

Benefits of and Barriers to Large Medical Group Practice in the United States

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Many of the difficulties in present medical practice can be overcome, wholly or in part, by group organization. . . . Some of these difficulties are: lack of coordination . . . lack of adequate supervision and control over the quality of medical care . . . the difficulty experienced by patients in choosing qualified physicians; the unnecessarily large expenditure for overhead costs made by practitioners in individual private practice; and the increasing complexity of medical service.

Committee on the Costs of Medical Care¹

Background: For decades, reformers argued that medical groups can efficiently provide high-quality care and a collegial professional environment. The growth of managed care and the movement to improve quality provide additional reasons for physicians to practice in groups, especially large groups. However, information is lacking on recent trends in group size and the benefits of and barriers to group practice.

Objectives: To identify benefits of and barriers to large medical group practice, and to describe recent trends in group size.

Design, Setting, and Participants: Information on benefits and barriers was obtained from 195 interviews conducted during round 3 (2000-2001) of the Community Tracking Study with leaders of the largest groups, hospitals, and health insurance plans in 12 randomly selected metropolitan areas. Information on recent trends in group size was obtained from more than 6000 physicians in private practice in 48 randomly selected metropolitan areas via Community Tracking Study telephone surveys in 1997-1998, 1998-1999, and 2000-2001.

Main Outcome Measures: Benefits of and barriers to large group practice, as perceived by interviewees, and changes in percentages of physicians in groups of varying sizes.

Results: Gaining negotiating leverage with health insurance plans was the most frequently cited benefit; it was cited 8 times more often than improving quality. Lack of physician cooperation, investment, and leadership were the most frequently cited barriers. Survey data indicate that 47% of private physicians work in practices of 1 or 2 physicians and 82% in practices of 9 or fewer, and that the percentage of physicians in groups of 20 or more did not increase between 1996 and 2001.

Conclusions: Current payment methods reward gaining size to obtain negotiating leverage more than they reward quality. However, barriers to creating large medical groups are substantial, and most private physicians continue to practice in small groups, although the size of these groups is slowly increasing.

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DURING THE 7 decades since the committee's 1932 report, medical reformers—including physician leaders in groups like the Mayo Clinic,² Palo Alto Medical Clinic,³ Scripps Clinic,⁴ and Permanente Medical Group (Kaiser)⁵—have argued that group practice, especially large multispecialty group practice, can improve the quality of health care, decrease costs, and provide a professionally desirable working environment for physicians⁶⁻¹¹ (**Table 1**). As medical care has become increasingly complex and expensive, and as awareness of medical errors¹² and the possibilities for using organized processes to improve quality have grown,¹³ the problems identified by the committee have become

more salient than ever. Furthermore, the growth of managed care appeared to create new reasons for physicians to practice in groups, especially large groups¹⁴⁻¹⁷ (Table 1).

Despite their potential importance, relatively little is known about medical groups, perhaps because they are more difficult to study than health insurance plans (hereafter referred to as health plans) or hospitals. Groups are much more numerous, and standard data on them are scarce. The limited data available on their performance, although far from conclusive,¹⁸⁻²¹ suggest that groups have the potential to increase physicians' negotiating leverage with health plans,^{16,22} operate more efficiently,²³⁻²⁶ contain medical care costs,²⁷⁻³⁰ and improve quality,^{31,32} but that this pro-

tential does not appear to be fulfilled in many cases.^{29,33-35} Furthermore, although the number of physicians in groups has been growing for decades, in 1996, 65% of private practice physicians worked in practices of 4 or fewer physicians, and 39% practiced solo.³⁶

Although there are many potential advantages of medical groups, and although the degree to which physician practice is organized may be important to patients, purchasers, health plans, policy makers, and physicians, no systematic knowledge exists of the benefits of and barriers to group practice in the United States. Also, it is unknown whether the prevalence of large medical groups has increased since 1996 in response to managed care. We present, to our knowledge, the first nationally representative data on the benefits of and barriers to large medical group practice and on recent trends in the prevalence of groups of different sizes.

METHODS

STUDY DESIGN, SAMPLE, AND DATA COLLECTION

We used information from the site visit and survey components of the Community Tracking Study (CTS).^{37,38}

Since 1996, the CTS has conducted 3 rounds of site visits, involving 1690 interviews, to the same 12 randomly selected US metropolitan areas. We focus on 195 interviews conducted during round 3 (June 2000 to March 2001) with leaders of the 3 or 4 largest physician groups, hospitals, and health plans in each area. Interviewees included medical directors, chief executive and operating officers, and executives responsible for contracting and network formation. These interviewees were well positioned to know what was happening with groups in their area and had differing perspectives from which to offer perceptions of the benefits of and barriers to group practice.

Interviews were conducted by 19 interviewers organized into 4 teams. Each team visited 3 metropolitan areas. Interviewers included university faculty and CTS researchers who frequently worked in pairs to facilitate note taking. Interviews lasted 60 to 90 minutes and were based on protocols that included open-ended questions followed by specific probes. After each interview, interviewers compared notes; the lead interviewer then typed the notes, which were entered into the qualitative analysis software program Atlas.ti.^{39,40}

We defined medical groups as 3 or more physicians formally organized as a legal entity in which business, clinical, and administrative facilities are shared.⁴¹ We explained to interviewees that we were primarily interested in large medical groups. Since no standard definition of such groups exists, we asked interviewees to indicate what size they considered such groups to be. Most considered multispecialty groups of approximately 10 to 20 physicians to be of moderate size and those of greater than 20 to be large; somewhat smaller numbers were given for single-specialty groups.

We chose a qualitative study design to explore the benefits of and barriers to group practice for 3 reasons. First, little is known about this subject. Qualitative research is particularly useful for developing an understanding of new subjects and for generating hypotheses.⁴²⁻⁴⁴ Second, many of the factors that may affect medical groups (eg, managed care) are changing rapidly, making the perceptions of experienced leaders “on the ground” essential for understanding what is happening. Third, many factors (eg, the role of physician leadership in group practice) may be multifaceted, difficult to quantify, and best

Table 1. Potential Benefits of Medical Group Practice

Benefits	
Traditional	Additional With Managed Care
Quality	
Consultation/mutual education Oversight by peers	Support organized processes for Increasing patient safety Quality improvement Care of chronic illnesses Preventive services
Efficiency	
Scale economies in purchasing and management	Scale economies in information systems Spread financial risk of capitation Appropriate unit of analysis for cost and quality measures
Physician lifestyle and income	
Call and vacation coverage	Increase negotiating leverage with health plans
Less business responsibility	Reduce administrative burden of dealing with health plans
Profit from ancillary services	Profit from risk contracting

understood within the historical and organizational context that interviews can provide.⁴⁵

We obtained data on the percentage of physicians in groups of varying sizes from 3 biannual telephone surveys conducted by the CTS beginning in August 1996⁴⁶⁻⁴⁹; each included interviews with a nationally representative sample of greater than 12000 nonfederal patient care physicians. Response rates ranged from 60% to 65%. In this analysis, we limited the sample to the approximately 6000 physicians in each round who were in private practice and situated in 48 randomly selected metropolitan areas with a population of at least 200000. Physicians employed by hospitals, health maintenance organizations (HMOs), academic medical centers, or governments were excluded. The 48 areas include the 12 in which site-visit interviews on barriers and benefits were conducted; results of the analysis did not differ between the 48 and 12 sites.

DATA ANALYSIS

During and after the visit to each area, the site team met to discuss the issues identified. The team leader then wrote a detailed summary, and other members wrote reports on the following 4 subject areas: physicians and hospitals, health plans, employers, and the policy environment. Reports were reviewed by team members and revised. All 4 teams met periodically to discuss findings across the 12 metropolitan areas. Teams used *triangulation*, a qualitative analysis technique based on the assumption that the credibility of results is increased if multiple interviewees from competing organizations—in this case, physician groups, health plans, and hospitals—present what multiple interviewers with varying beliefs and backgrounds record as consistent accounts.^{50,51} The longitudinal, large-scale, nationally representative design of the CTS provides a strong opportunity for triangulation.

Round 3 protocols included questions about change over time. We used responses to these questions and information gathered during the first 2 rounds of the CTS to understand interviewees' perceptions of trends in group formation. In addition, we searched the Atlas.ti database to produce counts of the number of times specific benefits of and barriers to group practice were stated by interviewees. This database includes

Table 2. Practice Size Distribution (1997-2001)*

Year	No. of Physicians in Practice					
	1-2	3-9	10-19	20-49	50-99	≥100
1997	54.0	30.5	6.3	4.3	2.2	2.8
1999	49.7†	31.9	8.0†	4.9†	2.3	3.3
2001	47.0	34.9†	8.5	4.7	2.0	2.8

*Data are derived from rounds 1 to 3 (1996-2001) of the Physician Survey of the Community Tracking Study and expressed as percentage of physicians in private practice in metropolitan areas by the size of the practice. Physicians practiced in metropolitan areas with greater than 200 000 population. Private practice refers to physicians in solo, 2-physician, or group practices and excludes those employed by hospitals, health maintenance organizations, academic medical centers, or governments. Because of rounding, percentages may not total 100.

†Significantly different from the previous round ($P < .05$).

44 186 text passages coded by CTS researchers. Since nearly all comments about benefits and barriers were given in response to general questions rather than specific probes, we combined both types of response. Since interviewees rarely stated that a particular benefit or barrier was not important, we report only the number of positive responses.

Physicians in the survey reported on the number of physicians in their practice and were divided into 6 practice size categories for this analysis. All survey estimates were weighted to be representative of nonfederal physicians providing patient care in metropolitan areas with at least 200 000 people; the weights account for the sample design and survey nonresponse. Two-tailed z tests were performed to determine whether statistically significant change occurred between rounds.

RESULTS

TRENDS IN GROUP PRACTICE (1996-2001)

During round 1 of the CTS (May 1996 to April 1997), interviewees in all 12 areas expected both enrollment in HMOs with relatively narrow physician networks and risk contracting to increase. They anticipated that physicians would create primary care-based, multispecialty medical groups large enough to gain negotiating leverage with HMOs and to spread the financial risk of risk contracting.³⁵ However, by round 2 (June 1998 to February 1999), it was becoming apparent that HMOs and risk contracting were not growing as anticipated and that many groups were experiencing financial problems.⁵²

By round 3 (June 2000 to March 2001), attempts to create large multispecialty groups had ceased at all 12 sites, as groups' continued financial problems plus the growing backlash against managed care led HMOs to pull back from narrow provider networks and risk contracting.⁵³ Many interviewees stated, however, that single-specialty groups, mainly in the range of 5 to 20 physicians, were growing. For organizations engaging in risk contracting, specialists are cost centers, to be used as little as possible, but in a fee-for-service environment they become major sources of revenue, particularly if they work in well-reimbursed procedural specialties like orthopedics and cardiology.⁵⁴ Furthermore, interviewees believed that relatively small single-specialty groups can gain negotiating leverage with health plans while avoiding the coordination problems and conflicts between primary care and specialties in multispecialty groups. This was em-

phasized by the chief executive officer of a multispecialty group in Boston, Mass, who stated, "Specialists should ask themselves 1, 2, 3 times why they would join a multispecialty group when they can reap more benefits from a single-specialty group."

Consistent with interviewee perceptions about large groups, the survey data suggest that the percentage of physicians in groups of 20 to 49, 50 to 99, and 100 or more practitioners increased slightly between rounds 1 and 2, but decreased slightly between rounds 2 and 3. Although only the increased number of physicians in groups of 20 to 49 between rounds 1 and 2 was statistically significant, the pattern across all 3 rounds, in all 3 large-group categories, is consistent with interviewee perceptions (**Table 2**). In addition, the survey data indicate that many physicians—47.0% in round 3—continue to practice solo or with one other physician, but that this percentage decreased significantly from 54.0% in round 1, whereas the number of physicians in groups of 3 to 9 (34.9%) and 10 to 19 (8.5%) increased significantly (Table 2).

INTERVIEWEES' ASSESSMENT OF LARGE MEDICAL GROUP PRACTICE

Interviewees most frequently identified 6 benefits of and 7 barriers to group practice. **Table 3** and **Table 4**, which show the frequency with which each benefit and barrier were cited by the 3 types of interviewee, should be read with care. Because the interview protocols for physician group interviewees focused more attention on groups than did the protocols for health insurance plan or hospital interviewees, the latter discussed benefits of and barriers to group practice less often. Therefore, interpretation of the results in the columns of these tables should be based on the rank order, rather than the overall prevalence, of responses. So Table 3, for example, should be read as indicating that interviewees from groups, health plans, and hospitals all cited gaining leverage with health plans far more frequently than any other benefit, rather than as indicating that interviewees from groups considered this more important than interviewees from health plans or hospitals.

Gaining economies of scale, especially in purchasing, management, and information systems, was the second most frequently cited benefit. Although many interviewees were aware of studies from the era before managed care that suggested that groups achieved maximum scale

Table 3. Most Frequently Cited Benefits of Large Medical Group Practices*

Benefits	Total Interviewees (n = 195)	Physician Group Interviewees (n = 74)	Health Plan Interviewees (n = 60)	Hospital Interviewees (n = 61)
Leverage with health plans	114 (58)	60 (81)	31 (52)	23 (38)
Economies of scale	45 (23)	34 (46)	7 (12)	4 (7)
Leverage with hospitals	38 (19)	17 (23)	7 (12)	14 (23)
Profit from ancillary services	29 (15)	19 (26)	1 (2)	9 (15)
Better lifestyle	24 (12)	15 (20)	4 (7)	5 (8)
Improved quality	14 (7)	11 (15)	0	3 (5)

*Data are derived from site-visit interview rounds 1 to 3 (1996-2001) of the Community Tracking Study and expressed as number (percentage) of interviewees.

Table 4. Most Frequently Cited Barriers to Large Medical Group Practices*

Barriers	Total Interviewees (n = 195)	Physician Group Interviewees (n = 74)	Health Plan Interviewees (n = 60)	Hospital Interviewees (n = 61)
Lack of physician cooperation	63 (32)	36 (49)	10 (17)	17 (28)
Lack capital, lack IT, physicians do not invest in group	52 (27)	22 (30)	17 (28)	13 (21)
Lack of physician leadership	38 (19)	18 (24)	15 (25)	5 (8)
Cost of regulatory mandates for capitated patients	26 (13)	19 (26)	4 (7)	3 (5)
Failure to manage costs for capitated patients	26 (13)	9 (12)	14 (23)	3 (5)
Failures of other groups	18 (9)	8 (11)	7 (12)	3 (5)
Primary care-specialist conflict	18 (9)	10 (14)	3 (5)	5 (8)

Abbreviation: IT, information technology.

*Data are derived from site-visit interview rounds 1 to 3 (1996-2001) of the Community Tracking Study and expressed as number (percentage) of interviewees.

economies at 5 to 7 physicians,⁵⁵⁻⁵⁷ they argued that contemporary requirements for information systems and skilled managers have increased the scale at which economies can be achieved. As a specialty group administrator in Syracuse, NY, stated, "You just can't be a mom-and-pop corner store anymore in medicine. There are too many administrative issues to deal with; you need quality administrative staff that only a large group can provide."

Gaining leverage with hospitals was the third most frequently cited benefit. Hospital interviewees in particular focused on this and on the related, fourth most frequently cited benefit, ie, the potential of groups, especially single specialty groups, to profit from ancillary services, particularly by operating outpatient diagnostic and surgery centers in competition or as joint ventures with hospitals.

Lifestyle (eg, collegiality and call and vacation coverage) was the next most frequently cited benefit. Improving quality was cited least frequently, at 8 times less often than gaining leverage with health plans. Physician group interviewees mentioned quality more often than plan or hospital interviewees, but far less often than they mentioned any other reason for forming groups. Many interviewees criticized groups for their lack of emphasis on quality. A health plan chief executive officer in Indiana argued that "Groups have worked in terms of negotiating leverage, but most have not done much for quality—nor have they been expected to by their constituent physicians." An Indiana plan medical director, a strong proponent of the potential of groups, stated, "I'm disappointed that the movement toward groups has not been

accompanied by an emphasis on care management and quality. They are just interested in economics." Interviewees such as a hospital executive in Phoenix, Ariz, frequently pointed out, however, that rewards for groups for improving quality are scarce: "The benefits of coordinated care are not sufficiently appreciated or valued in the market."

Physicians' desire for autonomy and difficulty in cooperating with each other was the most frequently cited barrier to groups (Table 4). A group medical director in Miami, Fla, explained, "Physicians are trained to make independent decisions in the middle of the night. It's hard to get them to work together." Lack of capital and information systems and the reluctance of physicians to invest in their group was next most frequently cited, and was the most frequently cited barrier by hospital executives, as a Cleveland, Ohio, hospital executive for physician integration stated, "Physicians don't invest in their practices to make them successful in the long run—instead, they just take all the money out."

Lack of physician leadership was the third most frequently cited barrier. Interviewees attributed this lack to a paucity of physicians with management skills and to physicians' reluctance to reward leaders who put time into creating a group and/or helping it operate efficiently. "The lack of physician leadership is a problem," stated a group medical director in Phoenix, and "It's difficult to find someone willing to step up to the plate and put in uncompensated time." "Physicians don't think that administrative work is worth much," said another group medical director in Phoenix; the physician founder of a group in Miami stated that "It's impossible to deal with doc-

tors. I tried to put together a quality improvement program in our group, but it never happened. No physician was paid to run the organization. Meetings were a nightmare. I did so much for free, and all I got for it was a lot of flack.”

The failure of groups to manage the costs of care for capitated patients and the added cost generated by regulatory mandates such as laws defining minimum hospital lengths of stay for obstetric patients were also cited as barriers. Health plan interviewees focused on the difficulties groups had managing the costs of care, whereas group interviewees, particularly in California, where shared risk contracting and regulatory mandates are very prevalent,⁵⁸ focused on mandates. Fourteen of the 26 interviewees who cited this as a barrier were from Orange County, California; of these, 9 were from physician groups (data not shown).

News of financial difficulties of other groups, locally and nationally, and problems with conflict between primary care physicians and specialists about income distribution were also cited as barriers.

Triangulation of interviewee perceptions was quite strong. First, the rank order of interviewees' perceptions of benefits and barriers was consistent across interviewee type, with the exceptions noted above. Second, the rank order of perceptions of benefits and barriers was also consistent across metropolitan areas, with the following exception (data not shown): As described, Orange County interviewees were more likely to mention regulatory mandates, the costs of taking capitation for services (notably pharmaceuticals) not being adequately under physician control, and the low health insurance premiums and correspondingly low capitation rates paid to groups in California. Third, perceptions were generally consistent between interviewees in the 4 metropolitan areas (Indianapolis, Ind; Seattle, Wash; Cleveland; and Orange County) with the highest percentage of physicians in groups in the 3 largest size categories ($\geq 11.5\%$ in groups of 20-49, 50-99, and ≥ 100 ; mean, 16.2%) and the 4 areas (Greenville, NC; Syracuse; Newark, NJ; and Miami) with fewest physicians ($\leq 5.6\%$; mean, 4.9%) in such groups (data not shown). There were only 2 exceptions. A better lifestyle was the second most frequently mentioned benefit, and news of failures of other groups was the second most frequently mentioned barrier by interviewees in areas with relatively few physicians in large groups, but were least frequently cited by interviewees in areas with relatively more physicians in large groups. Interviewees in sites with fewer large groups may be relatively more focused on the lifestyle advantages that even small groups can offer.

COMMENT

Most of the benefits traditionally thought to be provided by groups—economies of scale, profit from ancillary services, and a better lifestyle—were cited by interviewees. By far the most frequently cited benefit, however—gaining negotiating leverage with health plans—is new, ie, a creation of managed care. According to interviewees, however, groups do not have much incentive to improve quality. Although many inter-

viewees expressed reservations about the performance of groups at present, some argued that only groups of at least moderate size, rather than physicians in solo or very small practices, have the ability to create organized processes to proactively improve care. Furthermore, with the exception of a few specialties (eg, cardiac surgery, in which the same procedure is performed repeatedly), they argued that only groups can serve as units of analysis for which statistically reliable and valid measurements of quality can be made.⁵⁹ According to a physician group administrator in Seattle, “Groups can better monitor clinical performance and implement clinical protocols. As demands for accountability in health care increase, so too will the pressures for physicians to join groups.” However, as long as purchasers and health plans fail to provide rewards for quality and emphasize relative negotiating strength vs physicians as a method for determining the level of physician payment, interviewees did not anticipate that groups will focus on quality improvement.⁶⁰⁻⁶²

Interviewees critically described physicians' lack of cooperation, lack of investment in their groups, and lack of support for leadership as barriers. Complementary or alternative explanations exist for the lack of increase in large groups: ie, many physicians may prefer a solo practice or small-group lifestyle, many patients may prefer this setting,⁶³⁻⁶⁵ and/or larger groups may fail to provide the benefits claimed for them. The increasing prevalence of small (3-9) and moderate-sized (10-19) groups is consistent with this explanation, as is the small, statistically insignificant decline in the percentage of physicians in all 3 categories of large groups between rounds 2 and 3. However, it is also possible that larger groups provide more benefits, but that collective-action problems⁶⁶ limit the number of physicians willing to assume the leadership role necessary to create and maintain such groups. A medical group may benefit its physicians and its patients, but if physicians are unwilling to compensate leaders, the costs of creating and operating the group would be paid mainly by the leaders, whereas all physicians in the group benefit. In this case, relatively few leaders and groups are likely to appear.

Interviewees stated that risk contracting made multispecialty groups more likely to form, but that fee-for-service contracting increased the incentive to form single-specialty groups to gain the economies of scale to invest in and profit from ancillary services, often in competition with hospitals. Single-specialty groups were also described as able to gain negotiating leverage with health plans at sizes smaller than multispecialty groups, while avoiding conflict between primary care and specialties over income distribution.

Our study has several limitations. First, we report interviewees' perceptions, not data purporting to demonstrate the existence of, for example, economies of scale. Second, we did not interview “rank-and-file” physicians. Their perceptions may differ from those of leaders and should be a subject of future research. Third, our interviewees' responses were focused more on larger than smaller groups. It is possible that their evaluation of the relative importance of particular benefits and barriers would be different for small groups. Finally, we do not

have survey data to compare with interviewees' perception of an increase in the number of moderate-sized single-specialty groups.

Seventy years after the report of the Committee on the Costs of Medical Care,¹ the problems the committee identified still exist. Medical groups, believed by the committee to be at least a partial solution to these problems, are perceived by CTS interviewees—including group leaders themselves—as much more focused on increasing their incomes by gaining negotiating leverage and drawing all available revenue out of their groups than they are on investing in improving the quality of care. Was the report wrong to focus on groups? Should physicians, patients, corporate and government purchasers of health care, or government regulators care about the organizational forms that physician practice takes? Does it matter whether physicians practice in single-specialty or multispecialty groups or in small, moderate-sized, or large groups? Whatever purchasers, health plans, regulators, and hospitals do, physicians care for patients. They are the final common pathway through which care is delivered. Although little is known about the benefits of different forms of physician practice organization, it is likely that benefits differ by form. The size and specialty type of groups may matter, whether groups have useful information systems may matter, and whether groups implement organized health care management processes^{67,68} to reduce medical errors, increase preventive care, and improve the quality may matter.^{15,69,70} A great deal of research will be required to answer these questions. Meanwhile, it appears that health plans and large private and public purchasers of health insurance affect the size and specialty composition of medical groups through the type of payment method they use and through the relative emphasis they place on rewarding negotiating leverage vs rewarding quality.

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