 percent and 95 percent of the respective markets. Both Blue Cross and Blue Shield provide insurance Marketplace coverage in all nineteen pricing regions, whereas Health Net provides coverage in thirteen regions, and Kaiser Permanente does so in fourteen regions. In the Marketplace, these carriers offer three major types of coverage: health maintenance organization (HMO), preferred provider organization (PPO), and exclusive provider organization (EPO). We refer to these as “types of plans.”

Data on provider networks were obtained from Covered California. Commercial plan information was obtained directly from the insurance carriers' websites. Because of the unique integrated model offered by Kaiser Permanente, we conducted all analyses with and without Kaiser Permanente hospitals included in the data set. All of our results hold across specifications. We generally present only the results obtained from the data sets excluding Kaiser

EXHIBIT 1

Pricing Regions And Health Insurance Companies For Covered California, 2013–14 Enrollment Period

Region	Counties	Blue Cross	Blue Shield	Health Net	Kaiser Permanente
1	Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Plumas, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tuolumne, Yuba	PPO	EPO	— ^a	— ^a
2	Marin, Napa, Solano, and Sonoma counties	PPO	EPO	PPO	HMO
3	El Dorado, Placer, Sacramento, Yolo	PPO, HMO	PPO	— ^a	HMO
4	San Francisco	EPO	PPO	PPO	HMO
5	Contra Costa	PPO	PPO	PPO	HMO
6	Alameda	PPO	EPO	— ^a	HMO
7	Santa Clara	PPO, HMO	PPO	PPO	HMO
8	San Mateo	PPO	PPO	PPO	HMO
9	Monterey, San Benito, Santa Cruz	PPO	EPO	PPO	— ^a
10	Mariposa, Merced, San Joaquin, Stanislaus, Tulare	PPO	PPO	PPO	— ^a
11	Fresno, Kings, Madera	PPO, HMO	PPO	— ^a	HMO
12	San Luis Obispo, Santa Barbara, Ventura	PPO	PPO	— ^a	— ^a
13	Imperial, Inyo, Mono	PPO	PPO	— ^a	— ^a
14	Kern	PPO	PPO	PPO	HMO
15	Los Angeles ^b	PPO, HMO	PPO	PPO, HMO	HMO
16	Los Angeles ^b	EPO, HMO	PPO	PPO, HMO	HMO
17	San Bernardino, Riverside	PPO, HMO	PPO	PPO, HMO	HMO
18	Orange	EPO, HMO	PPO	PPO, HMO	HMO
19	San Diego	EPO, HMO	PPO	PPO, HMO	HMO

SOURCE Covered California. **NOTES** PPO is preferred provider organization. HMO is health maintenance organization. EPO is exclusive provider organization. ^aRegion is not being served by this carrier. ^bBecause of its size and diversity, Los Angeles County was divided into two separate pricing regions (15 and 16).

Permanente hospitals unless stated otherwise.

Data for quality comparisons came from three sources: the Agency for Healthcare Research and Quality (AHRQ) and the California OSHPD, the Leapfrog Hospital Survey, and the “Top Performers Ranking” produced by the Joint Commission.

Finally, for comparing hospital market coverage, we obtained demographic information from the 2010 census.

Study Results

The simplest measure of narrowness is to compare the number of hospitals in a network in a region for a particular carrier/plan type/insurance type combination to the total number of hospitals in that region. The percentage of hospitals participating in Marketplace plans varied widely from a low of 13 percent to a high of 100 percent in several cases. The average percentage of hospitals in plans offered through the Marketplace was 71 percent, with a standard deviation of 21 percentage points and a median of 76 percent.²¹

A more informative approach compares the respective percentages not to the absolute number of hospitals in a region but instead to a comparable commercial plan. Hence, we also computed the ratio of hospitals in the comparable Marketplace and commercial plans by region, taking into account not only the region in the denominator but also the carrier and plan type.

On average, the Marketplace network amounted to about 83 percent of the commercial network (standard deviation: 22 percentage points; median: 87 percent). The percentages ranged from 14 percent to 140 percent.

Similarly, we compared Marketplace and commercial networks as dyads (see online Appendix Exhibit A1).²² Not surprisingly, out of the fifty-

eight possible comparisons in our data set, in thirty-eight cases the Marketplace network was more limited than the commercial network in terms of the number of hospitals included. In seventeen cases the networks included the same number of hospitals, and in three cases the Marketplace network was actually more extensive than the commercial network. These descriptive findings were supported by a *t*-test comparing differences for all fifty-eight dyads, which is significant at the 0.001 level.

FACILITY ACCESS: ARE CARRIERS USING THE SAME HOSPITALS? We also assessed how similar the networks were with the Pearson correlation coefficient, which measures the linear correlation between two variables or, in our case, networks. In the case of Kaiser Permanente, the correlation was 1.00, as both networks overlap 100 percent. Outside of Kaiser Permanente, the highest correlation, 0.75, existed between the networks of the Blue Shield EPO plans followed by the Health Net PPO plans at 0.74. The lowest correlation, 0.16, was between the Blue Cross EPO plan networks.

Comparing the percentages of hospitals by carrier and by plan (again excluding Kaiser Permanente), we found that in six out of the seven cases, more than two-thirds of hospitals were either in both networks or in neither network (Exhibit 2). Only in one case was this overlap as low as 30 percent. In five of the cases the majority of hospitals was in both networks. In all cases the percentage of hospitals in only the Marketplace network is the smallest of all cells. Hence, with only a few exceptions, Marketplace networks are reduced versions of commercial networks.

GEOGRAPHIC ACCESS: TRAVEL DISTANCES TO OBTAIN HOSPITAL CARE Having established that Marketplace networks generally are smaller in size than their commercial network counter-

EXHIBIT 2

Comparison Of Percentages Of Hospitals Included In And Excluded From Commercial And Marketplace Plans, 2013-14 Enrollment Period

Insurance carrier and plans	Percent of hospitals common to both networks	Percent of hospitals only in commercial networks	Percent of hospitals only in Marketplace networks	Percent of hospitals in neither network
Blue Cross HMO	78.3%	8.6%	1.7%	11.4%
Blue Cross EPO	21.3	70.2	0.0	8.5
Blue Cross PPO	76.5	16.9	0.6	6.0
Blue Shield EPO	76.6	4.7	3.1	15.6
Blue Shield PPO	57.4	28.5	0.8	13.2
Health Net HMO	27.0	23.0	8.8	41.2
Health Net PPO	71.8	6.4	3.2	18.6
Kaiser Permanente HMO	100.0	0.0	0.0	0.0

SOURCES Authors' calculations of data obtained from Covered California and insurance carriers. **NOTES** HMO is health maintenance organization. EPO is exclusive provider organization. PPO is preferred provider organization.

parts, the question arises how this affects people seeking care. In particular, how many people have to travel long distances to seek hospital care as a result of these limitations in access? To answer this question, we used geographic information systems (GIS) software to establish hospital market areas with a radius of fifteen miles around each hospital in our data set.²³ We next assessed the percentage of people, per Marketplace region, who resided within at least one hospital market area for each commercial and each Marketplace network. We then compared these numbers to the total number of residents in the respective region, using 2010 census-tract data. The resulting percentage dyads are presented in Exhibit 3.

On average, 92 percent of residents were within at least one hospital market area in Marketplace plans. The number was slightly higher for commercial networks, which reached about 93 percent of people. Overall, thirty-one Marketplace networks and thirty-three commercial networks (out of seventy each) included 100 percent of residents in at least one hospital market area. At the same time, at least 20 percent of potential subscribers to fourteen Marketplace plans did not reside within any hospital market area. Five of these were Kaiser Permanente plans, which, because of a unique model of care, are by definition limited. Moreover, in about eight cases (out of seventy), Marketplace plans reached only about 50–75 percent of people. Interestingly, commercial and Marketplace plans provided essentially similar—that is, limited—coverage in these cases. Particularly affected in seven of the fourteen cases were people residing in the central part of the state (regions 11, 12, and 13). Hence, although the vast majority of people reside within at least one hospital market region, there may be considerable problems of access for a number of people in various regions. However, these disparities apply generally and not solely to Marketplace-based plans. Not surprisingly, only two cases landed above the line of equal proportions; that is, in only two instances did commercial networks reach fewer residents than Marketplace plans in terms of hospital market areas. Furthermore, a large number of cases fell onto or very near the line, with the majority of cases bundled close to 100 percent on both axes (Exhibit 3). The descriptive statistics were again confirmed by a *t*-test comparing all seventy dyads, which is significant at the 0.03 level. However, substantively this difference amounts to only a 1-percentage-point difference.

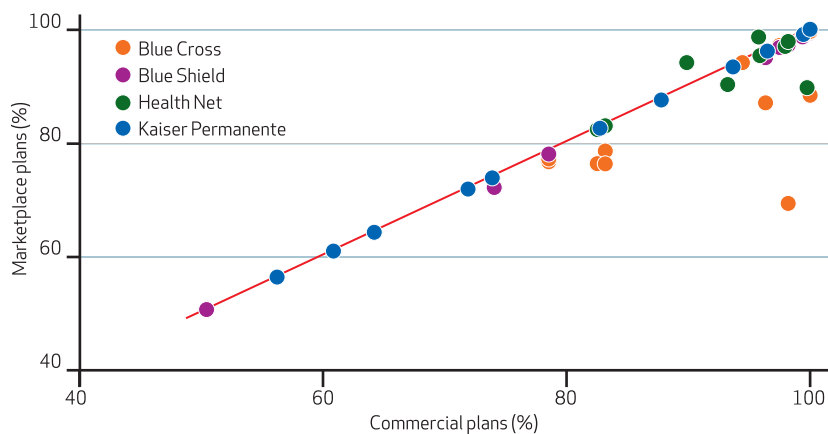
COMPARING NETWORK QUALITY Do narrow networks provide, on average, worse care than broader networks? To answer this question, we created an index made up of twelve AHRQ

quality indicators reported by all California hospitals to the OSHPD. Six of these indicators are the risk-adjusted mortalities for certain conditions, while the remaining six are risk-adjusted mortalities for six medical procedures. For each item, we dichotomized the variables based on whether the respective hospital was below or above the statewide average. We next created an additive quality index ranging from 0 to 12, with 12 being the highest possible quality (that is, the hospitals scored below the state average for all twelve mortalities). We then averaged this index for each plan by region (see Appendix Exhibit A2).²² Quality scores were essentially the same for commercial and Marketplace plans. The average quality score was 8.04 for commercial networks and 8.00 for Marketplace networks. Overall, the data are relatively clustered in the center of the quality index. A *t*-test for all fifty-eight dyads did not approach significance ($p = 0.22$). The correlation coefficient for all dyads is 0.92. California OSHPD data thus indicate that there was no difference, as measured here, between Marketplace and commercial plans in terms of this quality measure.

We considered two additional measures that may capture different dimensions of quality. First, we used nineteen measures from the Leapfrog Hospital Survey data. We largely followed the survey’s approach and scored each item from 0 (hospital declined to respond) to 4 (hospital fully meets standards). We then summed all individual scores and divided them by the highest possible score for the respective hospital. We then averaged this fraction for each plan by re-

EXHIBIT 3

Geographic Access Comparison: Dyads Of Commercial And Marketplace Plans Available To California Populations That Are Within At Least One Hospital Market, 2013–14 Enrollment Period



SOURCE Authors’ calculations of census data. **NOTES** Thirty-six dyad observations were identical for commercial and Marketplace at 98 percent, 99 percent, or 100 percent across all plan types. The red line represents equal access.

gion (see Appendix Exhibit A3).²² Overall, the Leapfrog data were much more dispersed than the AHRQ/OSHPD-derived quality index data. Again, most dyads appear to hover around the line of equal quality. There appears to be a slight quality advantage for Marketplace plans. The average percentage for Marketplace plans just surpasses 40 percent whereas the average score for commercial plans falls just below 39 percent. A *t*-test on all fifty-eight dyads did not find the difference to be statistically different from zero ($p = 0.23$). The correlation coefficient for all dyads is 0.87. As with the AHRQ/OSHPD measure, we found no difference between Marketplace and commercial networks.

Finally, we used data from the Joint Commission's "Top Performers Ranking" to create an indicator variable. We then compared the percentage of hospitals that were top performers in Marketplace networks to those in the comparable commercial network (Exhibit 4). The average percentage for Marketplace networks is 26, and the average percentage for commercial networks is 20. This indicator of quality shows the most variation of the three measures and favors Marketplace networks, with a large number of cases falling above the line of equal quality. These findings were confirmed by a *t*-test, which reaches significance at the 0.001 level. The correlation coefficient for all dyads is 0.84. Using the top-performers measure, it appears that Marketplace networks offer better-quality care than commercial networks.

Discussion

We analyzed differences in hospital networks across similar plan types, by region and by insurer.

er, offered both in the Marketplace and commercially. Our analyses offer the advantage of controlling directly for the confounding factors of insurer, plan type, and region by comparing differences in access and quality within plan dyads. This contributes to the internal validity of our analysis. However, our focus on one state, which may be unusual in its implementation of its Marketplace, raises some concerns about external validity and, therefore, calls for caution in assuming that our findings apply nationally.

Our analyses confirm that Marketplace networks tend to be narrower than those for comparable commercial plans. The obvious implication is that people in the Marketplace generally have fewer hospitals from which to obtain care. However, it appears that, on average, in contrast to narrower facility choice, Marketplace plans only marginally restrict geographic access as measured by the percentage of people residing in at least one hospital market area. Nevertheless, people in certain areas may be confronted with considerable distances to the nearest hospital, although this is often the case for commercial plans as well.

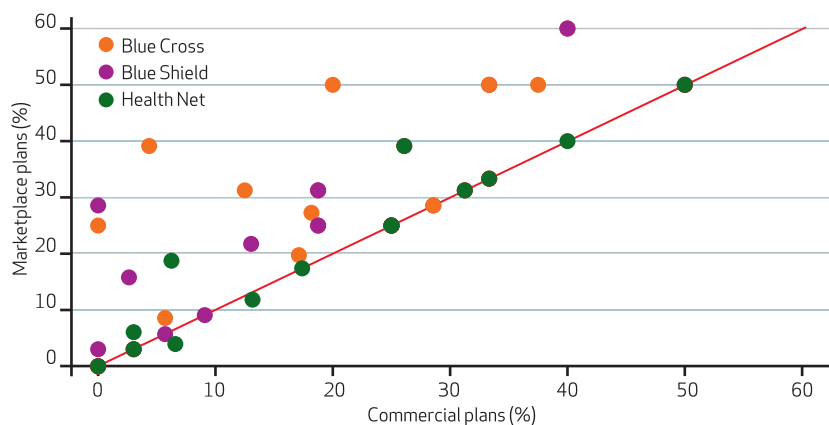
What do we know about why insurers seek to restrict hospital choice? Insurers have used a variety of tools to rein in rapidly increasing health care costs for decades, including consumer cost sharing,²⁴ product tiering,²⁴ and managed care.²⁵ In response to the recent wave of vertical and horizontal integration in hospital markets across the country,²⁶ insurers have sought to reestablish a greater degree of countervailing power by offering hospitals willing to negotiate discounts higher volumes through narrower networks. Requirements under the ACA have further encouraged these trends.²⁷ Insurers seem to have been successful in their efforts.²⁸ Overall, there is evidence that shows substantial cost reductions from the use of narrower networks.²⁹ However, quality aspects of care have been markedly understudied thus far.³⁰

Not surprisingly, even before the advent of the ACA, concerns about the adequacy of health plan networks provoked strong emotions and heated debates.¹¹ As a result, several states had passed network adequacy legislation before the ACA was enacted.³¹ Similarly, the federal government has established network adequacy standards for Medicaid and Medicare managed care, as have various private accreditation organizations such as the NCQA and URAC.

Having confirmed the common perception that Marketplace plans are often narrower than commercial plans, our analyses paint a somewhat surprising picture of the difference in the average quality of hospitals in these networks. We drew on data from three sources specifically

EXHIBIT 4

Quality Comparison: Dyads Of Commercial And Marketplace Plans In California, By Rating In The Joint Commission's Hospital Top Performers Data, 2013-14 Enrollment Period



SOURCE Authors' calculations of Joint Commission data. NOTE The red line indicates equal quality.

developed to assess hospital quality. Two of the measures we employed show no substantive difference in the average quality of the networks. However, a third measure indicates that the average quality in the Marketplace networks is actually higher than that in the commercial networks. It seems plausible that insurers are deliberately excluding some hospitals that have not been designated as top performers.

How should we interpret these quality results? We can assume that both carrier and consumer strongly favor high-quality/low-cost providers over high-cost/low-quality providers. However, preferences are less clear with respect to the other remaining two cases, as the carrier and the consumer do not necessarily value both dimensions similarly. Consumers likely value quality of care much more than concerns about the cost of care because they are relatively insulated from the costs of treatment under the insurance arrangement, if copayments and coinsurance are modest. At the same time, carriers are particularly concerned about the costs of care, especially because of the relatively brief contract periods between carrier and consumer in the United States. Nonetheless, the reputation of certain hospitals may add value to a carrier's network by attracting additional consumers. However, insurers' concern about the quality of care may be driven primarily by concerns about the cost of care; low-quality of care may lead to more costly care, even in the short term.

As a final point, we note that assessing the average quality of a network depends on the choice of quality measure. In particular, our Joint Commission measure gave results that differed from those of our other two measures. This suggests that the measures are capturing differ-

ent dimensions of quality that might not be highly correlated. Absent clear criteria for choosing among the measures, future research on network quality should assess the robustness of findings using multiple quality measures.

Conclusion

The debate about narrow networks under the ACA is reminiscent of the managed care revolution that resulted in considerable consumer backlash and a litany of litigation and legislation over provider limitations and out-of-network charges in the 1990s^{25,32} as well as the ill-fated Clinton administration health reform efforts.³³ Our analysis shows that plans offered to consumers through the first enrollment period of Covered California appear to offer access to somewhat narrower networks than are available from comparable commercial plans. Geographic access appears less different. Most interestingly, the average quality of hospitals in the Marketplace networks does not appear lower and may actually be higher than in the commercial networks. These results suggest that narrower Marketplace networks do not necessarily restrict geographic access and, more importantly, do not reduce access to high-quality care compared to the networks of standard commercial plans. However, overall access to hospital services remains an important issue to be addressed both inside and outside of the ACA's Marketplaces. Nonetheless, from a political, equity, and policy perspective, our comparisons of the quality of care between networks and our findings contribute to the assessment of the ACA and, we hope, inform the political debate surrounding it. ■

The authors thank Stephanie Mabrey for her research assistance and the Robert M. La Follette School of Public Affairs at the University of Wisconsin-Madison for project assistant support.

NOTES

- 1 Haeder SF. Beyond path dependence: explaining healthcare reform and its consequences. *Policy Stud J*. 2012;40(Suppl 1):65–86.
- 2 Haeder SF, Weimer DL. You can't make me do it: state implementation of insurance exchanges under the Affordable Care Act. *Public Adm Rev*. 2013;73(Suppl 1):S34–47.
- 3 Karlamangla S. California says 14,500 must redo Obamacare applications after glitch. *Los Angeles Times* [serial on the Internet]. 2014 Feb 28 [cited 2015 Mar 12]. Available from: <http://articles.latimes.com/2014/feb/28/business/la-fi-mo-malfunction-redo-covered-california-apps-20140228>
- 4 Terhune C, Karlamangla S. California website for Obamacare back up after 5-day outage. *Los Angeles Times* [serial on the Internet]. 2014 Feb 24 [cited 2015 Mar 12]. Available from: <http://articles.latimes.com/2014/feb/24/business/la-fi-mo-health-exchange-website-20140224>
- 5 Cadelago C. California voters' support for health care law inches up. *Sacramento Bee* [serial on the Internet]. 2014 Aug 19 [cited 2015 Mar 12]. Available from: <http://www.sacbee.com/news/politics-government/article2607041.html>
- 6 Viebeck E. Calif. beats Obamacare sign-up goal weeks early. *The Hill* [serial on the Internet]. 2014 Feb 19 [cited 2015 Mar 12]. Available from: <http://thehill.com/policy/health-care/198744-calif-we-beat-o-care-enrollment-goal>
- 7 Metz D, Strimple G. Findings of a statewide survey on expanding access to health coverage [Internet]. *Los Angeles (CA): California Endowment*; 2014 Sep 30 [cited 2015

- Mar 12]. Available from: http://www.calendow.org/uploadedFiles/Health_Happends_Here/FM3-GS_Strat-Final%20Memo.pdf
- 8 NAIC Health Insurance and Managed Care (B) Committee. Plan management function: network adequacy white paper [Internet]. Kansas City (MO): National Association of Insurance Commissioners; 2012 Jun 27 [cited 2015 Mar 12]. Available from: http://www.naic.org/documents/committees_b_related_wp_network_adequacy.pdf
 - 9 Center for Consumer Information and Insurance Oversight. 2015 letter to issuers in the federally-facilitated Marketplaces [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; 2014 Mar 14 [cited 2015 Mar 12]. Available from: <http://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/2015-final-issuer-letter-3-14-2014.pdf>
 - 10 McCarty S, Farris M. ACA implications for state network adequacy standards [Internet]. Princeton (NJ): Robert Wood Johnson Foundation; 2013 [cited 2015 Mar 12]. Available from: <http://www.rwjf.org/en/library/research/2013/08/aca-implications-for-state-network-adequacy-standards.html>
 - 11 Enthoven AC, Singer SJ. The managed care backlash and the task force in California. *Health Aff (Millwood)*. 1998;17(4):95-110.
 - 12 Norman B. Obamacare: anger over narrow networks [Internet]. Arlington (VA): Politico Pro; 2014 Jul 22 [cited 2015 Mar 12]. Available from: <http://www.politico.com/story/2014/07/obamacare-health-care-networks-premiums-109195.html>
 - 13 Demko P. Nearly half of exchange products offer narrow networks, McKinsey study says. *Modern Healthcare* [serial on the Internet]. 2014 Jun 10 [cited 2015 Mar 12]. Available from: <http://www.modernhealthcare.com/article/20140610/blog/306109998>
 - 14 Klein P. Regulators struggle with Obamacare's narrow networks problem. *Washington Examiner* [serial on the Internet]. 2014 Sep 8 [cited 2015 Mar 12]. Available from: <http://www.washingtonexaminer.com/regulators-struggle-with-obamacares-narrow-networks-problem/article/2552849>
 - 15 Ngai EYC. California insurance commissioner issues emergency regulations affecting narrow provider networks [Internet]. Western Springs (IL): National Law Review; 2015 Jan 12 [cited 2015 Mar 12]. Available from: <http://www.natlawreview.com/article/california-insurance-commissioner-issues-emergency-regulations-affecting-narrow-prov>
 - 16 AIS Health. Inside health insurance exchanges: exchange briefs. 2014; 4(7):7-8.
 - 17 "Any willing provider" laws at the very least require carriers to enter into network negotiations with providers seeking to join their networks. Stricter forms require carriers to accept providers into their networks if they accept their rates and conditions. "Freedom of choice" laws allow consumers to seek treatment from providers outside their carrier's network. For details, see Corlette S, Volk J, Berenson RA, Feder J. Narrow provider networks in new health plans: balancing affordability with access to quality care [Internet]. Washington (DC): Georgetown University Health Policy Institute; 2014 May [cited 2015 Mar 12]. Available from: <http://www.urban.org/UploadedPDF/413135-New-Provider-Networks-in-New-Health-Plans.pdf>
 - 18 We also note that carriers may have restricted networks outside of the Marketplace, as has been the case in several other states (see Note 19). However, we have no evidence that this occurred in California, and the lack of newspaper coverage on the topic may indicate that this was not the case. Our analysis here focuses on the comparison between commercial and Marketplace networks for 2013-14 only.
 - 19 Cox C, Ma R, Claxton G, Levitt L. Sizing up exchange market competition [Internet]. Menlo Park (CA): Henry J. Kaiser Family Foundation; 2014 Mar 1 [cited 2015 Mar 12]. Available from: <http://kff.org/health-reform/issue-brief/sizing-up-exchange-market-competition/>
 - 20 Note that from here on forward, we combined the two Los Angeles County regions, 15 and 16, into one region.
 - 21 For commercial plans, percentages range from 45 percent to 100 percent with a mean of 86 percent (standard deviation 15 percentage points) and a median of 88 percent.
 - 22 To access the Appendix, click on the Appendix link in the box to the right of the article online.
 - 23 Garnick DW, Luft HS, Robinson JC, Tetreault J. Appropriate measures of hospital market areas. *Health Serv Res*. 1987;22(1):69-89.
 - 24 Robinson JC. Hospital tiers in health insurance: balancing consumer choice with financial motives. *Health Aff (Millwood)*. 2003;22:w3-135-46. DOI: 10.1377/hlthaff.w3.135
 - 25 Enthoven AC, Schaffler HH, McMenamin S. Consumer choice and the managed care backlash. *Am J Law Med*. 2001;27(1):1-15.
 - 26 Cuellar AE, Gertler PJ. How the expansion of hospital systems has affected consumers. *Health Aff (Millwood)*. 2005;24(1):213-9.
 - 27 Corlette S, Lucia K, Ahn S. Implementation of the Affordable Care Act: cross-cutting issues: six-state case study on network adequacy [Internet]. Washington (DC): Urban Institute; 2014 Sep [cited 2015 Mar 12]. Available from: <http://www.rwjf.org/content/dam/farm/reports/reports/2014/rwjf415649>
 - 28 AIS Health. Narrow networks: HMO redux or effective rate-reducing strategy? *Inside Health Insurance Exchanges*. 2013;3(4):4-5.
 - 29 Morrissey MA. Competition in hospital and health insurance markets: a review and research agenda. *Health Serv Res*. 2001;36(1 pt 2):191-221.
 - 30 National Committee for Quality Assurance. Network adequacy and exchanges [Internet]. Washington (DC): NCQA; 2013 [cited 2015 Mar 12]. Available from: http://www.ncqa.org/Portals/0/Public%20Policy/Exchanges&NetworkAdequacy_2.11.13.pdf
 - 31 Noble A. Insurance carriers and access to healthcare providers: network adequacy [Internet]. Washington (DC): National Conference of State Legislatures; 2014 Nov 30 [cited 2015 Mar 12]. Available from: <http://www.ncsl.org/research/health/insurance-carriers-and-access-to-healthcare-providers-network-adequacy.aspx>
 - 32 However, the case against managed care was much broader, including concerns about physician autonomy, executive compensation, and administrative costs, among other things, and not solely as a result of narrow provider networks.
 - 33 Hacker JS. *The road to nowhere: the genesis of President Clinton's plan for health security*. Princeton (NJ): Princeton University Press; 1997.