

# MARKET WATCH

## How Different Is California? A Comparison Of U.S. Physician Organizations

Medical groups and IPAs provide better chronic illness care and report being no worse off financially.

by **Robin R. Gillies, Stephen M. Shortell, Lawrence Casalino, James C. Robinson, and Thomas G. Rundall**

**ABSTRACT:** Data from a national study of medical groups and independent practice associations are used to examine the extent to which California physician organizations are different from physician organizations in the rest of the United States. California physician organizations are different in many ways: most notably, they are more likely to have external incentives to improve quality and more likely to use recommended care management processes for treating patients with chronic illnesses. The implications of these differences for policy and practice are discussed.

WHETHER AS AN EXAMPLE to be emulated or avoided, the California health scene is usually considered to be, at the very least, different from those in other states. These differences are attributed in part to the unique brand of managed care in California.<sup>1</sup> The differences are especially evident in California's physician organizations—that is, its medical groups and independent practice associations (IPAs).<sup>2</sup> California is said to have more physician organizations than other states, and these organizations are larger and more likely to be IPAs than elsewhere in the country. In addition, California physician organizations are said to take on more risk and are delegated more responsibility for managing care, which places California physicians more at the center of the health care system. Some observers also

describe California's medical groups and IPAs as being in serious trouble; one even described the system as being at a point of "imminent collapse."<sup>3</sup>

Statements about how "different" California physician organizations are have been hampered by the lack of an adequate comparative database. As a result, many questions regarding the uniqueness of California physician organizations are left inadequately answered. What is reality regarding California medical groups and IPAs? How different are they from physician organizations in the rest of the United States? Most importantly, can we learn anything from the experience of California medical groups and IPAs about how to improve the quality of care throughout the country?<sup>4</sup>

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## Study Methods

To answer these questions, we conducted sixty-minute structured telephone interviews with the chief executive officer (CEO), president, or medical director of 1,104 physician organizations with twenty or more physicians nationwide as part of the National Study of Physician Organizations and the Management of Chronic Illness (NSPO).<sup>5</sup> The interviews took place from September 2000 to September 2001. The response rate for IPAs was about 78 percent, while that for medical groups was about 66 percent. The total sample included 366 IPAs and 738 medical groups. Topics covered during the interviews included basic descriptive information (practice size, ownership, years in existence, type of practice); governance and management; financial management; practice activity (volume of visits); relationships with health plans; degree of capitation risk assumption; compensation models; external incentives; use of information technology (IT); implementation and use of care management processes (disease registry; case management; feedback to physicians; and use of guidelines for asthma, congestive heart failure, depression, and diabetes); and quality improvement approaches. Summary indices were also developed for a number of areas including IT capability, external incentives, and implementation and use of care management processes (CMPs).<sup>6</sup>

**“The managed care business of California physician organizations is concentrated in fewer payers.”**

## Study Results

Nearly one-fifth (17 percent) of the total sample was California physician organizations. About 61 percent of the 191 California organizations were IPAs, compared with only 27 percent of the non-California organizations. Because of this disparity in distribution of IPAs and medical groups and the potential for different results for medical groups and IPAs, the two types of physician organizations are reported separately.

We found that California IPAs are not

much larger than non-California IPAs (Exhibit 1). On the other hand, California medical groups are larger than non-California medical groups, but this is primarily attributable to the Kaiser Permanente medical groups included in the study (Exhibit 2). If the ten Permanente groups in the study, including two California Permanente groups with more than 3,000 physicians each, are excluded, the mean sizes of California and non-California medical groups are basically the same (120 and 117 physicians, respectively).<sup>7</sup> We also found that IPAs tend to be physician-owned, especially outside of California. Medical groups both within and outside California are more likely than IPAs to be affiliated with a hospital, health system, or health plan. Physician ownership is also important for medical groups outside of California.

■ **HMO contracting and payment systems.** California physician organizations operate in an environment different from that of physician organizations elsewhere. Health maintenance organization (HMO) penetration, defined as the percentage of a county's population enrolled in an HMO, is much higher for both California IPAs (53 percent) and medical groups (50 percent) than for their counterparts elsewhere (28.4 percent and 31.5 percent, respectively).<sup>8</sup> The managed care business of California physician organizations is concentrated in fewer payers. Results from the NSPO survey indicate that about 72 percent of the revenues for California's IPAs come from an IPA's top three HMOs, compared with about 59 percent for non-California IPAs. The figures for the two sets of medical groups are 53 percent and 29 percent, respectively. California medical groups accept some risk for a much larger percentage of their HMO patients in all areas surveyed and are delegated responsibility for a much larger percent of their HMO and point-of-service (POS) patients than are medical groups elsewhere.<sup>9</sup> With the exception of risk assumption for hospital and pharmacy costs, these patterns also hold for IPAs,

**EXHIBIT 1**  
**Comparison Of California And Non-California IPAs On Basic Characteristics, HMO Contracting/Payment, And Financial Performance, 2001 And 2002**

Basic characteristics	Non-California IPAs (n = 250)		California IPAs (n = 116)	
	Percent or mean	(SD) <sup>a</sup>	Percent or mean	(SD) <sup>a</sup>
Number of physicians (NS)	387.0	(490.2)	418.6	(642.1)
Practice ownership				
Hospital/HMO/other	18.0%		21.6%	
Physician-owned	69.6		51.7	
Nonphysician managers	12.4		26.7	
Practice type (NS)				
Non-primary care specialty	5.6%		3.4%	
Primary care only	7.2		3.4	
Both primary care and specialty	87.2		93.1	
<b>HMO contracting/payment</b>				
Risk assumption—percent of IPA's HMO patients that IPA accepted some financial risk for				
Primary care costs	55.4%	(47.1)	85.5%	(32.4)
Specialist costs	52.5	(46.5)	85.1	(32.4)
Hospital costs (NS)	31.1	(41.5)	35.6	(36.3)
Pharmacy costs (NS)	24.6	(36.3)	22.6	(27.5)
Mental health costs	17.6	(33.3)	45.8	(37.4)
Delegation—percent of all HMO and POS patients under contracts that delegated to the IPA				
Claims payment	28.0%	(43.6)	86.8%	(31.9)
Physician credentialing	46.6	(45.3)	88.5	(27.5)
Utilization management				
Specialty referrals	39.8	(46.6)	88.9	(30.3)
Hospital admissions	36.1	(44.9)	87.3	(30.6)
Pharmacy services	13.8	(30.8)	24.5	(39.0)
Mental health services	14.5	(31.3)	47.8	(39.2)
<b>Financial performance</b>				
Self-reported in most recently completed fiscal year				
IPA made money	48.5%		63.8%	
IPA broke even	20.1		11.4	
IPA lost money	31.4		24.8	

**SOURCE:** National Study of Physician Organizations and the Management of Chronic Illness, September 2001–September 2002.

**NOTES:** All differences are statistically significant at  $p \leq .05$  unless otherwise indicated by NS (not significant). IPA is independent practice association. HMO is health maintenance organization. POS is point-of-service plan.

<sup>a</sup>Values are mean (standard deviation) unless otherwise indicated.

although at a higher level (Exhibit 1).

■ **Financial performance.** Assessment of financial performance is based on self-reports from the physician organizations about whether the organization made money, broke even, or lost money in the most recently completed fiscal year, not on audited financial statements. About 64 percent of California IPAs in the sample reported a gain in the previ-

ous fiscal year, while fewer than half of the non-California IPAs did so. Fewer than half of California medical groups reported a gain, but this is not much different from non-California medical groups.

■ **Information technology (IT) capability.** The differences between California and non-California IPAs are not significant for either the clinical IT index or most of the indi-

**EXHIBIT 2**  
**Comparison Of California And Non-California Medical Groups On Basic Characteristics, HMO Contracting/Payment, And Financial Performance, 2001 And 2002**

Basic characteristics	Non-California medical groups (n = 663)		California medical groups (n = 75)	
	Percent or mean	(SD) <sup>a</sup>	Percent or mean	(SD) <sup>a</sup>
Practice size (number of physicians)	121.4	(195.3)	216.1	(607.5)
Practice ownership				
Hospital/HMO/other	50.4%		52.0%	
Physician-owned	45.6		33.3	
Nonphysician managers	4.1		14.7	
Practice type (NS)				
Non-primary care specialty	16.4%		8.0%	
Primary care only	14.3		12.0	
Both primary care and specialty	69.2		80.0	
<b>HMO contracting/payment</b>				
Risk assumption—percent of medical group's HMO patients that group accepted some financial risk for				
Primary care costs	30.2%	(41.4)	68.3%	(45.1)
Specialist costs	23.1	(38.0)	70.2	(43.8)
Hospital costs	13.4	(30.4)	33.7	(41.2)
Pharmacy costs	11.4	(27.0)	27.6	(37.0)
Mental health costs	9.6	(26.5)	33.9	(41.6)
Delegation—percent of all HMO and POS patients under contracts that delegated to the medical group				
Claims payment	14.4%	(32.9)	59.3%	(48.5)
Physician credentialing	25.1	(40.1)	61.5	(46.9)
Utilization management				
Specialty referrals	19.5	(36.0)	61.7	(47.6)
Hospital admissions	16.6	(33.8)	57.5	(48.0)
Pharmacy services	10.1	(27.4)	20.3	(37.8)
Mental health services	9.7	(26.9)	29.9	(40.1)
<b>Financial performance</b>				
Self-reported in most recently completed fiscal year				
Medical group made money (NS)	42.9%		46.4%	
Medical group broke even	18.4		21.7	
Medical group lost money	38.6		31.9	

**SOURCE:** National Study of Physician Organizations and the Management of Chronic Illness, September 2001–September 2002.

**NOTES:** All differences are statistically significant at  $p \leq .05$  unless otherwise indicated by NS (not significant). HMO is health maintenance organization. POS is point-of-service plan.

<sup>a</sup>Values are mean (standard deviation) unless otherwise indicated.

vidual clinical IT components (Exhibit 3). The individual clinical IT components that are exceptions are providing physician access to a computerized database and linking both guidelines and mental health visit data to the information system. California medical groups show a similar pattern (Exhibit 4).

Where the California physician organiza-

tions, especially IPAs, do seem to have much greater capability is on administrative IT factors. Based on the administrative IT index, California IPAs average more than 1.5 more administrative IT capability items than non-California IPAs. California IPAs are also much more likely than IPAs elsewhere to indicate that they have the various individual adminis-

### EXHIBIT 3 Comparison Of California And Non-California IPAs On Clinical And Administrative Information Technology (IT) Capability, 2001 And 2002

Clinical IT capability	Non-California IPAs		California IPAs	
	Percent or mean	(SD) <sup>a</sup>	Percent or mean	(SD) <sup>a</sup>
Clinical IT index (0–6) (NS)	0.62	(1.11)	0.58	(1.11)
Standardized problem list linked to information system (NS)	10.0%		12.1%	
Laboratory findings linked to information system (NS)	13.2		14.7	
Medications prescribed linked to information system (NS)	19.6		16.4	
Radiology findings linked to information system (NS)	9.6		9.5	
Medication ordering reminders/drug interaction linked to information system (NS)	5.6		4.3	
Patient progress notes entered into electronic medical record (NS)	3.6		0.9	
Medical record included in electronic database (NS)	8.4		6.0	
Individual physicians have access to computerized database	19.6		42.2	
Clinical guidelines/protocols linked to information system)	19.2		30.2	
Mental health/substance abuse visits linked to information system	25.2		51.7	
<b>Administrative IT capability</b>				
Administrative IT index (0–5)	2.18	(2.12)	3.72	(1.64)
Ambulatory visit data linked to information system	40.4%		72.4%	
Emergency room use linked to information system	40.8		74.1	
Inpatient stays linked to information system	46.4		77.6	
Out-of-group services linked to information system	38.4		72.4	
1–5 days report time for cost per member per month of service provided	51.6		75.9	
Enrollment record included in electronic database	45.2		88.8	
Encounter data included in electronic database	48.4		89.7	
Claims data included in electronic database	53.2		89.7	
1–5 days report time for number of patients with diabetes	38.4		69.8	
1–5 days report time for percent of children ages 0–2 with immunizations	27.2		58.6	
1–5 days report time for percent of adults under age 50 receiving annual physical exam	28.4		55.2	

**SOURCE:** National Study of Physician Organizations and the Management of Chronic Illness, September 2001–September 2002.

**NOTES:** All differences are statistically significant at  $p \leq .05$  unless otherwise indicated by NS (not significant). IPA is independent practice association.

<sup>a</sup>Values are mean (standard deviation) unless otherwise indicated.

trative components. While the mean score for California medical groups on the administrative IT index (2.51) is higher than the non-California medical group mean score (1.92), the only individual administrative IT components on which the California medical groups are much higher are reporting time for cost per

member per month, inpatient stays, and out-of-group services.

■ **External incentives.** The results for the comparison of California and non-California medical groups on external incentives to improve quality of care are similar in both pattern and level to those for California and non-

**EXHIBIT 4  
Comparison Of California And Non-California Medical Groups On Information  
Technology (IT) Capability, 2001 And 2002**

Clinical IT capability	Non-California medical groups		California medical groups	
	Percent or mean	(SD) <sup>a</sup>	Percent or mean	(SD) <sup>a</sup>
Clinical IT index (0-6) (NS)	1.72	(1.90)	1.51	(1.85)
Standardized problem list linked to information system (NS)	20.5%		22.7%	
Laboratory findings linked to information system (NS)	52.5		46.7	
Medications prescribed linked to information system (NS)	26.7		22.7	
Radiology findings linked to information system (NS)	39.7		37.3	
Medication ordering reminders/drug interaction linked to information system (NS)	18.9		14.7	
Patient progress notes entered into electronic medical record (NS)	13.7		6.7	
Medical record included in electronic database (NS)	28.1		24.0	
Individual physicians have access to computerized database (NS)	76.8		70.7	
Clinical guidelines/protocols linked to information system (NS)	17.9		18.7	
Mental health/substance abuse visits linked to information system	19.8		30.7	
<b>Administrative IT capability</b>				
Administrative IT index (0-5)	1.92	(1.25)	2.51	(1.48)
Ambulatory visit data linked to information system (NS)	77.1%		81.3%	
Emergency room use linked to information system (NS)	28.7		36.0	
Inpatient stays linked to information system	43.4		57.3	
Out-of-group services linked to information system	13.1		33.3	
1-5 days report time for cost per member per month of service provided	29.6		42.7	
Enrollment record included in electronic database (NS)	87.0		88.0	
Encounter data included in electronic database (NS)	91.0		92.0	
Claims data included in electronic database (NS)	95.0		90.7	
1-5 days report time for number of patients with diabetes (NS)	66.8		64.0	
1-5 days report time for percent of children ages 0-2 with immunizations (NS)	41.6		46.7	
1-5 days report time for percent of adults under age 50 receiving annual physical exam (NS)	41.2		46.7	

**SOURCE:** National Study of Physician Organizations and the Management of Chronic Illness, September 2001-September 2002.

**NOTES:** All differences are statistically significant at  $p \leq .05$  unless otherwise indicated by NS (not significant).

<sup>a</sup>Values are mean (standard deviation) unless otherwise indicated.

California IPAs, so only the results for medical groups are presented here. With the exceptions of receiving better contracts for quality performance and outside reporting of patient satisfaction results, California medical groups have greater exposure to external incentives than non-California medical groups (Exhibit

5). As mentioned above, the pattern and level of the means for IPAs on the various external incentives measures are similar to those reported for their medical group counterparts. The only difference is that California IPAs are much more likely than non-California IPAs to report patient satisfaction to outside organiza-

### EXHIBIT 5 Comparison Of California And Non-California Medical Groups On External Incentives To Improve The Quality Of Health Care And Care Management Processes, 2002

External incentives	Non-California medical groups		California medical groups	
	Percent or mean	(SD) <sup>a</sup>	Percent or mean	(SD) <sup>a</sup>
External incentives index (0–7)	1.56	(1.69)	2.37	(1.97)
Outside reporting index (0–4)	0.70	(1.28)	1.24	(1.65)
Outside reporting of patient satisfaction results (NS)	20.2%		29.3%	
Outside report of CQI results	20.8		30.7	
Outside reporting of outcome data	16.1		33.3	
Outside reporting of HEDIS data	12.8		30.7	
Received income for quality	39.8		53.3	
Received public recognition for quality	22.2		45.3	
Received better contracts for quality (NS)	24.1		14.7	
<b>Care management processes (CMPs)</b>				
Organization uses hospitalists	46.5%		65.3%	
Disease registry index (0–4)	1.10	(1.32)	1.53	(1.49)
Case management index (0–4)	1.28	(1.43)	1.98	(1.42)
Guidelines index (0–4) (NS)	1.18	(1.25)	1.28	(1.36)
Feedback to physicians index (0–3)	0.96	(1.01)	1.50	(1.14)
Diabetes care management index (0–4)	1.67	(1.38)	2.21	(1.14)
Asthma care management index (0–4)	1.15	(1.26)	1.61	(1.16)
CHF care management index (0–4)	1.23	(1.30)	2.01	(1.22)
Depression care management index (0–4) (NS)	0.50	(0.78)	0.58	(0.77)
Overall physician organization care management index (0–16)	5.14	(3.83)	6.99	(3.38)

**SOURCE:** National Study of Physician Organizations and the Management of Chronic Illness, September 2001–September 2002.

**NOTES:** All differences are statistically significant at  $p \leq .05$  unless otherwise indicated by NS (not significant). CQI is continuous quality improvement. HEDIS is Health Plan Employer Data and Information Set. CHF is congestive heart failure.

<sup>a</sup>Values are mean (standard deviation) unless otherwise indicated.

tions (36.2 percent versus 18.4 percent).

■ **Care management processes.** The final area reported here is that of the implementation and use of CMPs, including hospitalist usage and the various CMP summary indices. As with external incentives, the pattern and level of implementation and use of CMPs are very similar for IPAs and medical groups. Consequently, again only the medical group comparisons are presented, although both types of organizations are discussed. Hospitalists are used more often by California physician organizations than they are elsewhere (Exhibit 5). In addition, based on the scores for the various indices, California medical groups as well as California IPAs are more likely than their non-California counterparts to implement or use CMPs. Both types of California physician organizations are more likely than their non-

California counterparts to have disease registries, use case management, and provide feedback to physicians. In terms of the disease-specific care management indices, with the exception of depression, the California physician organizations have higher mean scores than those of non-California organizations. Greater overall use of care management processes by California medical groups and IPAs is indicated by their higher mean scores on the overall physician organization care management index. California medical groups use 36 percent more of the CMPs measured than do the non-California medical groups (6.99 and 5.14 CMPs, respectively). Similarly, California IPAs on average use 52 percent more of the CMPs measured than non-California IPAs use (with scores of 7.14 and 4.70, respectively, on the overall physician organization care man-

agement index). Further analysis shows that even when California physician organizations' greater exposure to external incentives to improve quality is taken into account, they are still much more likely than organizations in the United States as a whole are to use CMPs (data not shown).

All physician organizations that scored in the top quartile of county HMO penetration (a score of 46.3 percent or higher) were examined separately to see if California's greater overall CMP use still holds when HMO penetration is held constant. Looking only at the 263 medical groups and IPAs located in counties with high managed care penetration, including 156 California organizations, California IPAs and medical groups still are higher in their use of CMPs, with scores of 7.42 and 7.28, respectively, than non-California IPAs and medical groups, with CMP use scores of 5.21 and 5.39, respectively.<sup>10</sup>

## Discussion

Our analyses confirm a greater role for managed care in California, the revenues of California physician organizations concentrated in fewer HMOs, and California physician organizations assuming more risk and delegated more responsibility for managing care. But California's stringent managed care environment has not resulted in the demise of the state's medical groups and IPAs. California physician organizations are no worse off financially than those in other parts of the country. And the results suggest that good medicine—evidence-based care—can be practiced in spite of or even perhaps because of a strong managed care presence. California physician organizations, both medical groups and IPAs, use 35–50 percent more care management processes than physician organizations in other parts of the country. Greater use is true regardless of the type of CMP (case management, disease registry, or feedback to physicians) except for guidelines. It is also consis-

tent for three of the four chronic illnesses studied (asthma, congestive heart failure, and diabetes but not depression). Based on existing knowledge, the expectation is that use of such care management processes will be associated with better patient outcomes.<sup>11</sup>

Recent research drawing on the full NSPO national sample found two factors strongly related to CMP implementation: higher levels of information technology capability (specifically, clinical IT) and more external incentives.<sup>12</sup> California IPAs and medical groups have no more or no less clinical IT capability than similar types of physician organizations elsewhere, although programs are being developed in the state to promote increased clinical IT capabilities of its physician organizations. But California physician organizations, both

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IPAs and medical groups, are found to experience many more incentives than physician organizations elsewhere. The California environment has a number of reporting mechanisms as well as financial and nonfinancial recognition programs that are not found to the same extent in other states.<sup>13</sup> It is open to question whether these programs promote the use of recommended care management processes or whether external groups are more likely to develop programs for those physician organizations that have already adopted such processes; however, external incentives and CMP use are strongly related.

Other factors, closely intertwined, may come into play in California. Interviews with physician leaders in California conducted as part of the NSPO suggest that a positive orientation toward quality might be fostered in California by reporting requirements, by rewarding performance programs, and especially by the density of IPAs and medical groups in the state.<sup>14</sup> This density could produce a “contagion effect” attributable to the high level of awareness of, competition with, and learning from other organizations in the state. The leaders of many of the California medical groups

and IPAs could develop the belief that to be perceived as legitimate—a legitimacy that is bestowed by the required reporting and public recognition for quality—their organizations must be oriented toward quality and adopt CMPs to improve the quality of care.

■ **Study limitations.** This study has a number of limitations that are discussed in greater depth elsewhere.<sup>15</sup> For this discussion, we note that the study examines only medical groups and IPAs with twenty or more physician members. Based on information from the American Medical Association (AMA), this represents only about 5–10 percent of U.S. physician groups, although it does constitute about 50 percent of the physicians who belong to group practices.<sup>16</sup> Based on our data, we cannot say how medical groups and IPAs with fewer than twenty physicians compare. The second key limitation is the cross-sectional nature of the data. We can discuss associations between the various characteristics and speculate about what factors might be influencing specific other factors, but we cannot prove causality.

ARE THERE LESSONS that can be drawn from the California experience? First, it is important to remember that health care delivery is very much a local experience, and the organization of physician practice varies greatly around the country in response to local market conditions, history, and tradition. Thus, the experience of California physician organizations might be of little import to others. On the other hand, the data indicating that California physician organizations use more recommended care management processes for patients with chronic illnesses while operating within a stringent managed care environment suggests that others could adopt such processes, even amid renewed emphasis on containing costs. The California performance findings as well as the national data suggest that payment policies designed to reward physician organizations for improved quality, public reporting of quality performance, and arrangements for increasing investment in

and use of clinical information technology in care delivery could move the system in desired directions.<sup>17</sup> Given that among even the higher-performing California physician organizations fewer than half of the available CMPs are used, the need for and expansion of such programs clearly is great.

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## NOTES

1. See J.C. Robinson and L.P. Casalino, "The Growth of Medical Groups Paid through Capitation in California," *New England Journal of Medicine* 333, no. 25 (1995): 1684-1687; L.P. Casalino and J.C. Robinson, *The Evolution of Medical Groups and Capitation in California* (Oakland: California HealthCare Foundation, 1997); J.C. Robinson and L.P. Casalino, "Vertical Integration and Organizational Networks in Health Care," *Health Affairs* (Spring 1996): 7-22; E.A. Kerr et al., "Managed Care and Capitation in California: How Do Physicians at Financial Risk Control Their Own Utilization?" *Annals of Internal Medicine* 123, no. 7 (1995): 500-504; and M.J. Penner, *Capitation in California: A Study of Physician Organizations Managing Risk* (Chicago: Health Administration Press, 1997).
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3. California Medical Association, *The Coming Medical Group Failure Epidemic* (San Francisco: CMA, 1999). Other discussions of the economic condition of California physician organizations include T. Bodenheimer, "California's Beleaguered Physician Groups: Will They Survive?" *New England Journal of Medicine* 342, no. 14 (2000): 1064-1068; Robinson, "Physician Organization in California"; L.P. Casalino, "Canaries in a Coal Mine: California Physician Groups and Competition," *Health Affairs* (July/Aug 2001): 1-12; CapMetrics, *California Physician Group Solvency Standards* (Oakland: CHCF, 2002); P.J. Gertler and C.C. Ohman, *Cash Matters: Results from a Survey of California Physician Groups* (Oakland: CHCF, 2001); and J.C. Robinson, *Health Plans and Physician Organizations in California: Mutual Dependence or Mutually Assured Destruction* (Oakland: CHCF, 2001).
4. Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the Twenty-first Century* (Washington: National Academies Press, 2001); IOM, *Examining the Federal Role in Quality of Care* (Washington: National Academies Press, 2002); E.H. Wagner et al., "Improving Chronic Illness Care: Translating Evidence into Action," *Health Affairs* (Nov/Dec 2001): 64-78; L.P. Casalino et al., "External Incentives, Information Technology, and Organized Processes to Improve Health Care Quality for Patients with Chronic Diseases," *Journal of the American Medical Association* 289, no. 4 (2003): 434-441; and T.G. Rundall et al., "As Good as It Gets? Chronic Care Management in Nine Leading U.S. Physician Organizations," *British Medical Journal* (26 October 2002): 958-961.
5. See R.R. Gillies et al., *The National Study of Physician Organizations: Database Development, Comparisons, and Implications* (Berkeley: University of California, 2003) for details. The interview instrument is available on request from Robin Gillies, gillies@uclink.berkeley.edu.
6. The summary indices include (1) the clinical IT index, range 0-6, representing the number of six items (standardized problem list, lab findings, medications prescribed, radiology findings, medication ordering reminders, and patient progress notes) that characterize a physician organization's clinical IT system; (2) the administrative IT index, range 0-5, representing the extent to which the physician organization's IT capability includes information on ambulatory visits, emergency room use, inpatient stays, and out-of-group services as well as the ability to report cost per member per month within five days of being asked; (3) the outside reporting index, range 0-4, indicating whether an organization was required to report on patient satisfaction results, continuous quality improvement efforts, outcome data, and Health Plan Employer Data and Information Set (HEDIS) data to an outside organization; and (4) the external incentives index, range 0-7, indicating how many of the outside reporting items an organization was required to report as well as whether the organization received additional income, public recognition, or better contracts for quality. In addition, implementation and use of CMPs are summarized using a number of indices. CMP type-specific indices for disease registry, case management, and guidelines range from 0 to 4, indicating the number of conditions or diseases (asthma, congestive heart failure, depression, and diabetes) for which each of the CMP type exists or is used. The index for feedback to physicians varies from 0 to 3 because this question was not asked for depression. The disease-specific care management indices for asthma, congestive heart failure, and diabetes range from 0 to 4, indicating how many of the CMP types exist or are used for each of the conditions. The depression index varies from 0 to 3 because feedback to physicians was not asked for this condition. The overall physician organization care management index scores a physician organization on CMP usage across all four conditions and all four CMP types (three for depression) plus whether the physician organization has self-management programs for chronically ill patients in general, resulting in a possible range of 0-16. See Casalino et al., "External Incentives," for information on the clinical IT, external incen-

- tives, and the overall physician organization care management indices.
7. The NSPO required that a physician organization have twenty or more physicians to be eligible for the study. Comparisons of NSPO medical groups with those medical groups included in a study by the AMA, which had a size eligibility criterion of three or more physicians, show that the NSPO medical groups are much larger than AMA medical groups even when restricting both sets to medical groups with twenty-six physicians or more. See P.I. Havlicek, *Medical Groups in the U.S.* (Chicago: American Medical Association, 1999). However, the AMA data also show that the mean size and median size of California medical groups are 9.9 and 5, respectively, compared with 9.2 and 5, respectively, for the remainder of the United States. These values suggest that California medical groups are not much different in size from those in the rest of the country. Similar information is not available for IPAs. However, given that the rationale behind IPAs is to develop a critical mass of physicians to bargain effectively with payers, there is less possibility that restricting the universe of IPAs to those with twenty or more physician members will distort size comparisons than is true for medical groups. More information about the representativeness of the NSPO set of physician organizations is available in Gillies et al., "The National Study of Physician Organizations."
  8. D. Wholey et al., "HMO Market Structure and Performance, 1985-1995," *Health Affairs* (Nov/Dec 1997): 75-84.
  9. The question for risk is, "During your most recent fiscal year, for what percent of your group's HMO and POS patients did you accept some financial risk for [specific type of costs]?" Respondents were not asked to specify the percentage of risk accepted.
  10. The California and non-California physician organizations in this reduced set of 263 organizations were also compared, IPAs and medical groups separately, on the other variables reported here. The results mirror those reported in our exhibits for the total sample. California physician organizations in counties with high HMO penetration have much higher scores than their non-California counterparts for most risk, delegation, and external incentives items. They are not much different on clinical IT.
  11. See Casalino et al., "External Incentives."
  12. Ibid. Additional multivariate analysis of only the California physician organizations (not shown) supports these findings.
  13. The Robert Wood Johnson Foundation, the California HealthCare Foundation, the Integrative Healthcare Association, the Pacific Business Group on Health, and the National Committee for Quality Assurance as well as other organizations are involved in various efforts (either collaboratively or individually) such as Pay for Performance (P4P), the Provider Group Oversight (P-GO) Improvement Project, and the California Consumer Assessment Survey (CAS). Some of these as well as other major U.S. initiatives are discussed in M.N. Marshall et al., "Public Reporting on Quality in the United States and the United Kingdom," *Health Affairs* (Mar/Apr 2003): 134-148.
  14. N. Oswald et al., *A Qualitative Study of Barriers, Facilitators, and a Business Case for Quality: Findings from Fifteen Leading California Physician Organizations* (Berkeley: University of California, 2003). Further discussions of the importance of a positive orientation toward quality are found in Rundall et al., "As Good as It Gets?"; and T. Bodenheimer et al., *Improving Chronic Care Management in Physician Organizations: A Qualitative Study of Facilitators and Barriers* (San Francisco: University of California, 2003).
  15. Casalino et al., "External Incentives."
  16. Havlicek, *Medical Groups in the U.S.*
  17. Casalino et al., "External Incentives."