

# HMO Consolidations: How National Mergers Affect Local Markets

*As a handful of HMOs have grown to dominate the national horizon, local markets must rely on regulators to preserve competition.*

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**ABSTRACT:** The health maintenance organization (HMO) industry has undergone a wave of national consolidations in recent years. The most notable among these were between United HealthCare and MetraHealth (1995), PacifiCare Health Systems and FHP International (1996), Aetna Life and Casualty and U.S. Healthcare (1996), and Aetna and Prudential's health care unit (1999). This paper examines HMO consolidation from 1994 to 1997, looking first at concentration at the national level and then at the consequences of national consolidations for local markets. Whereas earlier mergers may have caused only a

small increase in the type of local market concentration that may increase prices, later and currently proposed mergers may be motivated by considerations of increasing local market concentration. However, the concentration-increasing effect of national mergers was offset by the concentration-decreasing effect of HMO entry and growth. The analyses suggest that antitrust policy still has a role to play in ensuring that HMO markets remain open to new entry and in evaluating the effect of national mergers on local market concentration.

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A WAVE OF NATIONAL consolidations has occurred in the health maintenance organization (HMO) industry in recent years. The largest among these were the 1995 merger of United HealthCare and MetraHealth, the 1996 mergers of PacifiCare Health Systems and FHP International and of Aetna Life and Casualty and U.S. Healthcare, and the recently announced merger of Aetna and Prudential's health care unit. This last merger will create the nation's largest health insurer, with 22.4 million enrollees, of whom 18.4 million are in managed care plans.<sup>1</sup> Also noteworthy is United HealthCare's attempt

in 1998 to acquire Humana, which failed because of an unexpected decline in United's stock value.<sup>2</sup>

Policymakers fear that HMO mergers may have reduced price competition and that this has contributed to the recent increase in health insurance premiums.<sup>3</sup> Providers also feel threatened by HMO mergers. The American Medical Association has called for an investigation of the proposed Aetna-Prudential merger, claiming that the market power of the merged firm will enable it to impose onerous contracts on physicians.<sup>4</sup>

The recent consolidations have been inves-

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tigated by both federal and state antitrust agencies. For example, the Federal Trade Commission (FTC) investigated the PacificCare-FHP merger but decided not to challenge it.<sup>5</sup> At the state level, the Missouri Department of Insurance successfully challenged the merger of United HealthCare and MetraHealth's plans in the St. Louis market.<sup>6</sup> The major federal law relating to mergers is the Clayton Act, which prohibits mergers that are likely to reduce competition or create a monopoly.<sup>7</sup> Federal law requires organizations with defined levels of assets to notify the U.S. Department of Justice and the FTC in advance of the merger. This notice permits the agencies to evaluate the merger's effect on competition and to challenge mergers that may violate the law. State attorneys general and private parties also may sue to prevent mergers under the Clayton Act.

Indeed, there is strong evidence that HMOs charge higher commercial-plan premiums when they have fewer competitors.<sup>8</sup> However, much of the evidence comes from studies that rely on a definition of *competitors* that requires the HMOs to be present in the same local market (defined as all of the counties in which the HMOs operate). There is no evidence that consolidation of national HMO firms raises premiums in local markets in which only one of the firms operates. In a previous analysis of national consolidations we concluded that "they generally have had little effect on the number of HMO competitors in local markets."<sup>9</sup> The United HealthCare-MetraHealth consolidation, for example, caused horizontal overlaps in only nine local markets, although the two firms operated HMOs in eighty distinct markets.

This paper addresses three questions related to the HMO industry's structure and the impact of national firms' mergers on that structure. First, we examine HMO concentration at the national level, tracking the per-

centage of all commercial HMO enrollees in the five largest and ten largest firms from 1994 through 1997. Second, we examine the consequences of recent national HMO consolidations on local markets. Third, we document trends in HMO concentration in metropolitan statistical areas (MSAs) from 1994 to 1997.

## DATA AND METHODS

Our study draws on data reported by HMOs to InterStudy from 1994 to 1997. We included all HMOs in the United States, except Medicaid-only HMOs. The InterStudy data were used to define the population of HMOs and enrollment in each year. We excluded Medicare and Medicaid members from total enrollments. Although these are increasingly important lines of business for HMOs, they represent different markets than do the HMOs' commercial products.

*"By the end of the study period half of all HMO enrollees were found in the top five national firms."*

Because the goal of our paper is to document the effect of mergers on local market concentration, it would be inappropriate to include Medicare and Medicaid enrollment.

For the analysis of concentration nationwide, we calculated the proportion of national HMO enrollment held by the five largest and ten largest national HMO firms in each year from 1994 to 1997. The concentration ratio (the proportion of enrollment held by a stated number of large firms) is the best measure of national HMO industry structure. Alternative measures, such as the Herfindahl index (the sum of squared market shares), are more suited to measuring the structure of local oligopolistic markets, which have a small number of competitors.<sup>10</sup> Because more than 500 HMOs operated in each year covered by our study, the national Herfindahl index would be uniformly low, despite the HMO consolidations that occurred during this period.

We analyzed local markets by measuring competition in MSAs, using InterStudy data on HMO enrollments by county. Our method

of calculating HMO enrollment by county evolved over the four-year period as InterStudy improved its measurement of HMO enrollment by county. For each year of our study, InterStudy listed all of the counties served by each HMO. This served as our basis for prorating total HMO enrollment to the county level. InterStudy began asking HMOs to provide enrollment data by MSA in 1994 and by county in 1997. Although not all HMOs provided detailed MSA- or county-level data, a substantial proportion of HMO enrollment can be allocated to the county level using these detailed data.<sup>11</sup> We used the most accurate enrollment data available to develop measures of HMO market structure. We first used county-specific enrollment, if provided. Second, we used MSA-level information to prorate an HMO's reported MSA enrollment to the MSA's constituent counties based on county population. Finally, we allocated the enrollment not allocated in the prior two steps over all of the remaining counties served by the HMO. All prorating is based on county population weights. (For example, an HMO operating in two counties with populations of 100,000 and 200,000 would have one-third of its reported enrollment allocated to the smaller county and two-thirds to the larger county. We have tried a variety of prorating methods and found them to be highly correlated.) The HMO's enrollment by county was summed to obtain its enrollment in every MSA in which it operated.

After calculating every HMO's enrollment in every MSA, we simulated the effect of three actual HMO consolidations: United HealthCare–MetraHealth, PacifiCare–FHP, and Aetna–U.S. Healthcare, as well as the aborted United HealthCare–Humana merger and the proposed Aetna–Prudential merger. These simulations use data from the last year in which the merger partners reported enrollments separately to InterStudy (for example, 1994 for the United HealthCare–MetraHealth merger). Using these data, we calculated the Herfindahl index of market concentration for each MSA. Next, holding everything else constant, we combined the enrollment data for

the two merging HMOs and recalculated the Herfindahl index. The difference between the two indexes (post- minus premerger) is a measure of the effect of the merger on local market concentration, all else held constant.

Finally, the “bottom-line” analysis of trends in HMO concentration in local markets relies on actual enrollment data from 1994 to 1997 to calculate Herfindahl indexes for each MSA. These indices reflect the net result of all factors that impinge on local HMO markets—local and national mergers, HMO entry and exit, and changes in enrollment. To facilitate the presentation of these data, we divided all MSAs into five quintiles (Herfindahl index less than 2,500; 2,500–5,000; and so on).

## RESULTS

■ **HMO CONCENTRATION.** National HMO concentration decreased from 1994 to 1995, increased in 1996, and took a large jump in 1997 (Exhibit 1). The lower level in 1995 can be attributed to high rates of HMO formation and growth, which caused total HMO enrollment to increase more rapidly than enrollment in the top five HMOs. From 1996 to 1997 decreases in overall enrollment growth rates and national mergers resulted in a large jump in the five-firm concentration ratio. By the end of the study period 49.91 percent of all HMO enrollees were found in the top five national firms. A similar pattern is observed for the ten-firm concentration ratio, which dropped in 1995 but increased in 1997. The increase in national concentration occurred despite an increase in the number of local HMOs (those unaffiliated with a national firm) from 171 to 240.

Blue Cross/Blue Shield was the largest national HMO firm in every year, followed by Kaiser Foundation Health Plans and United HealthCare.<sup>12</sup> However, Kaiser's market share appears to have slipped, compared with its two largest competitors. Following these three large firms, the cast of national HMOs changes over time. In 1997 Prudential dropped out of the top five firms, and U.S. Healthcare was absorbed into Aetna.

**EXHIBIT 1**  
**Market Share Of Top National HMO Firms, 1994–1997**

Firm	1994	1995	1996	1997
Blue Cross/Blue Shield	16.42%	16.82%	17.78%	19.60%
Kaiser Foundation Health Plans	14.32	12.39	11.67	11.96
United HealthCare Corp.	4.79	4.75	6.69	6.34
PruCare/Prudential Health Care Plans	3.86	4.05	3.92	— <sup>a</sup>
U.S. Healthcare Systems	3.82	3.79	3.92	— <sup>a</sup>
Aetna Healthcare Programs	— <sup>a</sup>	— <sup>a</sup>	— <sup>a</sup>	6.21
CIGNA Health Plan	— <sup>a</sup>	— <sup>a</sup>	— <sup>a</sup>	5.30
Top 5 total share	43.21	41.80	43.98	49.91
Top 10 total share	58.31	56.81	58.82	67.15
Total number of HMOs	519	564	595	608
Total number of local HMOs	171	184	213	240

**SOURCE:** Authors' calculations based on InterStudy data, 1994–1997.

**NOTE:** HMO is health maintenance organization.

<sup>a</sup> HMO was not one of top five in this year.

Collectively, the five largest firms operated 207 distinct local health plans in 1997. However, the number of local affiliates was not distributed in the same order as total enrollment: Blue Cross operated eighty-three local HMOs, but Kaiser had only twelve. This reflects the concentration of Kaiser's enrollment in a few large local plans. United HealthCare had thirty-eight local plans, Aetna had twenty-seven, and CIGNA had forty-seven.

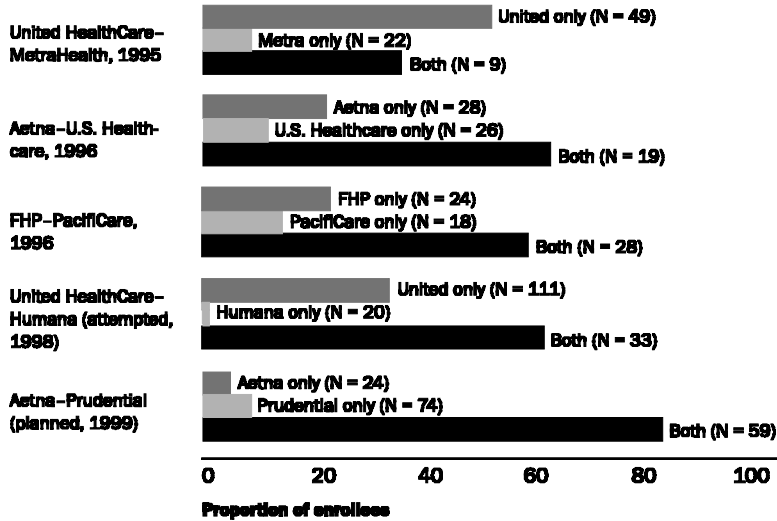
■ **EFFECT ON LOCAL MARKETS.** The impact of five national HMO consolidations on local markets is shown in Exhibit 2. For each merger, we present the proportion of enrollees in the consolidated firm located in (1) MSAs where only the first partner operated local HMOs prior to the merger; (2) MSAs where only the second partner operated HMOs; and (3) MSAs where both partners operated HMOs. We also show the number of MSAs of each type.<sup>13</sup>

*United HealthCare and MetraHealth.* United HealthCare operated in forty-nine markets in which MetraHealth was not present prior to their consolidation, and MetraHealth operated in twenty-two markets in which United was not present. There was an "overlap" in only nine markets, which contained 37 percent of the total premerger enrollment in both

firms. MetraHealth's plans in the overlapping markets were quite small compared with United's plans in those markets. In three markets the merger increased the Herfindahl by fifty points, and the resulting Herfindahl was greater than 1,800.<sup>14</sup> Therefore, on balance, the United HealthCare–MetraHealth consolidation appears to have been a "market-expanding" merger, which allowed United to expand into previously unserved areas such as New York City and New Jersey, Los Angeles, San Francisco, Phoenix, and Texas.<sup>15</sup>

However, a significant antitrust issue arose in the St. Louis metropolitan area, where the merger would have combined two United HealthCare subsidiaries with a MetraHealth-owned plan, MetLife Health Care Network. According to our calculations, this merger would have increased the Herfindahl index of HMOs in the St. Louis MSA from 2,859 to 3,330. Increases of this magnitude are considered problematic by antitrust agencies because they are expected to result in higher prices for consumers. The Missouri Department of Insurance determined that the merger raised serious antitrust problems and therefore should not be allowed to proceed. The insurance commissioner issued an order for United to divest its St. Louis plan. The case

**EXHIBIT 2**  
**Market Overlap in National HMO Mergers**



**SOURCE:** Authors' calculations based on InterStudy data.  
**NOTE:** HMO is health maintenance organization. N = number of metropolitan statistical areas (MSAs).

was eventually settled when United found an acceptable replacement (a small incumbent HMO) to take over its operation in St. Louis.<sup>16</sup>

*Aetna and U.S. Healthcare.* The Aetna-U.S. Healthcare merger presents a different picture. Aetna operated alone in twenty-eight MSAs with 23 percent of the consolidated enrollment, and U.S. Healthcare operated alone in twenty-six MSAs with 12 percent of the enrollment, but 65 percent of the enrollees in these firms lived in nineteen MSAs in which both firms operated HMOs. In other words, almost two-thirds of the total enrollment was found in markets in which Aetna and U.S. Healthcare were competitors. In twelve markets the merger increased the Herfindahl by fifty points, and the resulting Herfindahl was greater than 1,800. New Jersey and Pennsylvania were hit especially hard by this merger. Among the MSAs experiencing significant increases in market concentration were Philadelphia (641 Herfindahl points) and Newark (509 Herfindahl points).

This \$8.9 billion Aetna-U.S. Healthcare transaction probably was motivated by a vari-

ety of goals, but newspaper accounts at the time emphasized that the purchase would give the combined company clout to demand lower prices from medical providers.<sup>17</sup> U.S. Healthcare already had achieved a reputation as an "HMO juggernaut" that was known for slashing the fees it paid to specialists and hospitals.<sup>18</sup> Aetna had more enrollees than U.S. Healthcare, but its profits had been anemic.<sup>19</sup>

The FTC undertook a preliminary investigation of the merger but decided not to challenge it. This decision was based in part on the feeling that Aetna's financial resources might help U.S. Healthcare to buy its way into new markets. Thus, the merger was viewed as possibly procompetitive for the HMO industry. Our analysis suggests the opposite: Market overlap dominated this merger, with possible adverse consequences for consumers.

*PacifiCare and FHP.* This merger also involved significant market overlap: PacifiCare operated in eighteen markets without FHP, and FHP operated alone in twenty-four markets, but both firms operated in twenty-eight markets. Sixty-one percent of the total enroll-

ment in both firms was found in the overlapping markets. In eleven markets the merger increased the Herfindahl by fifty points, and the resulting Herfindahl was greater than 1,800. The most heavily affected markets were small markets in California: The Herfindahl index rose 666 points in Santa Cruz and 539 points in Fresno. Even the large market of San Diego experienced an increase of 124 points.

The change in the commercial Herfindahl index may understate the actual increase in market concentration for other HMO products. If commercial groups, Medicare, and Medicaid are seen as representing distinct HMO products (because Medicare beneficiaries cannot enroll in a commercial HMO, and vice versa), a separate index should be calculated for each market segment. Examination of HMO mergers' effect on Medicare and Medicaid is beyond the scope of this paper. However, in a separate analysis Roger Feldman and Ruth Given found that PacificCare and FHP both had a strong presence in the Medicare HMO market in California.<sup>20</sup> The merger raised the combined Medicare market share of PacificCare and Kaiser (the third-largest Medicare HMO) to nearly 100 percent in some Southern California counties. Concentration at this level is very likely to increase beneficiaries' premiums.

*United HealthCare and Humana.* A high proportion (64 percent) of the combined enrollment of these two plans was located in markets in which both firms operate. In eighteen markets the merger would have increased the Herfindahl by fifty points, and the resulting Herfindahl would have been greater than 1,800.

*Aetna and Prudential.* The proposed Aetna-Prudential merger will be even more overlapping, with 86 percent of the combined membership located in markets where both firms currently operate. There are twenty-one markets in which the merger will increase the Herfindahl by fifty points and the resulting

Herfindahl will be greater than 1,800. Ten markets will see an increase of 300 or more Herfindahl points. These include the mid-Atlantic markets in which Aetna and U.S. Healthcare operated (Allentown, Pennsylvania; and Atlantic City, Newark, Monmouth-Ocean, and Vineland, New Jersey) as well as several markets in the South (Atlanta; and Galveston and Brazoria, Texas).

The average size of Aetna's health plans in the overlapping markets is 57,266 enrollees.

*“Gaining control over providers through market power may be the motive behind the Aetna-Prudential merger.”*

This is larger than Prudential's plans, which have an average enrollment of 26,380. Some economies of scale may be present when HMOs of these sizes merge, but most of the efficiency gains are exhausted at about 50,000 enrollees.<sup>21</sup> Therefore, increased efficiency from large size in local markets is not a strong justification for this merger. In fact, gaining control over providers through

market power may be the motive behind the Aetna-Prudential merger. A *Wall Street Journal* analyst interpreted comments made by Aetna's chief executive officer, Richard Huber, as implying that “under the latest theory, when patients are consolidated under a handful of national insurers, doctors and hospitals would no longer be able to play HMOs off against each other. Unable to run away, providers would become captive students for what Aetna can teach them about ‘best practices’.”<sup>22</sup> Implementing best practices based on empirically validated clinical guidelines is a worthy goal, but it is not clear why market power is necessary to implement them on captive students.

Another disquieting feature of the Aetna-Prudential consolidation is that their plans in nonoverlapping markets are relatively small. The average size of Prudential's plans in markets in which Aetna does not operate is 7,224 enrollees, and the average size of Aetna's plans in nonoverlapping markets is 12,297. Plans of this size could operate more efficiently by growing or merging with an-

other HMO. Thus, the merger might improve efficiency if it affected these markets. However, the effects of the merger will be felt not in these markets but rather in areas where the competitors already have achieved most of the economies of scale.

Although generalizing from only five actual or proposed cases is risky, it seems that the “market overlap” explanation for national HMO consolidations is becoming more important, with an increase from a 37 percent overlap in the 1995 United HealthCare–MetraHealth merger to an 86 percent overlap in the proposed Aetna–Prudential merger. This trend may reflect the simple fact that national HMOs cannot avoid bumping into one another as they become larger. However, it also may be a strategy to increase market share in local HMO markets.

■ LOCAL MARKET CONCENTRATION.

The typical HMO market was relatively concentrated in 1994: 114 metropolitan areas had Herfindahl indices between 2,500 and 5,000, and forty-eight markets had indices between 5,000 and 7,500 (Exhibit 3). In general, markets with lower concentration had more HMOs and higher levels of market penetration (measured by the percentage of the MSA population enrolled in HMOs).

From 1994 to 1997 concentration fell in every market class. The decline was particularly large in markets in the highest two quintiles of concentration. These markets were transformed from monopolies or near-monopolies into competitive markets, with declines of more than 4,000 points in the Herfindahl index. However, even the “competitive markets” with Herfindahl indices lower than 2,500 in 1994 experienced a decline of sixty-three points. This transformation occurred largely through the entry of new HMOs. For example, monopolistic markets in 1994 had almost four HMOs, on average, in 1997. Even the most competitive markets saw an increase in the number of HMOs, from eight on average in 1994 to nine in 1997. Small HMOs also were able to grow their market share to some extent. In a separate analysis we found that 27 percent of small HMOs (defined as those with market shares below 5 percent) were able to raise their share to more than 5 percent over the next two years. A few small HMOs even grew to market shares of 25 percent or more.

We selected New Jersey to illustrate some of the effects of national-firm mergers because that state has a number of markets that have been greatly influenced by these mergers. Its

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**EXHIBIT 3**  
**Market Area Changes, 1994–1997**

Market concentration (Herfindahl) category	Number of MSAs	HMOs in market		Herfindahl index <sup>a</sup>			Market penetration <sup>b</sup>	
		1994	1997	1994	1997	Change	1994	1997
Very low (< 2,500)	35	7.91	8.80	2,073.60	2,010.21	-63.39	25%	36%
Low (2,500–5,000)	114	4.88	6.68	3,779.97	3,304.32	-475.64	20	28
Average (5,000–7,500)	48	2.85	5.19	5,909.86	4,485.52	-1,424.34	18	28
High (7,500–10,000)	38	2.32	5.00	8,751.28	4,852.17	-3,899.11	12	21
Very high (10,000)	46	1.00	3.76	10,000.00	5,604.70	-4,395.30	3	11

**SOURCE:** Authors’ calculations based on InterStudy data, 1994–1997.

**NOTES:** Values indicated for each category are means. MSA is metropolitan statistical area. HMO is health maintenance organization.

<sup>a</sup> See Note 10 in text.

<sup>b</sup> Market penetration is the percentage of the MSA’s population enrolled in HMOs.

nine MSAs had moderate-to-high levels of HMO concentration in 1994, and four of those areas experienced increases in concentration as a result of the Aetna-U.S. Healthcare consolidation (Exhibit 4). However, between 1994 and 1997 the number of HMOs increased in every MSA, and concentration fell everywhere except in Vineland-Millville-Bridgeton. At least eleven HMOs operated in every New Jersey MSA in 1997.

## SUMMARY AND IMPLICATIONS

The HMO industry is becoming more concentrated at the national level, where the market share of the five largest national HMO firms increased from 43.21 percent in 1994 to 49.91 percent in 1997. There were three national HMO consolidations during the 1994-1997 period, and in 1998 there was one merger attempted and another proposed that is under way as of mid-1999. We examined the effects of each of these events and discovered that HMO consolidations are evolving away from market expansion and toward market overlap. This means that a large proportion of the total enrollment in the merging firms is found in markets in which they both operate. The increased local market concentration that results from such mergers can have adverse consequences for competition in local markets.

Nevertheless, most local HMO markets were less concentrated in 1997 than in 1994, largely because new firms entered the arena.

We believe that antitrust policy can play an important role in ensuring that this fortunate trend continues. HMO consolidations that greatly increase concentration in local markets should be targeted for antitrust investigation. The merger may be justified if it increases the scale of a small HMO and thereby reduces its average costs. However, we did not find this to be the case in most markets affected by recent mergers. If there is no justification for the merger, it still might be approved if new firms can enter the market easily. An analysis of the conditions of market entry is beyond the scope of this paper. However, it is not safe to assume that past evidence is a good guide to future conditions. As HMO market share increases both nationally and locally, new firms may find it more difficult to enter the market. Therefore, state and federal antitrust authorities need to maintain ease of market entry in this important industry.

### EXHIBIT 4 New Jersey Market Area Changes, 1994-1997

Metropolitan statistical area	1994 Herfindahl index	Change in index from Aetna-U.S. Healthcare merger	1997 Herfindahl index	Number of HMOs	
				1994	1997
Atlantic-Cape May	3,386	0	3,034	6	12
Bergen-Passaic	4,112	0	3,326	7	12
Jersey City	4,972	0	2,754	6	12
Middlesex-Somerset-Hunterdon	3,061	649	1,797	7	12
Monmouth-Ocean	4,152	0	1,849	7	12
Newark	2,615	509	1,480	8	12
Philadelphia (PA-NJ)	3,584	641	3,201	8	13
Trenton	4,788	0	2,373	4	12
Vineland-Millville-Bridgeton	3,368	818	4,362	6	11

**SOURCE:** Authors' calculations based on InterStudy data, 1994-1997.

**NOTE:** HMO is health maintenance organization.

## NOTES

1. "A Giant Continues to Grow," *Modern Healthcare*, 14 December 1998, 6.
2. "United Health, Humana Deal Is Terminated," *Wall Street Journal*, 10 August 1998, A3.
3. "Health-Plan Costs to Soar This Year," *USA Today*, 6 January 1999, A1.
4. Letter from E. Ratcliffe Anderson, president, American Medical Association, to Joel Klein, assistant U.S. attorney general, Antitrust Division, 18 December 1998.
5. R.D. Feldman and R.S. Given, "HMO Mergers and Medicare: The Antitrust Issues," *Health Economics* (March 1998): 171-174.
6. R.S. Given, "Ensuring Competition in the Market for HMO Services," in *Competitive Managed Care*, ed. J.D. Wilkerson, K.J. Devers, and R.S. Given (San Francisco: Jossey-Bass Publishers, 1997).
7. See Section 7, 15 U.S. Code, sec. 8; and P.A. Butler, *Implications of Health Care Competition for Cost, Choice, Quality, and Innovation: The Role of Antitrust Policy* (Portland, Maine: National Academy for State Health Policy, 1996).
8. D.R. Wholey, R.D. Feldman, and J.B. Christianson, "The Effect of Market Structure on HMO Premiums," *Journal of Health Economics* (May 1995): 81-105; and R.D. Feldman, D.R. Wholey, and J.B. Christianson, "Effect of Mergers on Health Maintenance Organization Premiums," *Health Care Financing Review* (Spring 1996): 171-189.
9. J.B. Christianson, R.D. Feldman, and D.R. Wholey, "HMO Mergers: Estimating Impact on Premiums and Costs," *Health Affairs* (November/December 1997): 133-141.
10. The Herfindahl index ranges from zero (a perfectly competitive industry) to 10,000 (monopoly). A market with four equal-size firms would have a Herfindahl index of 2,500.
11. In 1997, 32 percent of all HMO enrollment was allocated with county-specific data and 44 percent with MSA-level data.
12. We count the HMOs operated by Blue Cross as a single national firm. Another view is that these health plans represent a loose affiliation of HMOs rather than a single firm. If Blue Cross is removed from Exhibit 1, the concentration ratio for the next five firms shows a similar pattern over time.
13. These analyses include only enrollment in the counties in MSAs. Including all counties (both urban and rural) where each national firm operates produces very similar results.
14. Horizontal mergers that result in postmerger Herfindahl indices greater than 1,800 with an increase of at least fifty points raise concerns about adverse-competition consequences. Under joint guidelines issued by the U.S. Department of Justice and the FTC, these mergers should be targeted for further analysis. See Given, "Ensuring Competition." All of the markets mentioned by name in this paper as being affected by HMO mergers meet this test.
15. This was also the opinion of market analysts at the time of the merger. "Taking a Chance," *Minneapolis Star Tribune*, 3 July 1995, D1.
16. Given, "Ensuring Competition."
17. "Phone, Health Care Mileposts," *Minneapolis Star Tribune*, 2 April 1996, D1.
18. "U.S. Healthcare Cuts Costs, Grows Rapidly, and Irks Some Doctors," *Wall Street Journal*, 6 September 1994, A1.
19. "Megamergers Shake Up Two Industries," *Washington Post*, 2 April 1996, A1.
20. Feldman and Given, "HMO Mergers and Medicare."
21. D.R. Wholey et al., "Scale and Scope Economies among Health Maintenance Organizations," *Journal of Health Economics* (December 1996): 657-684.
22. H.W. Jenkins Jr., "Managed Care, Go Away—You're Too Good for Us!" *Wall Street Journal*, Interactive Edition, 30 December 1998, online at [interactivewsj.com](http://interactivewsj.com).