California Physician Group Solvency Standards

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Prepared for the
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by

CapMetrics

Acknowledgments

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# I.   Provider Solvency Study Background and Overview

Over the past 20 years, California has led the nation in developing a health care model that delegates financial risk to providers, particularly physician groups, for professional services or professional services and facility services combined. Following the run-away health care inflation of the late 1980s, managed care rapidly became a vehicle for containing health care costs in the 1990s. California was an especially fertile environment for this model because Kaiser had firmly established in the market a cost competitive health care delivery model. Kaiser also represented a threat to private practice physicians as patients were drawn to the less costly Kaiser model and its more generous health care benefit coverage.

Private practice physicians joined together as medical groups or independent physician associations (IPAs) which allowed for the emergence of HMO-type health plans which could compete with the Kaiser. It seemed like the ideal situation: managing costs while keeping physicians in control of care.[1]

In addition, private practice physicians joined forces to protect their income through greater bargaining power with rapidly growing HMOs. As these "provider groups" increased their scope of financial risk, they wanted to grow enrollment to balance their exposure. However, many provider groups failed to develop the necessary capacity in information technology, actuarial risk, utilization management, administration, and management leadership to accommodate this growth.

By the late 1990s the provider groups in California were in trouble. In 1998, the financial failure of MedPartners and FPA Medical Management left thousands of California physicians with a total of more than $100 million in unpaid bills. The highly visible failure of FPA and MedPartners were not the only provider group failures. In 2000, some 34 groups failed. Six financially troubled groups owned by UniCare, that provided care to 650,000 California residents, were put up for sale. Financial troubles forced some groups to reduce payments to their physicians or even to delay reimbursement. In 2000, over one million people were affected by the closure of provider groups in California.

Figure 1-1. Failed Groups (Excluding MedPartners and FPA)
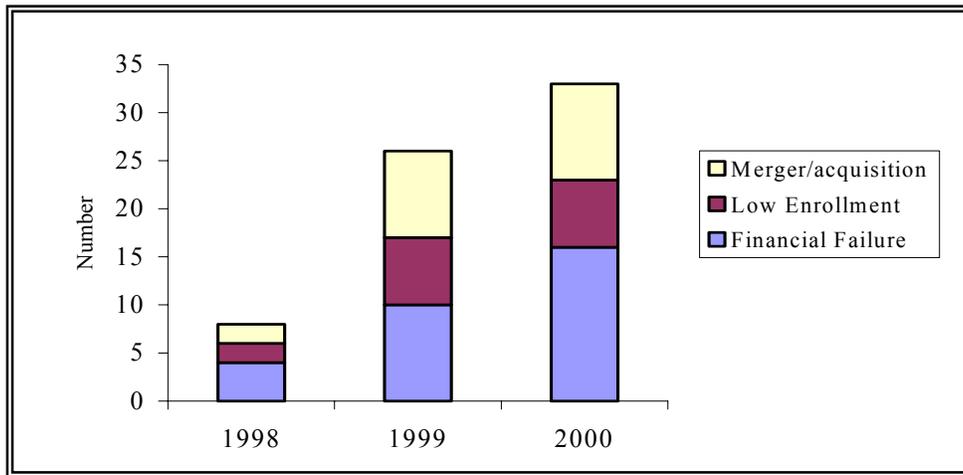
The financial troubles of these provider groups affect physician income, the financial health of insurance plans, patient access to care, and quality of care. Further, when these groups fail, they threaten the continuity of patient care, the preservation of which is an underlying public policy aim of the Knox-Keene Act.[2]

Under the current regulatory framework, Knox-Keene licensed health plans that have capitated contracts with provider groups are responsible for monitoring provider solvency. Recent court cases have held plans at least partially financially responsible when provider groups fail. This trend puts considerable responsibility on health plans to monitor the solvency of provider groups and their ability to manage financial risk. There is concern that if health plans became reluctant to contract with financially risky groups, access to care could be reduced. Finally, our research indicates there is some evidence that groups under financial pressure may compromise the quality of care.

Some of the financial pressure comes from reduced payments by health plans, shared risk pools, and increased drug and specialty care expenditures. In addition, it appears that weak financial management skills play a role.

Given the highly visible failures of FPA and MedPartners, the failure of other provider groups, and the risks to Californians which depend on these groups for health care, the California legislature sought to establish more clear cut standards for financial solvency of provider groups. With the passage in fall 1999 of Senate Bill 260 (SB 260), the California legislature and Governor Davis set a regulatory process in motion to address the provider solvency issue and its potential consequences. The legislation was intended to force provider groups to maintain certain solvency standards and improve their financial reporting and management. Among other things, SB 260 established financial standards for capitated provider groups (referred to in SB 260 as "Risk Bearing Organizations"). These solvency requirements include maintaining positive working capital and tangible net equity (TNE), paying claims within state-mandated time frames, and using specific guidelines to calculate claims liability.

However, the standards were flawed from the start. FPA would have passed the financial standards in SB 260 just four months before it filed bankruptcy. In Table -1, the publicly available financial reports filed by Knox-Keene licensed subsidiaries of FPA show that the solvency standards in SB 260 would not have been violated in the months leading up to its bankruptcy. FPA passed the current standards with flying colors March 31, 1998 and filed for bankruptcy less than four months later.

Table 1-1. SB 260 and the FPA Bankruptcy

Financial Measure	SB 260 Standard	FPA Score 3/31/98
Working capital	> $0	$ 4,982,325
Tangible net equity	> $0	$ 12,831,838

In particular, the SB 260 standards do not adequately address the nature of the cash flow cycle for capitated provider groups. Health plans pay provider groups a capitation fee in the month for which the provider group is at risk for patient care. After a patient receives treatment, it generally takes 60-90 days for the physician to generate a claim, for the provider group to process the claim, and then pay the physician. The provider group should keep the capitation in cash until the claims for the covered period are paid. Figure 1-2 illustrates this cash flow cycle.

Figure 1-2. Appropriate Prepaid Cash Flow Cycle for Claims
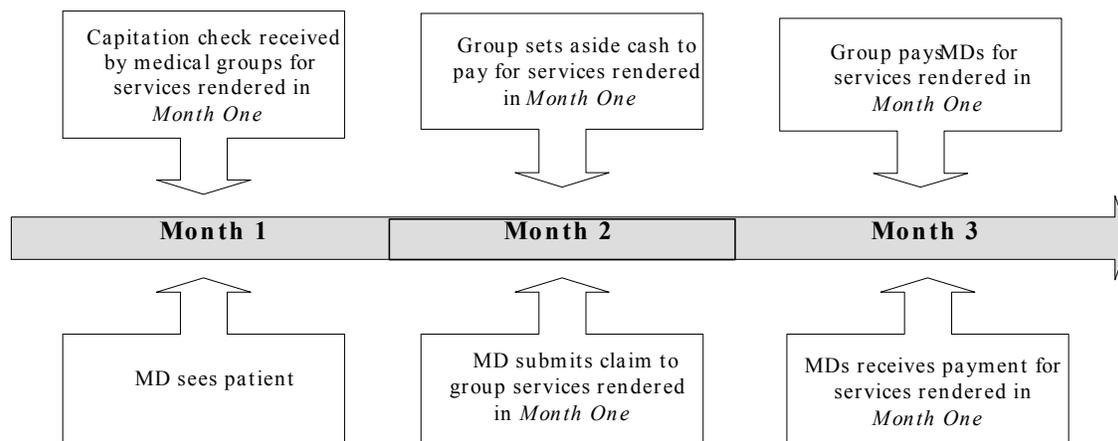
Provider groups which accept financial risk must estimate the claims liability they have outstanding for the months they receive capitation even though they might not have received the actual claims from physicians. The claims liability, plus outstanding bills for salary, benefits, vendors and such generally comprise a provider group's "current liabilities." The key is that these current liabilities must be paid relatively soon and when a group runs out of cash, it becomes insolvent and can't pay its bills. FPA on March 31, 1998 had just 7.8% of its current

liabilities in cash, and the rest of its current assets were in shared risk receivables which pay off once a year.

The provider group's ability to cover its current liabilities is measured by comparing, at any given point in time, its cash on hand to its current liabilities, in particular its claims liability. Cash on hand should equal or exceed the claims liability, and represent a significant portion of its current liabilities. Our hypothesis was that many capitated provider groups did not have sufficient cash to cover their current liabilities and we wanted to examine the relationship between the Cash/current liabilities ratio and insolvency. We believed that this ratio could be a powerful predictor of insolvency that should be proposed as an additional regulatory standard for California provider groups.

In order to address this problem, SB 260 established a Financial Solvency Standards Board (FSSB) composed of experts to advise the Director of Managed Care (DMHC) on solvency standards and regulations. However, the FSSB has been working largely in the dark as there is little sound quantitative analysis of solvency standards for provider groups and there is almost no systematic representative financial data for provider groups to conduct such an analysis.

This study was designed to fill these gaps of knowledge. We collected financial data for California provider groups, generated and tested options for provider solvency standards, and analyzed costs of the new regulations to the provider groups. Specifically, the study was designed to answer the following research questions:

- What standards and measures are the best quantitative predictors of solvency?

- How much capital deficiency must provider groups overcome to comply with solvency standards?

- What are the significant correlations between solvency ratings and factors such as financial management, information technology systems, level and type of financial risk assumed, quality of care, access to care, and organizational form?

Methods

Our proposed research involved five steps:

1. Develop alternative sets of candidate solvency standards. We first conducted a literature review to identify the possible solvency standards, in the form of financial ratios, to evaluate. We examined the financial ratings developed by independent agencies such as Moodys, Standard & Poors, and AM Best to identify the most commonly used measures of liquidity, cash flow, leverage, and profit. Within each category, the typical financial ratios included:

- Liquidity: current ratio, quick ratio, working capital

- Cash Flow Earnings Before Interest Taxes, Depreciation and Amortization (EBITDA) trends

- Leverage: debt/equity, EBITDA/debt, EBITDA/interest expense

- Profit: operating profit/revenue trends, gross margin/revenue trends

We also reviewed the solvency standards used in other regulated industries, the effectiveness of those standards, and the administrative costs of those regulations. The literature review examined solvency monitoring in other industries such as life and health insurance, casualty insurance, and banking. A partial review is provided in Appendix A.

2. Administer provider group survey. We surveyed a census of provider groups with more than 5,000 covered lives using the Cattaneo & Stroud database as a sample frame (see Appendix B for a copy of the survey). There were 364 total provider groups in the database as of October 2000 with 248 of them having 5,000 or more members. These 248 provider groups covered 97.4% of the managed care members in California as reported in the Cattaneo & Stroud database, so we chose to focus our energy on these groups. The database of provider groups is updated continuously, and we believe it is the only comprehensive and carefully maintained database available for the California provider group population. In addition, we collected the limited financial data available of California provider groups that failed in the last three years.

The survey collected up to three years of historic quarterly financial data (primarily income statement and balance sheet data), key operating statistics (e.g., number and type of physicians, membership, claims inventory), organizational structure (e.g., hospital foundation, independent corporation, managed internally or by external management company), risk management techniques (e.g., sub-capitation, or fee-for-service plus withholds), business type (e.g., medical group or IPA, internal compensation structure and ownership, use of information technology, and quality data.

In order to maximize the response rate our data collection process included the following:

- A Web page describing the research, encouraging communication with the research staff, and with answers to frequently asked questions;

- Meetings with leaders in provider groups, health plans, and trade associations;

- Speaking engagements at industry meetings and conferences;

- Mailings (email and U.S. Postal Service aimed at provider group leadership to announce the research, explain its importance, and solicit participation;

- Follow-up phone calls to encourage participation and offer phone assistance in completing the survey;

- Follow-up on-site visits to validate data and offer assistance in completing the survey;

- A strict privacy and confidentiality policy.

We engaged Karling & Associates to collect survey data and perform the follow-up work with operating and failed provider groups. We selected Karling & Associates because the firm

specializes in managed care accounting and prepares or audits financial statements for approximately 75 provider groups (both medical groups and IPAs) in California. This expertise was important to validate and improve the quality of the financial data received from the survey.

3. Test the predictive validity of the SB 260 solvency standards. We used the financial data to construct the candidate solvency measures and investigate which measures best predict insolvency. We applied multivariate survival regression methods with the timing of insolvency as the dependent variable. We looked for nonprofit-linearities and threshold effects in the standards, rather than using continuous specifications of the solvency standards as independent variables. The focus of the analysis was to find the best fit as opposed to developing a causal model. From this analysis we had hoped to find the statistically significant quantitative predictors of insolvency and then use these predictors to develop a best-fit rating formula for provider organizations.

4. Estimate the cost of solvency standards compliance. As part of the provider study, we assessed the ability of provider groups to provide timely and accurate information necessary for regulatory oversight and the cost of upgrading provider financial management in order to meet solvency standards. Where these fell short, we estimated the cost of compliance to upgrade financial reporting capabilities and, based upon a statistical profile of the population, the amount that capital needed to be increased to comply with solvency standards. We also ran scenarios to calculate the capital necessary using alternative solvency standards that we found to be better predictors of insolvency.

5. Investigate which provider group characteristics are correlated with better financial liquidity. We investigated which group characteristics, such as size, specialty, structure (IPA or medical group), share of revenue from capitated contracts, information technology system sophistication, hospital affiliation, and compensation schemes, perform better financially. We also tested the hypothesis that groups with better financial performance also provide higher quality. Alternatively stated, we measured to what extent financially weak provider groups show a disproportionate tendency to provide less access and lower quality of care.

Summary

The delegated model in California has faced significant financial challenges in recent years. In 1999, SB 260 was put in place to establish standards that would identify and prevent provider group insolvency. These standards have been unsuccessful at forecasting a significant number of group failures. This research is designed to provide greater insight into these failures and to suggest new standards that will serve as better predictors. The research also estimates the cost of these problems for the state of California and identifies which provider group characteristics are associated with better performance.

II.   Provider Groups Profile

The provider groups in the study represent the broad array of groups in California. The groups can be described through a series of quantitative data, including, group size, organizational form (IPA versus medical group), IT systems used, types of risk assumed, geographic distribution, hospital affiliation, financial status, and other measures. Many of these variables will be correlated with financial solvency later in the report.

## Number of Groups Reporting and Managed Care Members Represented

To identify groups for the survey, we used the October 2000 Cattaneo & Stroud database of California provider groups that accept capitation. When we began the survey in February 2001, there were 364 total provider groups in the database, covering 9,588,780 managed care members. Figure 2-1 shows that 68% (248) of these groups covered 5,000 or more members, and together these groups covered 97.4% of the members represented in the database.

In late February 2001, we sent out surveys and immediately made follow-up calls to the groups. We collected surveys through the end of June. During this period, 74 usable surveys were collected for groups with 5,000 or more members representing 38.5% of all members covered by managed care.

Average Group Size

The average size for the groups in our sample (54,517) is larger than the average size of group in the general population (37,659) of groups with 5,000 or more members ($p<0.05$). Group size is very diverse, ranging from 5,248 to 376,953 members. It is unclear whether the large group bias impacts the data, but the findings of this study are more applicable to large groups and are less likely to apply to groups with fewer than 5,000 members. Because groups with 5,000 or more members include more than 97% of managed care members in California, this study is highly relevant to the bulk of California provider groups, and the 9.4 million Californians these groups are responsible for.

Figure 2-1. Survey Group Size Distribution
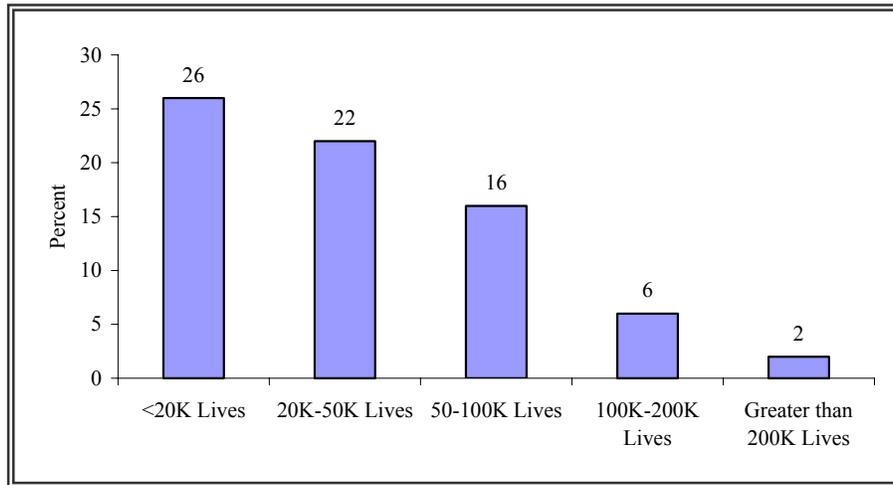
Membership Profile of Groups

The provider groups in the survey included a good representation of the different types of membership commonly found in California. Of the total 3,593,839 covered lives in the sample, 8.9% were Medi-Cal members, 9.3% were Medicare members, and 81.8% were commercial members.

Geographic Distribution of Groups

All regions of the state were well represented. Geographic dispersion of the groups was determined with the zip code from the mailing address, as no information on the geographic dispersion of each groups' patient population was gathered. Using zip codes as a proxy for patient population location, the sample appears representative of the general California provider group population. Figure 2-2 shows that if the state is divided between North and South at Bakersfield, the survey sample shows a slight, but not statistically significant, bias toward Northern California.

Medical Groups versus Independent Physician Associations

Both medical groups and independent physician associations (IPAs) are well represented in the survey sample. A medical group is generally a partnership of physicians that usually share an office and may be employees of the medical group. IPAs, however, are independent physician practices that have joined together for managed care administrative and contracting functions but retain their own independent medical practices.

Figure 2-2.   Geographic Distribution of Groups
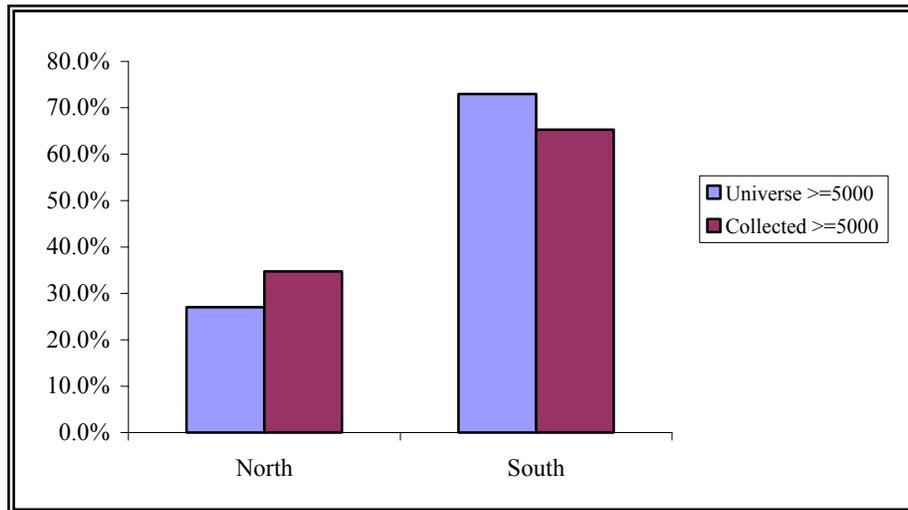
In the sample, 59% of respondents identified themselves as IPAs while 60% of the overall population were identified as IPAs. In both the survey sample and the overall population, 28% of groups identified themselves as medical groups. The remainder were either mixed groups or some other form of clinic.

Hospital Affiliation

Although only three of the surveys collected indicated that the group was either partially or wholly owned by a hospital, more have some hospital affiliation. Fourteen of the groups indicated that they used an administrative entity that was either partially or wholly owned by the hospital. Twelve of these were IPAs and, half indicated that the provider group owned some portion of the management services organization (MSO) as well.

Managed Care Information System Used

The number and types of managed care information systems used varied widely. Over 20 different systems and vendors were represented in the sample of 74 groups. Fifteen of the groups used a version of Quadramed's EZ-CAP system, 14 used a type of Amisys software, 12 used a type of IDX software and 9 used software from Health Systems Design. Three used custom software developed in-house.

Number and Types of Physicians Contracted and Employed

There was also a broad range of employment relationships with physicians. While 16 groups employed physicians, almost all of them contracted with physicians. The two groups employing the most specialists (450 and 130 specialists respectively) were both large academic teaching institutions. Fourteen of the 20 groups that identified themselves as a medical group only contracted with additional primary care providers (PCPs) and did not employ them, while the two academic institutions mentioned above considered themselves IPAs, but did not contract with any additional PCPs.

Table 2-1. Employment/Contracting Relationships

	Number	Percent of Sample
Employ PCPs	16	22.2
Employ specialists	12	16.7
Contract with PCPs	64	88.9
Contract with specialists	66	91.7

Types of Risk Assumed

The types and amount of risk that provider groups in California assume also varies. We looked at commercial, Medicare, and Medi-Cal risk along seven different dimensions: professional capitation, inpatient facility capitation, outpatient facility capitation, pharmacy capitation, ancillary capitation, out-of-area capitation, and other capitation. For each area we also examined whether or not the group surveyed was involved in some type of risk pool for the service indicated.

In general, commercial and Medicare risk groups were most likely to accept full capitation for professional services and ancillary services, and some for outpatient facility. They were more likely to participate in risk pools for inpatient facility, outpatient facility, pharmacy, and for out-of-area capitation. While groups accepting Medi-Cal risk followed these trends, they were about half as likely to accept risk.

Our survey also asked if groups further sub-capitated other groups for specialty care. In general, the answer was no. Only 12 of the groups that returned a survey indicated that they sub-capitated other groups. Of those 12, nine sub-capitated other groups for commercial professional services while all 12 sub-capitated other groups for Medicare professional services.

Table 2-2. Risk Assumed

	Commercial		Medicare Risk		Medi-Cal Risk	
	Accept capitation	Participate in risk pool	Accept capitation	Participate in risk pool	Accept capitation	Participate in risk pool
Professional services	90.3%	12.5%	88.9%	11.1%	44.4%	2.8%
Inpatient facility	6.9%	80.6%	8.3%	75.0%	2.8%	34.7%
Outpatient facility	31.9	70.8	34.7	63.9	13.9	27.8
Pharmacy	12.5	73.6	9.7	72.2	0.0	33.3
Ancillary	80.6	26.4	80.6	22.2	33.3	6.9
Out of area	9.7	58.3	9.7	55.6	5.6	33.3

Financial Characteristics

We looked at the financial profile of groups and their degree of compliance with SB 260. In particular, we looked at total revenue, per member per month (PMPM) revenue, medical expenses, administrative expenses, profitability, cash on hand, risk pool receivables, working capital, tangible net equity, estimated claims liability, as well as other balance sheet and income statement measures.

Revenue

Total revenue for the surveyed provider groups was $2.7 billion dollars in 2000. Due to incomplete prior year data, it was difficult to get a comparable number for either 1999 or 1998. The average revenue per group was $37.5 million, but the variance was high with a standard deviation of $45.9 million and a range of $2.2 million to over $273 million. Table 3-3 shows the break down of revenue by sub-type for the provider groups surveyed.

Because of this size variance, it is more relevant to measure revenue per member per month. Then, this number must be adjusted for population mix and the types of risk the group accepts. For instance, a risk pool with an older or sicker population is likely to appropriately have greater PMPM revenues and costs. In our data, commercial and senior revenues were not broken out or given different types of capitation revenue. This made adjusting for the membership and risk mix more difficult, especially given our small sample size. These restrictions limited the effectiveness of multivariate analysis in teasing out the relationships between variables.

Table 2-3.   Type of Revenue for Provider Groups

	Amount ($1,000s)	Percent
Capitation	2,210,000	81.8
Risk pool revenues	66,900	2.5
Recoveries	9,620	0.4
Patient HMO fees (co-pays)	52,600	1.9
Patient FFS* fees	185,000	6.9
Other revenues	176,500	6.5

* Fee-for-service

We looked at PMPM revenues across groups and adjusted for the number of Medicare enrollees. To do this, we converted the total membership in the plan to equivalent members using conversion ratios of one for commercial and Medi-Cal and three for Medicare. We also were able to adjust the capitation rate for whether the group was accepting inpatient risk using a multivariate regression model. Average total adjusted PMPM revenue for the survey group was $58.99 PMPM and average adjusted capitation revenue was $43.34 PMPM.

Expenses

Total expense for the surveyed provider groups was $2.68 billion dollars in 2000. Again, due to incomplete prior year data, it was difficult to get a comparable number for either 1999 or 1998. The average revenue per group of $37.3 million had a standard deviation of $45.9 million and a range of $1.9 million to over $273 million. Table 3-4 shows the break down of expense by subtype for the provider groups surveyed.

The medical expense ratio is defined as the percentage of revenue that is accounted for as medical expenses. As can be seen from the table above, approximately $2.25 billion was attributed to medical expenses in the groups surveyed, translating to an aggregate medical expense ratio of 83.3%.

Administrative expenses were 14.6% of total expenses and 14.5% of total revenue. Other expenses were 1.5% of total expenses and revenue. Together administrative and other expenses totaled 16.0% of total expenses and revenue.

As previously mentioned, it is more relevant to measure the PMPM expenses of provider groups. Like revenue, we adjusted PMPM expenses by the number of Medicare enrollees in the group, converting total membership to equivalent members using conversion ratios of one for commercial and Medi-Cal and three for Medicare. Average total adjusted PMPM medical expenses were $43.34 PMPM, and average adjusted total expenses were $51.92 PMPM.

Table 2-4.   Type of Expense for Provider Groups

	Amount ($1,000s)	Percent
Sub-capitation	761,000	28.4
Contracted claims	785,000	29.3
Nonprofit-contracted claims	47,400	1.8
Provider payroll	235,000	8.8
Medical facilities and supplies	78,000	2.9
Other medical expense	344,000	12.8
Administrative expense	392,000	14.6
Interest expense	6,700	0.2
Amortization and depreciation	27,000	1.0
Income tax provision	5,800	0.2

Profitability

It was encouraging to discover that the sample as a whole was profitable, however profits were minimal. Total revenues for the groups were $2.70 billion, with expenses of $2.68 billion, and a profit margin of $20 million or 0.74%. Once again, the range on this number was fairly dramatic

as some groups lost more than $6 million while other groups made more than $7 million. On the whole 48 of the groups (66.7%) were profitable while 24 (33.3%) were not. However, the profitability was very fragile. If non-operating and interest income were removed from the revenue line, only 33 of the groups (45.8%) were profitable while 39 of the groups (54.2%) were not. This adjustment would change the entire group from being slightly profitable to having a slight loss.

A more disturbing finding was that capitation revenue actually covered so little of expenses. Capitation revenue totaled $2.21 billion dollars while total expenses were $2.68 billion, with a shortfall of $470 million or 17.5% of total expenses. Capitation revenue failed not only to cover administrative and other expenses, but even some direct medical expenses. This gap creates serious cash flow and liquidity problems for many California provider groups, as will be discussed in Chapter 4.

The Balance Sheet

The balance sheet provides key insights into the insolvency of provider groups and their financial state of affairs. While the income statement tells what happened in one period of time (in our case, the year 2000), the balance sheet gives a snapshot of the financial health of the firm that takes into account its entire history, not just its performance in any one period. Through the use of key measures, the balance sheet provides insight into the ability of a group to meet its obligations at any given point in time. While the profitability of sample groups did not look as bleak as expected, the picture is less favorable when we look at the groups' balance sheets.

Working Capital

Working capital, a firm's ability to meet its short-term liabilities, is total current assets (those assets that the firm believes will turn into cash for the firm in the next 12 months) minus total current liabilities (those liabilities that the firm believes will come payable in the next 12 months). The figure does not include long-term assets or liabilities except for the portion of those that will be realized or expensed in the next 12 months.

The sample had an average working capital deficit of $33.1 million dollars, or $7.76 PMPM. When the group was stratified into those groups that had working capital and those that didn't, the result was striking. Overall, 44% had positive working capital, with a surplus of $68 million, while 56% had negative working capital, with a deficit of $101 million. The average per member working capital surplus for groups with positive working capital was $34.85, while the average per member working capital deficit for the group with negative working capital was $43.70. These figures suggest a large disparity between well performing and poor performing groups. (See Table 2-5)

We wanted to determine the implications of these figures for California and to estimate how large the working capital deficit would be for the whole state. We extrapolated the deficit from our sample of 74 groups to the universe of 248 groups with 5,000 or more members. We adjusted the results for the size of the group so that the large group bias in our sample would not affect the extrapolation. We focused only on those groups that had a negative working capital balance, to determine the scope the problem.

Table 2-5. Compliance with Positive Working Capital Standard

Measure	Working Capital Positive Group	Working Capital Negative Group	Overall Group
Number of groups	34	40	74
Percentage of groups	46.0%	54.0%	100.0%
Approx. adjusted membership	2,534,481	2,312,645	4,847,126
Percentage of adjusted members	52.3%	47.7%	100.0%
Total working capital	$83,800,000	- $ 101,500,000	- $17,700,000
Average working capital	$ 2,465,000	- $ 2,538,000	- $ 239,000
Per adjusted member average working capital	$ 33.06	- $ 43.89	- $3.65

Adjusting our sample for group size, we estimate that 118 (47.6%) of these groups with 4,435,281 members were not compliant with SB 260 in terms of working capital. The total estimated working capital deficit for the population is $194 million dollars or $43.72 per member. We believe that this represents a lower bound to the problem because groups with financial problems are less likely to participate in the study. These figures clearly indicate financial trouble for California provider groups. (See Table 2-6)

Table 2-6. Total Working Capital Deficit for the Provider Group Population with 5,000 Members or More

	Sample (*N* = 74)	Population (*N* = 248)
Number of groups	40	118
Number of members	2,312,645	4,435,281
Total working capital deficit	$ 101,500,000	$ 194,000,000
Working capital deficit per group	$ 2,538,000	$ 1,650,000
Working capital deficit per member	$ 43.72	$ 43.72

Table 2-7.   Breakdown of Current Liabilities

Measure (in 1,000s, except groups)	Positive Group	Total Negative Group	Overall	Positive Group	PMPM Negative Group	Overall
Number of groups	34	40	74	34	40	74
Approx. adjusted membership	2,900	1,560	4,460	2,900	1,560	4,460
Total liabilities	$204,000	$218,000	$422,000	$70.34	$139.74	$94.62
Accounts payable	$13,200	$15,700	$28,900	$0.06	$0.07	$0.07
Claims payable	$102,000	$153,000	$255,000	$7.73	$9.75	$8.82
Withhold payable	$11,000	$5,550	$16,550	$0.11	$0.04	$0.06
Other medical payable	$7,380	$6,800	$14,180	$0.67	$1.23	$0.86
Accrued expenses	$19,800	$13,200	$33,000	$2.68	$1.94	$2.33
Short-term debt	$6,150	$4,400	$10,550	$0.31	$0.33	$0.32
Other current liabilities	$19,100	$14,300	$33,400	$3.11	$3.25	$3.17
Consolidated current liabilities[*]	$24,800	$5,860	$30,660	$1.30	$0.41	$0.92

[*] Some groups did not break down current assets and liabilities into their sub-components.

Liabilities

Breaking down current liabilities reveals a similar result. Groups with negative working capital have much higher per member liabilities than groups with positive working capital. The greatest liability exposure is in claims payable, where those with negative working capital have more than $2 greater PMPM claims liability than those with positive working capital.

Tangible Net Equity

Equity is a measure of a firm's total history of profits and losses and financial transactions all rolled into one summary number. Tangible net equity (TNE) adjusts this number by removing all assets that are not physical assets (such as goodwill). TNE is total assets of the firm less intangible assets less total liabilities.

The sample group had a total TNE surplus of $149 million dollars, however, noncompliance was still very high (46%). In our sample only 40 (54.0%) groups had positive TNE and were in compliance with the SB 260 standard while 34 (46.0%) had negative TNE and were not in compliance. We also saw that groups with a positive TNE had a total TNE surplus of $243 million while those with a TNE deficit had a total deficit of $94 million. (See Table 2-8.)

Table 2-8.   Noncompliance with the TNE Provision of SB 260 is High

Measure	TNE Positive Group	TNE Negative Group	Overall Group
Number of groups	40	34	74
Percentage of groups	54.0%	46.0%	100.0%
Approx. adjusted membership	3,053,246	1,793,880	4,847,126
Percentage of adjusted members	63.0%	37.0%	100.0%
Total TNE	$242,800,000	-$94,200,000	$148,600,000
Average TNE	$6,070,000	-$2,800,000	$2,000,000
Per adjusted member average TNE	$79.52	-$52.51	$30.66

We extrapolated from this data to estimate the financial implications for California. Once again, we adjusted the results for the size of the group so that the large group bias in our sample would not affect the extrapolation, and focused only on those groups that had a negative TNE balance.

Adjusting for group size, we estimate that of the 248 groups in California with 5,000 or more members at the time of the survey, 115 (46.4%) of them with 3,409,815 (36.5%) members were not compliant with the SB 260 standard for TNE. The total estimated TNE deficit for the population is $179 million dollars or $52.51 per member. As expected, the TNE deficit was not as large as the working capital deficit, because TNE allows groups to add in fixed and other assets, while working capital excludes these items. Once, again, we believe that these findings represent a lower bound to the problem because groups with a positive financial performance are more likely to report than groups with a negative financial picture. (See Table 2-9.)

Table 2-9.   Total TNE Deficit for the Provider Group Population with 5,000 Members or More

	Sample (N = 74)	Population (N = 48)
Number of groups	34	115
Number of members	1,793,880	3,409,815
Total TNE deficit	$94,200,000	$179,000,000
TNE deficit per group	$2,800,000	$1,560,000
TNE deficit per member	$52.51	$52.51

Claims Turnaround

To our surprise, claims timeliness was difficult to measure consistently. Groups did not tend to track claims payment schedule on a historical basis, and it was clear from surveys and talking with the groups that many did not have strong tracking mechanisms for this operational metric.

Most groups tended to measure claims turnaround time most stringently when they are audited by a health plan, but the health plan audit requires claims turnaround statistics for only those claims associated with members who belong to that health plan. Each health plan apparently has idiosyncrasies is how it wishes claims turnaround time reported. Thus, reporting claims turnaround time statistics for the group across all of its members may differ from group to group. In the survey, 32 of the groups did not respond or indicated that they did not have data to answer the question.

Of the 42 groups that did respond, half met federal and state guidelines for 96%–100% of their commercial and senior claims. Almost 12% of the reporting groups met state and federal regulations for less than 60% of their commercial claims. There tended to be slower turnaround times for senior claims, with 23.8% of the reporting groups meeting federal and state criteria for 60% of their claims (see Table 2-10).

Table 2-10. Claims Turnaround Time

Measure (as a % of State and Federal Guidelines	Commercial		Senior	
	Number of Groups (n=42)	Percentage	Number of Groups (n=42)	Percentage
Less than 40% of claims meet criteria	1	2.4%	2	4.8%
41–60% of claims meet criteria	4	9.5%	8	19.0%
71–80% of claims meet criteria	6	14.3%	4	9.5%
81–90% of claims meet criteria	3	7.1	2	11.9%
91–955% of claims meet criteria	6	14.3%	5	11.9%
96–100% of claims meet criteria	22	52.4%	21	50.0%

IBNR

Incurred but not yet received (IBNR) claims, are those claims for which services have been rendered, but the provider group has not yet received a claim. These claims must be estimated and booked as a liability on the balance sheet of the provider group. Calculating IBNR is one of the most difficult aspects of managing financials for risk-bearing entities, and this number is easily miscalculated.

Unfortunately, we did not have the time or the funding to investigate how each group calculates IBNR, and consequently it is not clear from our study whether groups use generally accepted methods for calculating IBNR. We do know that only three of the groups (4.1%) did not report any IBNR on the financial statements we received. There were wide ranges in levels of IBNR reported, from $6 to $247 per adjusted member with an average of $59 and a standard deviation of $39 per member. The range of IBNR as a percentage of current liabilities is from 10.5% to 97.8% with an average of 64% and a standard deviation of 26.6%. These ranges could represent legitimate differences in business models or membership mix and risk accepted, but this level of variance around a fairly common number is unusual and warrants further investigation.

Summary

We offered a profile of provider groups in the sample and assessed their compliance with SB 260. Based upon these findings, we extrapolated statewide compliance and estimated the size of the shortfalls in California. In general, there was a big difference between groups in compliance and those not. In particular, a significant portion of groups was out of compliance on working capital, TNE, and claims turnaround.

III.   Cash Is King

This chapter looks at the relationship between working capital and tangible net equity (TNE) as indicators of financial trouble for provider groups. Currently, regulators and health plans must identify groups that are in financial trouble early and intervene in the most effective way. We will establish that the current California physician group solvency standards, TNE and working capital, alone or in combination, fail to uncover some groups facing life threatening liquidity shortfalls. The combination of working capital and the cash ratio more effectively identifies groups facing immediate financial trouble.

Provider groups fail when they run out of cash. The working capital standard alone fails to identify a significant number of groups with alarmingly little cash, and therefore can offer a false sense of security. Our analysis and suggestions focus on measuring cash and cash levels relative to current liabilities to determine how close to the edge of insolvency groups are. We also suggest what represents a safe distance from the edge.

Although the use of common liquidity measures such as the current ratio or the quick ratio have often been found to not adequately predict solvency in some industries,[3] they are the most important ratios for this industry at this particular point in time.

Our first finding is that TNE may be a lagging indicator that detects problems after other metrics have identified trouble. The positive TNE standard can also be misleading, as we identified groups with positive TNE that are at risk for financial trouble. The positive working capital standard can also mislead, but less often that the positive TNE standard. TNE and working capital tend to be redundant with each other, with working capital being the more sensitive indicator.

In Chapter 2, we examined compliance of our sample group with the Senate Bill 260 standards, including the TNE standard and the working capital standard. Six groups had positive TNE and negative working capital, but no groups with positive working capital had negative TNE. For these reasons, we question the purpose of a positive TNE standard.

Table 3-1. TNE versus Working Capital

	Working Capital >= 0	Working Capital >=0	Total
TNE >= 0	34	6	40
TNE < 0	0	34	34
Total	34	40	74

Still, working capital alone is not sufficient to capture groups facing near term liquidity issues. We found a significant number of groups with positive working capital that had poor liquidity. Specifically, we measured the cash ratio[4], that is cash (including marketable securities) divided by current liabilities. If a physician group is to have a month's worth of its current liabilities on hand, this suggests a cash ratio of 0.5 would be an appropriate minimum level of liquidity for groups to maintain a comfortable distance from financial trouble.

We looked at TNE versus the cash ratio, and working capital (after converting working capital to the current ratio[5]) versus the cash ratio. This analysis produced some surprising results. Of the 40 groups with positive TNE, 12 (30.0%) had cash ratios of less than 0.5, and five (12.5%) of these had a cash ratio of less than 0.2.

Table 3-2. Comparing Group TNE and Cash Ratio

Cash Ratio	TNE >= 0	TNE < 0	Total
Cash ratio < 0.2	5	19	24
Cash ratio 0.2–0.3	4	3	7
Cash ratio > 0.3–0.4	2	3	5
Cash ratio > 0.4–0.5	1	0	1
Cash ratio > 0.5	28	9	37
Total	40	34	74

Working capital follows a pattern similar to TNE, which is not surprising since the two measures are highly correlated. Of the 34 groups with positive working capital (current ratio greater than one), four (11.8%) had a cash ratio of less than 0.2, while eight (23.5%) had cash ratios of less than 0.5. In total, 12% of the groups that pass both the working capital and TNE test face near term liquidity pressure. Approximately one-quarter of the groups with positive working capital may be operating with less than one month's cash on hand. Adding a cash ratio standard to the working capital standard picks up the groups that face financial trouble that might otherwise go undetected by the current SB 260 financial standards.

The cash ratio distribution is bi-modal with 37 (50%) of the groups having cash ratios of more than 0.5 and a disturbing 24 groups (32.4%) having cash ratios less than 0.2. Thirty-seven groups (50.0%) had cash ratios of less than 0.3. This analysis suggests that health plans and regulators

pay attention first to those groups with weak cash ratios and look next at groups with weak current ratios (as a proxy for working capital).

Table 3-3. Comparing Group Current Ratio and Cash Ratio

	Current Ratio						
	<0.8	>0.8–0.9	>0.9–1.0	>1.0–1.1	>1.1–1.2	>1.2	Total
Cash ratio < 0.2	17	0	3	2	2	0	24
Cash ratio 0.2–0.3	4	0	1	0	1	1	7
Cash ratio > 0.3–0.4	2	0	1	1	0	1	5
Cash ratio > 0.4–0.5	0	0	1	0	0	0	1
Cash ratio > 0.5	2	5	4	8	2	16	37
Total	25	5	10	11	5	18	74

There were also a significant number of groups with negative TNE and negative working capital that had relatively strong cash ratios. That is, nine (22.5%) groups with negative TNE had a cash ratio of greater than 0.5. Eleven (27.5%) of the 40 groups with negative working capital had a cash ratio of greater than 0.5. This finding suggests that while these groups face a potential liquidity shortfall, which should be addressed, they face much less pressure from an imminent failure from a cash shortfall.

Tangible Net Equity Doesn't Help

These findings suggest that TNE is not a necessary measure for financial solvency. First, as noted above, TNE is redundant with and less sensitive than working capital in identifying short-term liquidity problems. TNE measures not only relative levels of components of current assets and current liabilities, but relative levels of long term assets (e.g., fixed assets like computers) and long term liabilities (e.g., long-term debt). Therefore, conceptually, TNE offers a broader measure of long-term solvency and is not intended to measure short term liquidity issues.

If the intent of establishing a TNE standard in SB 260 was to capture a measure of longer-term financial stability, then TNE was a poor choice. State insurance regulators (and state and federal bank regulators) have increasingly adopted "risk-based capital" guidelines which call upon insurance companies to maintain equity and/or cash reserves at various levels depending upon the inherent riskiness being insured. Risk-based capital standards are thought to provide better protection against insolvency than less subtle capital standards, in particular "one size fits all," measures of an organization's financial condition.[6] TNE has served as the cornerstone of HMO financial regulation in California for over 30 years. Yet, TNE is precisely the sort of "one size fits all" standard which insurance and banking regulators have moved away from.

Cash Flow Models Predict Insolvency Best

In general, static balance sheet measures such as TNE, the quick ratio, and the current ratio, have not been found to be the best predictors of insolvency. Our review of the solvency literature revealed a number of different studies which conclude that some form of cash flow measure is a critical indictor of insolvency.[7,8] For example, in the Altman Z-Score model, a widely recognized model for predicting financial failure, changes in cash flow (specifically, earnings before interest and taxes divided by total assets) are weighted nearly 2.4 times greater than changes in the next most important variable, working capital (specifically, working capital divided by total assets).[9]

Multivariate predictive models require financial data from a statistically valid sample of operating organizations and failed organizations from a given type of business. Risk-bearing provider groups are considerably different than other types of businesses for which predictive models have been built. The cash flow cycle and slow paying risk pool receivables (discussed later in this chapter) which characterize risk-bearing provider groups render suspect predictive models based on the cash flow characteristics of other business types. As the DMHC builds a historical database of group financial data and systematically captures financial data from groups that fail, we hope to create better predictive models building on work by Altman and others. These models will help to more precisely determine the extent to which cash flow measures apply to risk-bearing provider groups and what levels of cash flow should cause concern.

Risk Pool Receivables

Risk pool receivables represent an estimate of what a group expects to receive from a risk pool surplus. The most typical risk pool is a budget or pool of funds established by agreement between a health plan and a medical group for a certain type of medical expenses, such as hospital services. At the end of a year the health plan and the physician group share the deficit or surplus from the risk pool. Unlike trade receivables or patient receivables, which are generally paid within 30-60 days, risk pools are generally paid once a year. However, a group's current liabilities are typically made up of obligations that come due relatively rapidly: claims payments (which are generally paid 60-90 days after the service is rendered), salary expense (paid every two weeks), or trade payables (paid within 30 days of invoice). If risk pool receivables turn to cash once a year, the group generally cannot rely on these receivables to pay its claims and bills. Worse, risk pool receivables are often disputed, further delaying payment.

Risk pool receivables can also be difficult to estimate. Generally, a group uses its prior risk pool experience to project current year surplus. However, these two time periods may be very different. Numerous conditions could change, such as the revenue allocated to the risk pool budget, the cost of the services, and the scope of services covered by the risk pool. Status reports for risk pools come slowly because the claims payment and reporting cycle from health plans is slow. A high volume of claims data is necessary to reduce the estimation risk for costs being charged to a risk pool, and this data often lags 90-180 days after the relevant time period. Thus, risk pool receivables booked for a current period are subject to a high degree of volatility and based on unreliable estimates.

Due to these and other factors, in Chapter 3, we find a statistically significant correlation between the percentage of risk pool receivables and poor financial scores. And, in the FPA example cited later in this chapter, risk pool receivables masked a financial crisis.

Establishing a Standard

There is key difference between groups that see patients on a fee-for-service basis in addition to accepting capitation and those that accept only capitation. Accounts receivable generated by fee-for-service patients tend to convert to cash in 60-90 days from the date of service. Therefore, cash from fee-for-service receivables can be expected to be available to pay some portion of a group's current liabilities. Thus, fee-for-service receivables could be appropriately included in the numerator of the cash ratio.

We suggested earlier that cash ratio of .50 converted to that portion of current liabilities which would likely come due within a month of a typical organization. This calculation is based on the assumption that current liabilities for most provider groups break down as follows:

Table 3-4.   Maturity of Current Liabilities

Current Liability	Average Maturity* (Due Date)	Percent of Current Liabilities	Weighted Maturity
Accounts payable	30 days	10%	3 days
Claims payable & IBNR	75 days	70%	42 days
Accrued expenses	60 days	10%	6 days
Other current liabilities	60 days	10^	6 days
Weighted maturity of current liabilities			57 days

* Average maturity is the time when, on average, a category of current liabilities comes due. That is, this table suggests that approximately one-half of claims payable and IBNR comes due within 75 days and the balance comes due after 75 days. Average maturity can vary substantially between groups based on payment policies and practices.

One month's worth of liabilities amount to approximately 52.6% (30 days/57 days) of current liabilities. To the extent that a group's current liabilities come due sooner than a weighted average of 57 days, then this percentage increases. A month's worth of expenses on hand in cash represents the group's cushion against the impact of disruption in its cash flow (e.g., delays receiving a large capitation payment, or an unusually high outflow of expenses), and is considered a prudent standard for short-term liquidity.

The FPA Story

The case of FPA is a good example to provide context to the relevance of cash ratio and to highlight the gap in the current SB 260 financial standards. Less than four months prior to filing bankruptcy, FPA would have passed the current measures of insolvency with flying colors. As of March 31, 1998, FPA had almost $5 million in positive working capital and almost $13 million in TNE.[8]

Looking more closely, FPA had almost no cash. The company had less than $3 million in cash with more than $33 million in current liabilities, for a cash ratio of 7.8%. Assuming that the weighted maturity of FPA's current liabilities was about 60 days, then FPA had just three days worth of cash on hand. A week's delay in receiving a large capitation check could have meant that FPA didn't have enough money in its bank account for claims checks to clear.

FPA was able to pass the SB 260 financial solvency standards by having a large outstanding balance of risk pool receivables. In fact, risk pool receivables made up 85.9% of total current assets less than four months before bankruptcy. We do not know whether FPA met the SB 260 standard for claims payment timeliness, and this could have triggered a violation under SB 260.

Table 3-5. The Problem: Slow Moving Receivables and Little Cash

Financial Measure	FPA Score 3/31/98
Cash	$2,613,687
Current liabilities	$33,295,809
Cash ratio	7.8%
Risk pool receivables	$28,614,732
Risk pool receivables as a % of current assets	85.9%

When groups are in trouble, they may overstate risk pool receivables to make their financials look better. As noted above, these receivables tend to have a long shelf life, and are not likely to be available to meet short-term cash needs. In sum, both the FPA story and our research points out that a focus on cash levels compared to current liabilities would call out underlying liquidity issues.

The Cash Flow Cycle in Provider Groups

Another factor that distinguishes risk-bearing physician group business is the cash flow cycle. Groups receiving capitation are essentially "pre-paid" for the services they provide. As a result one would expect to see substantial cash on the balance sheet and substantial claims liability for which much of the cash is to pay. However, our research shows that for many groups this cash is not there. Because cash is critical to liquidity it is helpful to understand the basic cash flow cycle for capitation.

The appropriate cash flow cycle for a medical group is to receive a capitation check in month one and retain that cash for two more months until the claims come in, are processed, and paid (see Figure 3-1).

Figure 3-1. Appropriate Prepaid Cash Flow Cycle for Claims
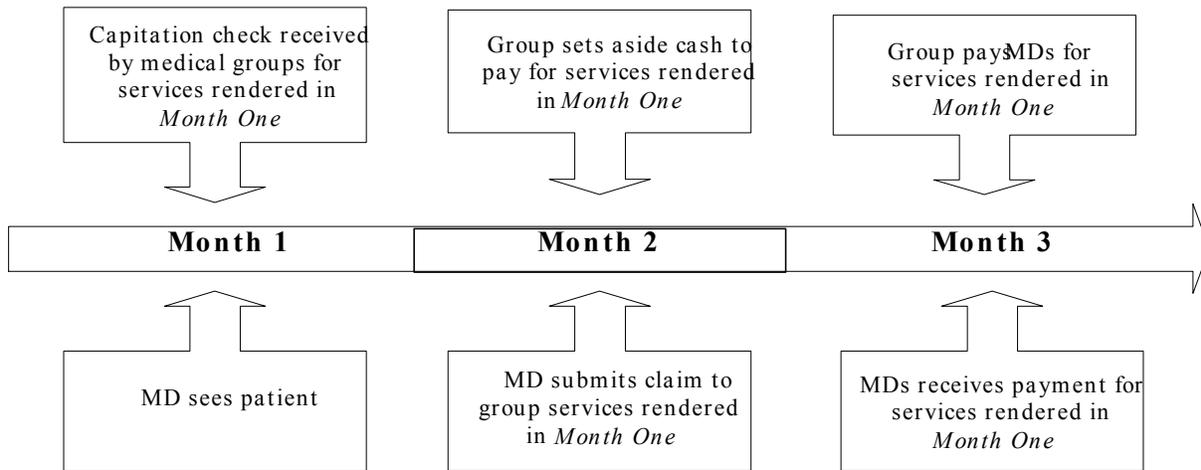
However, many provider groups use the capitation check received in month one to pay claims and liabilities occurred in previous months. That is, they use the capitation check received in month three to pay claims incurred in month 1 (see Figure 3-2). In the extreme cases, when the cash ratio declines to 20% less than current liabilities, then the group is vulnerable to any interruption in revenue. A cancelled HMO contract, a delayed capitation check, or a disputed risk pool receivable payment mean the group cannot pay its claims.

Figure 3-2. Inappropriate Prepaid Cash Flow Cycle for Claims
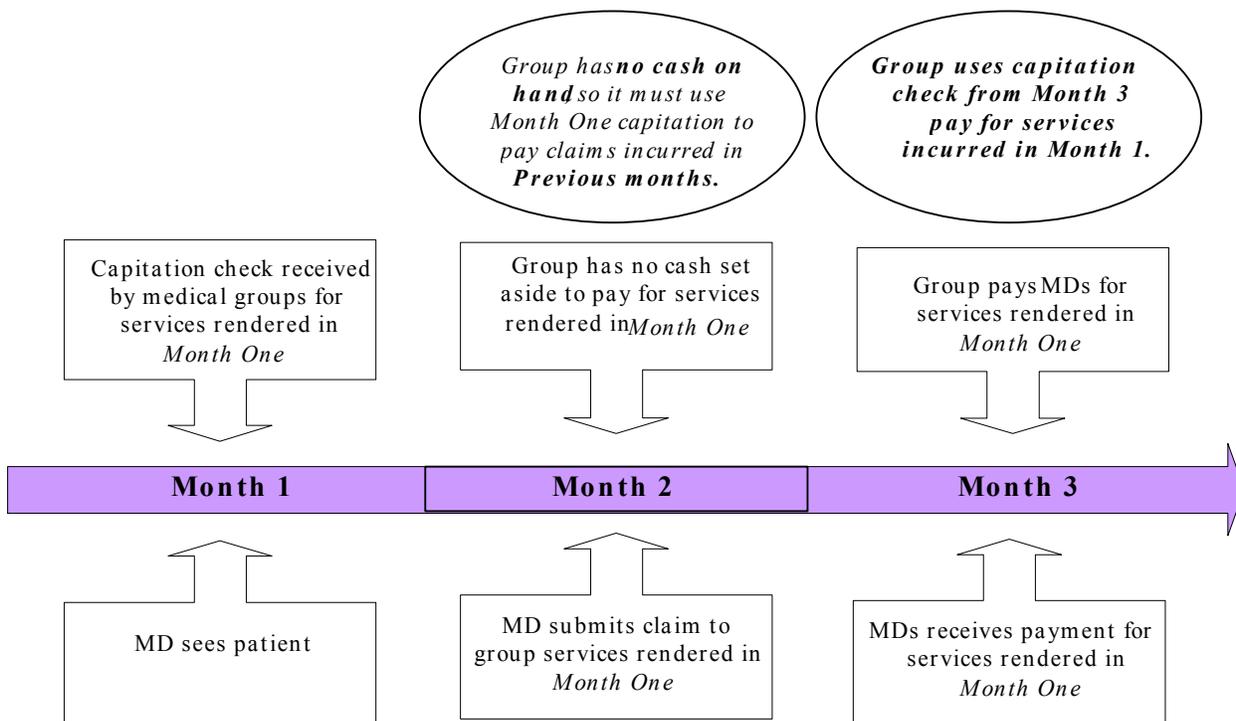
Summary

Cash is king, and the current solvency standards run a significant risk of falsely classifying as solvent a group that is actually facing a severe liquidity crisis. FPA would have passed the SB 260 standards four months before it filed bankruptcy. The addition of a cash ratio standard has the potential to address this weakness.

The TNE standard is not helpful for identifying short-term liquidity problems. It is a dated and insufficient measure of long-term solvency, especially in light of the widespread adoption of risk based capital standards by insurance and banking regulators throughout the country.

The predictive power of cash flow is repeatedly demonstrated for other industries. As the data from failed groups becomes available, we will be able to fine tune which cash flow measures best predict financial failure for provider groups. Predictive models give more confidence in knowing where trouble may arise, and they help spot disturbing patterns before the impact of poor performance shows up as a reduction in cash and a severe liquidity problem. Nonetheless, static measures of balance sheet accounts are useful in identifying immediate liquidity pressures facing a group. For this industry at this time, the most important financial ratios that are readily available and can indicate imminent financial trouble are the current ratio and the cash ratio. As noted earlier, claims timeliness is also an important tool that may help spot trouble.

IV. Contributing Factors

The previous chapters demonstrate that a significant number of California provider groups are in financial trouble and do not satisfy proposed solvency requirements. This chapter explores how groups have gotten to this position. We investigate hypotheses that can be categorized into four main areas: financial constraints, financial strategy, financial management practices and organizational structure. Understanding how the roles of these factors affect the financial health of provider groups is of critical importance for both policymakers and provider groups themselves.

A group's financial constraints are likely to limit its ability to conduct business and meet unexpected expenses. There is concern in the provider community that low capitation rates raise the risk of insolvency and hamper a group's ability to manage its business. There is also concern that small groups may not be large enough to diversify risk and may not be able to generate sufficient reserves to meet unexpected costs.

A group's financial strategy is central is to its financial health. The key decisions have to do with how much financial risk to take and how to diversify that risk. By taking risk and managing it well, groups have to opportunity to increase their margins by being more efficient. However, too much risk may put the group is a precarious situation when unexpected adverse financial events occur.

Groups must make several risk-related decisions. The first has to do with the mix of managed care and fee-for-service business. Taking managed care business may be the only way to expand physician panels and serves as a source of revenues over the limited fee-for-service market, but as groups move toward managed care, they have less revenue diversity. Groups must also consider which types of members to recruit, such as commercial, Medicare, and Medicaid, each carrying a different risk profile. Groups must determine how much risk to take for their managed care business. While some take just primary care risk, others also take various combinations of hospital, pharmacy, ancillary, laboratory, and rehabilitative risk.

If groups are well-managed, taking risk offers a potentially profitable opportunity. However, if groups are poorly managed, then taking substantial risk can lead to financial suicide. Groups

need to monitor costs and financial position on a real time basis and they may need professional financial management to prevent risk from overwhelming them.

Finally, organizational structure may be important as a group's financial health depends upon its ability to control costs, adopt financial strategies, and adjust to the market and its financial condition.

Methods

We examined the importance of these factors using multivariate linear regression rather than the descriptive bivariate analysis used in previous chapters. Multivariate analysis estimates the impact of each variable while controlling for the other risk factors. For example, groups that take more risk may also adopt better financial management practices. If we just examined the relationship between risk and financial health without controlling for financial management practices, then we would not know if the estimated impact were truly the effect of taking more risk on financial performance or the effect of financial management practices on financial health. Multivariate analysis allows us to determine the relative importance of each variable.

Dependent Variables
The financial measures reflect a group's risk position and its ability to respond to expected and unexpected cash needs. Cash per managed care member reflects the resources available to pay for contracted patient care. Cash on hand averages about $59 PMPM, with an average cash ratio of 0.57. The cash ratio indicates the share of current liabilities a group is able to cover out of cash. The cash ratio suggests that on average groups have enough cash on hand to cover about 57 percent of their liabilities.

Both of these measures reflect a group's ability to deal with immediate cash needs. The current ratio reflects a group's ability to pay for patient care and meet liabilities over a longer period of time. This is because working capital is the sum of cash, accounts receivable and other current assets. Since accounts receivable, in particular shared risk receivables, may be hard to liquidate quickly, working capital reflects a longer-term liquidity measure and is only relevant if groups can delay liabilities. This ratio is especially relevant in the medical group industry where a good portion of accounts receivable are in the form of risk pools, which may not be accessible for 12 months or more and are difficult to forecast. The large standard deviation suggests that many groups have low levels of working capital and that the distribution has a long right tail.

The current ratio has a mean of 1.05 suggesting that on average, groups are able to fully cover their liabilities if their estimates of accounts receivable from shared risk pools are accurate and they have enough time to convert those shared risk receivables into cash. Again, the big standard deviation masks the great variation in the current ratio indicating that a large number of groups have working capital that covers a small portion of liabilities.

Table 4-1. Dependent Variables—Measures of Financial Performance (N=74)

Dependent Variable	Interpretation	Mean (Standard Deviation)
Cash managed care member	Cash available to finance subspecialty care per member	$58.99 (106.92)
Cash ratio	Ability to cover current liabilities out of cash	0.57 (0.73)
Current ratio	Ability to cover current liabilities out of cash, receivables, and other current assets	1.05 (0.81)

Independent Variables

Estimating the relationship between measures of financial performance and measures of financial risk, financial management and organizational structure tests the hypotheses raised in the introduction to this chapter. The independent or explanatory variables and their descriptive statistics are reported in Table 4-2 below.

The first two independent variables are the group's number of managed care members and Medicare-mix adjusted number of members, which are used to examine whether larger groups perform better. We report both total members from all sources and specifically from Medicare-mix adjusted membership. Since Medicare members are about three times as costly to care for as commercial and Medi-Cal members, we multiplied the number of Medicare members by three and added that to the number of commercial and Medi-Cal members. Findings suggest that neither measure is a significant predictor of financial performance, and therefore we only report the results for the unadjusted measure.

The third independent variable is the Medicare-mix adjusted average capitation rate per member per month. This figure is computed by dividing total capitation revenues by the group's Medicare-mix adjusted number of managed care members. This measure is used to test the claim that the groups with low capitation rates are the ones most at risk for insolvency. The mean Medicare-mix adjusted capitation rate is $42.17, with a standard deviation of $13.13, and range from a low of $17.57 to a high of $90.16.

As an alternative to the average capitation rate, we use the managed care margin, which is defined as capitation revenues less medical expenditures for managed care members divided by the number of managed care members. The managed care margin controls for the fact that different groups have members with different casemix and therefore has difference cost structures. A higher than average captiation rate may be justified by the fact that a group has higher than average costs. The margin accounts for differences in cost structures between groups. This measure answers the question whether groups that have higher net capitation rates after costs i.e. more surplus, have better financial positions.

We included a series of indicators of the amount of financial risk assumed by a group. The share of total revenues accounted for by capitation represents the group's diversification between more risky sources of revenue (managed care) and less risky sources of revenue (fee for service). On

average, managed care capitation accounts for about 88 percent of revenues with a low standard deviation, suggesting that in general, groups are not very diversified. However, a number of groups are not completely dependent on managed care for revenues, as the managed care share of revenues ranges from .25 to 1.00 in the sample.

We also measure risk assumed by the group's dependence on shared risk pools and stop-loss recoveries. This risk is measured in terms of the share of current assets covered by accounts receivable from risk pool and other recoveries. The accounts receivable are the groups' estimates of what they expect to get back at the end of the year from shared risk pools and stop-loss insurance recoveries. These are notoriously hard to estimate and there are long delays in actually receiving these revenues. Hence, groups with larger ratios have taken substantial higher risk. The mean of .15 appears low, but as discussed later this ratio turns out to be a highly sensitive indicator of liquidity issues.

Table 4-2. Independent Variables (N=74)

Variable	Analysis Question	Mean (Standard Deviation)
Number of managed care members	Does size matter improve financial performance?	54,517 (65,257)
Number of risk adjusted managed care members	Does size matter improve financial performance?	65.502 (78,447)
Risk adjusted average capitation rate (Dollars PMPM)	Do higher capitation rates improve financial health?	$43.34 (17.57)
Margin = Capitation Revenues – Medical Expenses for managed care members	Do higher capitation rates improve financial health?	$8.06 (32.26)
Managed care capitation revenues share of total revenues	Does increased risk reduce financial performance?	0.88 (0.21)
Index of non-primary care risk assumed	Does increased risk reduce financial performance?	0.92 (0.57)
Accounts receivable from risk pools & recoveries/	Does increased risk reduce financial performance?	0.15 (0.21)
Whether the group's financial statements are audited (=1)	Does better management improve financial performance?	0.20
Whether the group is an IPA or a Medical Group/Foundation (=1)	Do medical groups do better financially than do IPAs?	0.59
Number of primary care physicians employed by the group	Do groups with more salaried doctors do better financially?	9.20 (21.54)
Whether the group is owned (partially or fully) by a hospital (=1)	Do groups owned by hospitals do better financially?	0.04
Whether the group is managed by an MSO (=1)	Does MSO management improve financial health?	0.83

To determine the impact of professional financial management, we included whether the group was formally audited in the last year. This factor suggests that the group regularly puts together accurate financial statements and gets professional advice and interpretation of these statements. Only about one-fifth of the groups get regularly audited.

To determine whether group structure impacts financial performance, we considered whether the group was an IPA, a medical group, or a mixture. Medical groups have much more cohesion and, therefore, may be able to better gain the cooperation of physicians and more easily implement management practices and financial incentives to improve both clinical and financial performance. We measured the notion of group cohesiveness with a variable indicating whether the group is an IPA only group, and one for the number of physicians employed by the group. Both measures offer basically the same results, so we only report the results using the number of physicians employed.

The second organizational variable is whether the group is owned (or partly owned) by a hospital. Hospital ownership can provide a deep pocket in times of trouble and may minimize risk. However, hospital ownership may also confuse the financial picture depending on the accounting practice. For example, the hospital may hold the cash, making it appear that the group has a low cash ratio and is at great risk of insolvency. In our sample, only 4 percent of the groups are owned by hospitals.

Finally, we consider whether the group is managed by an MSO. MSOs provide contracting, data processing, and information support for the group. However, the cost of MSO operations can be substantial. Eighty-three percent of the sample groups are managed by an MSO.

Results

The estimated financial performance regression models are reported in Table 5-3 below. Each row represents a separate regression. We estimate two separate regressions for each of the three dependent variables. The first use the average capitation rate as an independent variable and the second uses the margin in place of the capitation rate. The independent variables are listed in the first column and each regression model includes all of the independent variables. Each cell reports the estimated coefficient and the t-statistic in parentheses. The R-Squared for each model is reported in the last row.

A number of striking results are immediately apparent. First, the claim that the financial problems of groups are due to low capitation rates does not appear to be true. Groups with higher capitation rates whether measured by the average capitation rate or the margin do not appear have better solvency risk positions that groups with lower rates or margins. While high capitation rates would allow groups to hold higher cash reserves or at least more working capital, those groups with higher rates do not appear to have better cash or working capital positions. Instead, groups with higher capitation rates may be paying their physicians higher rates. These results suggest that raising capitation rates without requiring that groups hold some of those resources in reserve is not likely to reduce the risk of insolvency.

Now we turn to the hypothesis that groups that assume more risk have a lower financial performance. The first measure of assumed risk is the share of total revenues from managed care,

which captures the group's dependency on managed care and the degree to which it is diversified across more and less risky streams of revenues. Diversification does not seem to affect the group's operating margin, cash ratio or current ratio. This finding suggests that groups with a greater share of managed care business are not greater risk of insolvency.

However, groups that depend more heavily on risk pools and other shared receivables are at substantially higher risk of insolvency. They have substantially lower cash per member, cash ratios and current ratios. InTable 4-4 we simulate the effect on performance of varying risk pool receivables. As the share of risk pool receivables approach 60 percent of current assets, cash ratios and current ratios fall to dangerously low levels.

Table 4-3. Estimated Regression Coefficients of Contributing Factors Models (N = 74)

	Cash per Member	Cash per Member	Cash Ratio	Cash Ratio	Current Ratio	Current Ratio
1. Group has more than 50,000 members (=1)	-29.6 (-1.61)	-21.2 (1.30)	-0.273 (-1.87)	-0.196 (1.16)	-0.310 (-1.51)	-2.75 (1.49)
2. Risk adjusted average capitation rate (Dollars PMPM)	-0.4 (-0.52)		**-0.012** **(-2.16)**		-0.009 (-1.44)	
3. Managed care margin		0.7 (1.22)		-0.005 (0.83)		-0.005 (0.67)
4. Managed care capitation revenues share of total revenues	**-268.9** **(-4.23)**	-121.5 (1.56)	0.658 (1.53)	1.189 (1.47)	0.535 (1.11)	0.659 (0.74)
5. Accounts receivable from risk pools and recoveries/current assets	-65.6 (-1.38)	**-78.7** **(2.33)**	**-1.308** **(-4.06)**	**-1.344** **(3.85)**	**-1.260** **(-3.48)**	**-1.382** **(3.61)**
6. The group's financial statements are audited (=1)	**77.5** **(3.05)**	**73.9** **(3.91)**	**0.651** **(3.78)**	**0.662** **(3.38)**	**0.634** **(3.28)**	**0.747** **(3.48)**
7. Number of primary care physicians employed by the group	0.3 (0.42)	0.3 (0.59)	**0.017** **(4.06)**	**0.020** **(4.26)**	**0.018** **(3.92)**	**0.019** **(3.72)**
8. Group is an IPA only (=1)	3.1 (0.13)	35.3 (1.41)	0.119 (0.73)	0.345 (1.33)	0.042 (0.23)	**0.499** **(1.96)**
9. The group hospital affiliated (=1)	**-201.1** **(-3.27)**	-69.8 (1.17)	**-1.074** **(-2.57)**	-1.092 (1.76)	-0.463 (-0.99)	-0.735 (1.08)
10. The group is managed by MSO (=1)	**-77.3** **(-2.58)**	-14.7 (0.64)	-0.229 (-1.13)	-0.156 (0.66)	**-0.497** **(2.18)**	**-0.494** **(1.89)**
11. Constant	**394.2** **(6.77)**	**139.3** **(2.76)**	**0.684** **(1.73)**	-.622 (0.76)	**1.417** **(3.20)**	0.457 (0.51)
R-Squared	0.46	0.38	0.47	0.46	0.46	0.46

Note: Each column reports the results from a separate multivariate regression estimated by least squares. The dependent variable of each model is listed in the first row and independent variables and their estimated coefficients are reported in the subsequent columns. Results in bold are considered statistically significant at a confidence level of .1 or better.

Table 4-4. Simulated Effects of Risk Pool Receivables on Performance

Risk Pools & Recovery/Assets	Operating Margin	Cash per Member	Cash Ratio	Current Ratio
0.15	0.00	$58.99	0.57	1.05
0.3	0.00	$49.15	0.37	0.86
0.45	-0.01	$39.32	0.18	0.67
0.6	-0.01	$29.48	-0.02	0.48

In exploring the importance of professional management, we found that groups that are audited have significantly higher operating margins and significantly better cash and working capital positions. Table 4-5 shows that cash per member is close to three times greater, cash ratios are about 60 percent larger, and current ratios are about 50 percent larger in groups with audited financial statements. This finding supports the hypothesis that better management results in a lower risk of insolvency controlling for capitation rates and group size.

Table 4-5. Simulated Effects of Audited Financial Statements on Performance

	Operating Margin	Cash per Member	Cash Ratio	Current Ratio
Not audited	-0.01	$43.50	0.44	0.92
Audited	0.02	$120.95	1.09	1.55

Similarly, groups that have more employed primary physicians are better able in better financial shape. They have significantly higher cash and current ratios, but the same level of cash per member. The magnitudes of the differences are presented in Table 4-6. This result suggests that these groups keep the same amount of cash, but have lower liabilities, indicating that they are better able to manage their costs.

Table 4-6. Simulated Effects of Number of Employed PCPs on Performance

No. Physicians Employed	Operating Margin	Cash per Member	Cash Ratio	Current Ratio
0	0.00	$56.59	0.41	0.88
10	0.00	59.20	0.58	1.06
20	0.01	$61.80	0.75	1.25
30	0.01	$64.41	0.92	1.43

Findings suggest that it does not matter whether a group is an IPA or medical group. However, this result is conditional on the number of employed primary care physicians and the share of revenues from capitation. These two variables may pick up the relevant differences between medical groups and IPAs for financial performance. Therefore, since medical groups have more employed physicians they are at lower risk of insolvency regardless of the coefficient on the IPA dummy variable.

Hospital ownership appears negatively associated with group financial performance. Groups that are affiliated with hospitals have significantly lower operating margins—by close to nine percentage points, and have significantly worse cash positions. However, it is possible that the hospital is holding all the cash, or has a tacit or explicit obligation to financially support the group. Thus, these groups may be less likely to be at risk for insolvency. The finding does raise an important regulatory issue. Regulators may need to assess the financial performance of the entire financial entity in order to ensure solvency and ensure adequate documentation of the financial support the hospital has committed to. This requirement could change reporting requirements for hospital-affiliated groups.

Finally, groups managed by MSOs appear to be at greater risk of financial insolvency. They have significantly worse cash positions and even worse working capital positions. However, this finding must be interpreted cautiously, because we do not have an adequate explanation of this result. At best we can conclude that MSO management does not improve a group's liquidity position.

Conclusions

In this section we used multivariate analysis to investigate the proximate causes of insolvency risk. We considered four sets of hypotheses: (1) that financial constraints increased risk of insolvency, (2) that better financial management lowers the risk of insolvency, (3) that better overall management lowers the risk of insolvency, and (4) that organizational structure affects the risk of insolvency.

Our major conclusions are:

- Groups with higher capitation rates do not have a lower risk of insolvency

- Groups that are more dependent on shared risk receivables and recovery receivables are at greater risk of insolvency

- Groups that have better financial management practices indicated by having their financial statements regularly audited are at lower risk of insolvency

- Groups that employ more primary care physicians appear better able to control costs and therefore are at lower risk of insolvency

- Since medical groups employ more physicians that IPAs, they are at lower risk of insolvency than IPAs.

V.   Quality and Provider Group Financial Condition

So far this research has focused on financial performance and reasons for financial challenges. We also asked whether there was a relationship between financial condition and quality of care, access to care, and satisfaction with care measures. We hoped to understand whether groups sacrifice their financial position to provide higher quality care or whether groups that are performing better financially are also offering better quality. When a multi-specialty provider group and its network of physicians collapses, there are varying degrees of disruption to members as they seek new means of access to their current physician or find another. Informing this quality/financial relationship may give additional urgency to pulling troubled provider groups back from the edge of insolvency and holding them accountable for maintaining sufficient financial reserves.

To measure quality, we used quality, access, and patient satisfaction scores from the Spring 2001 PacifiCare Provider Group Performance Index. We found a number of statistically significant or suggestive correlations with group financial scores. These correlations, in their strength and frequency, are highly suggestive, but not conclusive, of a positive relationship between high quality performance and provider group financial condition. The four critical measures for this study include overall patient satisfaction, clinical quality, service quality, and member complaints about primary care.

Limitation on Quality, Access and Patient Satisfaction Data

Our examination of potential links between quality of care and financial condition is fundamentally constrained by the state of the various quality, access and satisfaction measurement systems available. Our caution regarding conclusive findings stems from concerns with the Performance Index. Provider groups received significantly different quality, access, and patient satisfaction scores, on the PacifiCare Index than they did with like measures on other quality measurement programs. We also do not know how PacifiCare converted its data into specific scores. The methodology may have a significant impact on the outcomes and we cannot evaluate that impact within the scope of this research. We sought to run correlations with other quality measurement systems, specifically the Health Net, Blue Cross, and HealthScope (PBGH) ratings, but were unable to generate a sufficient number of observations to make statistically

meaningful comparisons. Our findings suggest that a research initiative focussed on probing various quality measurement data could yield a more concrete understanding of the relationship between financial condition and quality, access, and patient satisfaction.

Currently, measurement of provider group performance appears rudimentary and inconsistent as various organizations deploy separate measurement techniques, measure different populations, and use different analytic techniques. The result is a set of measures, often in competition, which give widely different scores. For example, Munroe and Payne Simon point out that for provider group cervical cancer screening scores on four different performance measurement systems, there are no statistically significant correlations between the scores.[10]

Source data for provider group indicators fall into three general buckets: claims and encounter data, patient satisfaction surveys, and complaints. Each source has its own strength and limitations. First, claims and encounter data for hospital and physician services can offer insight into utilization patterns for like conditions. They are also useful in measuring the frequency of preventive treatments such as childhood immunizations and PAP smears. However, the accuracy and completeness of the claims adjudication process fundamentally challenges the validity of claims data; and encounter data is sometimes simply not captured or made available to a health plan.

Second, patient satisfaction surveys offer a potentially rich source of information in an unbiased format. If administered properly, a patient satisfaction survey can accurately measure a population. Still, surveys are generally limited patient perceptions of quality, not necessarily clinical activity or outcomes. Instead, surveys can offer useful insight into service quality such as waiting time to schedule an appointment or see a physician and access to specialists.

Finally, health plans internally track several quality-related issues such as the number of complaints received by customer service, and referral and authorization information in their utilization management areas.

Results

While this multiplicity of data sources and measurement processes can lead to inconsistent scoring of the same provider group, Payne and Simon found some indicators that multiple measurement systems do appear to rate consistently—such as patient satisfaction.[11] We were able to match 43 of our groups to the PacifiCare measures and ran linear regression models of the quality score against an indicator of whether the group had a cash ratio of 0.2, working capital greater than zero, and TNE greater that zero.

The simulated effects from the regression results are presented in the figure below. The results indicate that groups in compliance have 14 points higher on the overall score, 11 points higher on the clinical score, 13 points higher on the service score, and have fewer complaints about primary care indicated by 14 points more on the complaints score. All of these results are significant.

Figure 5-1. Quality Ratings by Working Capital and Cash Ratio Status
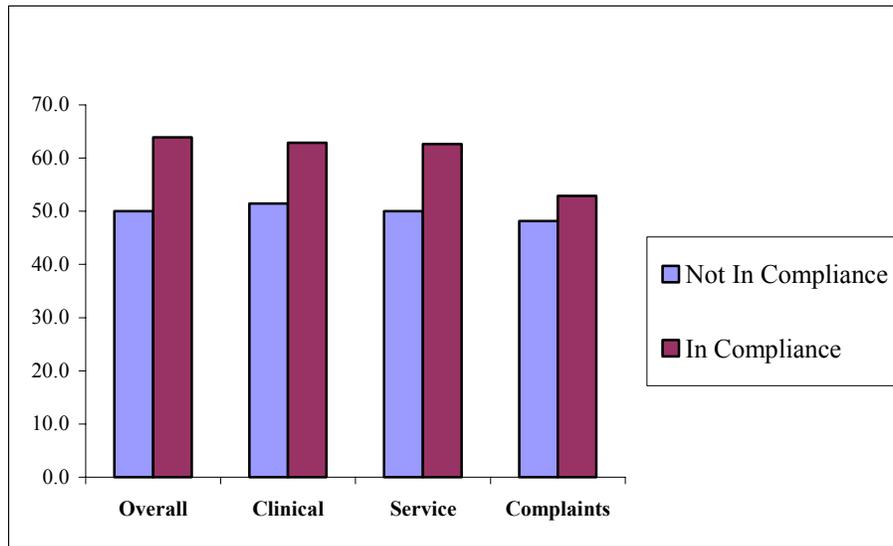
Conclusion

In spite of the apparent inconsistency of the quality, access and patient satisfaction measurement programs, we found a pattern of correlations between provider group financial condition and the PacifiCare Provider Performance Index that suggests that groups at risk of insolvency are providing significantly lower quality care.

Further research will allow us to examine this relationship in greater depth. In particular, the quarterly and annual provider group financial filings now being submitted to the Department of Managed Health Care should at least double the number of provider groups for which financial data could be compared to quality data. This research produced 105 surveys, and the DMHC has received approximately filing for 225 groups through June 30, 2001.

The scope of this research was designed to only take the published quality scores and correlate them with provider group financial measures. There is a clear need for an effort to dissect the quality scores and run statistical analysis at the data level. This process would bypass any biases introduced into the data when converted to a quality score.

VI. Closed Groups

So far we have discussed why many California provider groups are at risk of insolvency. This chapter explains the closure of groups in recent years.[12] A closed group is a provider group that at one time met the definition of a capitated provider group but has ceased operations as a business entity. Three categories of closed groups were identified: those that had withdrawn or ceased doing business, those that were acquired or merged, and those that went bankrupt.

The withdrawn groups voluntarily ceased doing business, but did not enter into bankruptcy. Presumably these groups were able to settle with creditors and get members reassigned to other providers or payment arrangements. Most of the groups in this category represented relatively small enrollments and appear to have decided not to continue doing business. Although we can assume that groups in this category were not performing financially, the extent of losses cannot be determined.

Attempts to locate records and gain more information regarding these groups were largely unsuccessful. Because these groups closed voluntarily, there are no public records, and the personnel have moved on. In a few instances, we learned anecdotally that bankruptcy would have followed were it not for a sponsor (i.e., hospital, hospital foundation, corporate parent), that provided for an orderly "wind-down" of the business. Sponsors cite a number of reasons for their decision to bear the costs, but most revolve around maintaining good will of community members and payers.

Many of the closed groups were acquired or merged into other groups. The reasons for consolidation vary. In some cases, groups that were struggling with low enrollment or financial performance, found consolidation with a larger group preferable to other options. Others may have merged for strategic or operational reasons but these have not been explored in this study.

Finally, some groups entered into bankruptcy (either Chapter 7 or Chapter 11). These situations tend to be the most problematic and warrant the most attention for this study. While any form of provider group closure causes problems, those that file for bankruptcy pose the most disruption. As mentioned in Chapter 1, in these circumstances physicians do not receive payment for their

services and members are left to fend for themselves to seek a new administrative relationship with their doctor or to find a new physician altogether.

Conditions at Closure

We attempted to identify the year each business ceased through interviews, records of the last known month the organization had active members, or the actual date of bankruptcy filing. When groups continued to operate while in bankruptcy status (i.e., Chapter 11), the closing was based on the last month active eligibility was assigned to the group. In all cases, groups continued to perform certain functions pursuant to winding up business.

The enrollment is approximate and based on when the business ceased to operate. This figure represents the number of members at the end, usually as reported by sources at the group. Some groups may have had higher peak enrollments that those reflected in the data set, so this number may understate the actual impact of group closure. We decided to use the "end point" enrollment numbers for this study since they more accurately represent the affected population, such as members that would have had to find new providers. Interviews with former closed group officials suggest that most groups phased members to other providers or programs with minimal disruption, whenever possible.

## FPA and MedPartners Not Addressed

It should be noted that the two biggest and most well know medical system failures, Med Partners and FPA, are omitted from this study. These were unusual cases involving publicly traded, national corporations. While there may lot to be learned from studying these we opted not to include them in this study for the following reasons:

- They were relatively unique models that are not major factors in today's environment and therefore do not have significant public policy implications.

- The FPA collapse took place during the first year of the target study period (1997–1999), and only minimal data is available.

- The MedPartners groups were sold, for the most part, and their experience has been tracked under the new ownership. Of that cohort, some remain in business while others closed.

Summary of Overall Group Closure Data

Over the four-year period studied (1997–2000), 418 groups were monitored, and 53 (13%) of these groups met the closed group criteria. If the acquired/merged groups are removed from the sample, the closure rate drops to about 10% (see Figure 6-1).

Figure 6-1. Closed Groups by Type and Year of Closure
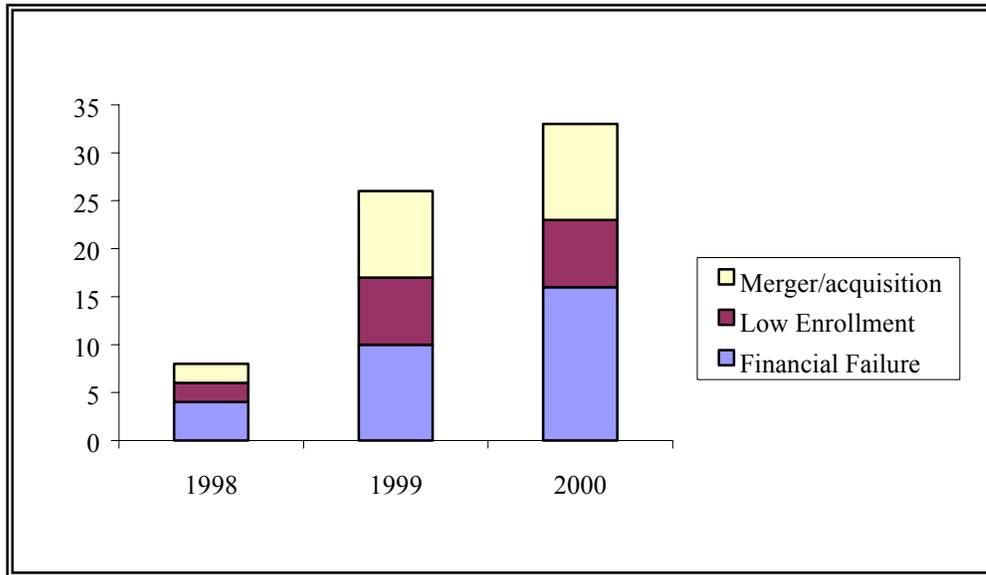
The loss of a group is significant to its shareholders and debtors but is not necessarily significant to the community. One method of looking at the impact of a closure on a community is to quantify the numbers of members affected.[13] We have assumed the merger/acquisition events least likely to cause disruption for members. Therefore, we focused only on the impacts of bankruptcies and withdrawals.

Table 6-1 shows that the number of members affected by group closures increased dramatically in 2000. Some of this increase is due to the bankruptcy of Chaudury Medical Groups, Inc., (KPC) a successor group to MedPatners. This set of provider groups sought bankruptcy protection in November, 1999, representing about 300,000 members. Eliminating the KPC members would leave about 500,000 displaced members in 2000, still more than a doubling the number affected from the prior year. The average number of members per group affected by closures in 2000, adjusted for the KPC, is 21,318.

Table 6-1. Members Affected by Group Closures

Year	Groups	Members	Averages
97	3	16,500	5,500
98	5	26,700	5,340
99	23	213,580	9,286
00	22	806,600	36,664
Totals	53	1,063,380	

Conclusion

It is difficult to measure the true impact of group closure on members the community. But still, the data suggests that group closure in California increased dramatically in the last several years. More extensive analysis and labor-intensive data collection would be required to determine the impact of plan closure on member access and health outcomes.

VII. Case Studies

The previous chapters establish the substantial number of California provider groups that do not comply with the SB 260 financial standards, and/or maintain poor liquidity as measured by the quick ratio. SB 260 calls for noncompliant-compliant groups to submit to a correction action plan process that will bring them into compliance. Because provider groups have little access to the capital markets, or other external sources of funds, the options available to correct financial deficiencies would appear limited.

In the course of analyzing the provider group survey data, we found several groups whose financial condition had improved substantially in the 1998-2000 time period. Case narratives have been prepared on the following four groups to offer insight into their turnaround:

- Graybill Medical Group (Interview with CEO)

- Brown & Toland Medical Group (Declined for interview)[14]

- Hill Physicians Medical Group (Interview with CFO)

- Sante Community Medical Group (Interview with CEO)

Despite the differences, there is a pattern common to all four. At critical junctures the leadership of each group clearly felt that long-term viability was more important than the short-term pain their corrective actions might trigger. Perhaps the most painful action a group can take is to reduce physician compensation, and in two of the four cases, physician compensation was not reduced, at least directly. But, each of the four groups elected to retain the cash received through its corrective action plan at the group level instead of paying it out to its owners or contracted physicians.

Presumably, meeting their financial targets was a one-time event for these groups, and they can now increase compensation to their physicians as revenues and costs allow. Such sound financial practices have other benefits. For instance, by maintaining sufficient liquid assets to cover current liabilities, Sante improved its negotiating position with HMOs. Under the threat of

paying off a $5 million accumulated deficit, Sante felt it couldn't walk away from a major HMO contract because it would not have enough cash to pay off its claims if its capitation revenue was substantially reduced. With this deficit eliminated, Sante has greater freedom by reducing the costs of eliminating an HMO contract.

The actions taken by the four groups are surprisingly varied and each case is as instructive as it is unique. While no one case may apply well to a group that faces the challenge of a financial corrective action plan today, together, they offer examples of what has been effective in the past. The following actions were taken by one or more of the groups:

- Raise revenues from health plans on a one-time basis through rapid risk pool receivable settlements, one-time grants and loans, and risk pool deficit forgiveness.

- Raise revenue from local hospital partners through shared accountability for MSOs and elimination of unprofitable lines of business. It should be noted that nonprofit-profit hospitals in particular face substantial limitations in the nature of the support they can offer independent provider groups.[15]

- Reduce physician compensation through elimination of one-time payments such as the return of funds withheld from claims payments to physicians, reduced compensation to all physicians or to selective physician specialties.

- Reduce risk by no longer accepting certain forms of capitation, such as global risk (where the group is responsible for both physician and facility claims), or shared risk for pharmaceuticals. Graybill also enhanced its contracting leverage with health plans by turning over contracting with health plans to another provider group.

- Limit administrative operations and the geographic territory covered by group risk contracts. Brown & Toland shed all activity but the very core San Francisco business to preserve the long-term viability of the group.

Graybill Medical Group: Moving On

After an expensive four-year relationship in a hospital system MSO, Graybill Medical Group (Graybill) resumed its direct control over delivery of care and transitioned out of the IPA administration business. Graybill moved its HMO contracting and IPA administration activity to Sharp Community Medical Group (Sharp Community), a large San Diego area IPA. The result allowed a tailored financial risk arrangement for Graybill's HMO membership while improving its HMO revenue and slashing its IPA administration expense. Graybill remains at financial risk for the professional and facility related care of its 35,000 HMO members, but has given up control of its HMO contracting, and placed enormous trust in Sharp Community.

Graybill, based in Escondido, California, north of San Diego, is a provider group which serves approximately 35,000 HMO members through 25 employed primary care physicians and a "wrap around" network of 125 contracted primary care and specialist physicians. In 1996, Graybill joined forces with Palomar Pomerado Health (Palomar) to form an MSO. The two companies used a joint contracting arrangement called "full risk" to capture global capitation contracts with HMOs. Under full risk contracting, a hospital and provider group contract with each other to

share financial risk for a capitated amount of funds for facility related health care expenses. The thinking was that a hospital and provider group contracting front created a unified delivery network which would allow both the hospital and provider group to increase their HMO revenue while improving the coordination of care.

As part of the agreement, the hospital created an MSO to manage the group practice and IPA administrative duties for Graybill. Graybill committed to paying its share of the MSO costs and to opening new medical offices in identified regions. The MSO invested heavily to develop an electronic medical record capacity to link software for managed care administration and medical practice management.

The Graybill–Palomar MSO arrangement failed to achieve its promised benefits. Graybill's financial information is confidential, but the financial impact of the MSO arrangement was unfavorable. Graybill's HMO contract rates did not increase as Graybill found that the MSO arrangement failed to give it additional negotiating leverage with the HMOs. The MSO's expenses were higher than expected, the electronic medical record project proved expensive and ineffective, and the start up costs of the expansion offices placed an additional drain on Graybill. In 2000 Palomar sent Graybill notice canceling the agreement.

Graybill could have taken over the IPA administrative functions itself, but the group wanted to keep its focus on patient care. Further, running an IPA would not have addressed Graybill's desire to increase its negotiating clout with HMOs. Graybill, with the support of Palomar, instead sought a relationship that could improve its negotiating clout with HMOs while focusing its attention on delivering care to its members.

In November 2000, Graybill started its year-long transition to the new organizational structure by transferring its capitation arrangements to Sharp Community. Graybill immediately gained additional revenue from the higher paying HMO contracts Sharp Community enjoys, and the Graybill membership would give Sharp Community even further leverage in future HMO negotiations.

Graybill accepts financial risk for its members through an innovative risk sharing arrangement. It receives an "interim" monthly payment from Sharp Community for the services that Graybill provides directly to its members. Periodically, the "interim" monthly payment rate is adjusted upward or downward to reflect whether specialist and other medical costs not provided directly by Graybill are above or below budget.

Graybill has been able to significantly reduce its overhead expenses. The IPA administrative service fee it pays Sharp Community is lower than it previously paid to the MSO. The medical office expansion was halted and unprofitable medical offices were closed. The electronic medical record project was terminated, reducing an expense that wasn't bearing fruit. Finally, Graybill modified its operations to provide same day care through a combination of opening same day slots and evening / weekend 'Extended Hours' in lieu of a daily 12-hour per day Urgent Care Department

Graybill has been able to shift its attention to providing care for its 35,000 members while leaving behind the headaches and expense of operating an IPA. In turn, it combined forces with

Sharp Community to achieve greater revenue from health plans due to Sharp Community's ability to negotiate more favorable HMO contracts. In turn, Sharp Community also relieved Graybill of much of its managed care administration burden.

Brown & Toland Medical Group: Protect the Core

In 1997, Brown & Toland Medical Group (BTMG) embarked on a period of rapid expansion into new businesses, new markets and new technologies. Within a year of this undertaking, the group found itself facing a life threatening financial. To recover, BTMG had to enact an equally rapid contraction, seek additional revenue, and require substantial financial sacrifice by the group's core physicians.

The period of expansion may be marked by the purchase in 1997 of its MSO, Brown & Toland Physician Services Organization (BTPSO) at a cost of $3.5 million. Over the next 16 months, BTMG, either itself or through BTPSO, stretched into a wide range of new ventures and territories, including:

- Integration of the UCSF/Mt. Zion Medical Center physicians.

- Territorial expansion into Santa Clara and San Mateo County through the integration of the Stanford Health Services IPA and start-up expansion into San Mateo County.

- New management service contracts for provider groups in Honolulu, Hawaii, and Modesto, California.

- Development of leading edge physician office connectivity software with Healtheon at a reported cost of $3.8 million.

- Preparation for direct contracting with the Health Care Financing Administration for Medicare HMO membership, including direct marketing to Medicare beneficiaries.

Until Fall 1999, much is known about BTMG's financial picture because BTMG maintained a limited HMO license and filed monthly financial statements with the state's HMO regulator, then known as the Department of Corporations.

Almost immediately after this expansion, BTMG's cash began to dwindle, ultimately dipping to precariously low levels. After purchasing BTPSO, the quick acid ratio (cash/current liabilities) declined from 73.8% at the end of 1996 to 21.1% at the end of the following year. By the end of 1998, the quick acid ratio fell to an alarming 9.5%, and remained at this dangerously low level, reaching only 10.1% by the end of August 1999.

Table 7-1.   BTMG Financials[16]

	Dec. 1996	Dec. 1997	Dec. 1998	Aug. 1999	Dec. 1999	Dec. 2000
Net income	(156,269)	(472,088)	($7,546,763)	n/a	758,000	9,600,000
Cash/current liabilities	73.8%	12.1%	9.5%	10.1%	n/a	n/a
Current ratio	1.13	0.94	0.67	0.64	n/a	n/a

In order to save the group, BTMG initiated a two year process of retreating from its expansion program, and taking the steps necessary to preserve the core San Francisco IPA. The turnaround began in late 1998, with elimination of physician services programs such as bulk purchasing and halting the Medicare HMO planning and application process. The first round of lay-offs was announced. Further investment by BTMG in the Healtheon software stopped. BTMG pulled back from the San Mateo markets and the Stanford IPA integration was terminated. Finally, BTMG withdrew from its services contracts with the provider groups in Honolulu and Modesto.

On the revenue side, BTMG reports that capitation rate increases from HMOs was instrumental in its turnaround, plus at least one health plan reportedly provided capital to BTMG at a critical time. BTMG may have also generated cash by successfully collecting outstanding receivables and recoveries from HMOs.

Still, it was the core San Francisco physicians who paid a dear price to restore BTMG's cash position. In late 1998, BTMG announced it wouldn't pay a $4.5 million obligation to its physicians. Then, in 1999, the physicians took double digit decreases in the reimbursements for the services they provided BTMG members. Given that payments to physicians made up 75.6% of BTMG's 1998 revenue of $141 million, this magnitude of cut generated substantial cash quickly.

Not surprisingly, BTMG's management and leadership changed as the depth of the crisis became apparent. The executive leadership, including the CEO, CFO, and others, were let go. The CEO was replaced with an experienced manager of large managed care provider groups. Interim CFOs guided the financial process until an experienced CPA could be found to take over. Finally, key physician leadership stepped aside in favor of a new chair, co-chair and other key roles.

In sum, BTMG used just about every tool available to pull itself back from the brink of financial disaster. In the end, by focusing on the core of the business, the San Francisco physician network, BTMG earned the resolve, and the cash, to recover. On May 22, 2001, BTMG issued a press release announcing its income for 1999 and 2000, and completion of its financial turnaround.

Hill Physicians: The Whole Is Greater Than the Parts

Hill Physicians, a large Northern California IPA, faced major challenges in the mid 1990s with the threat of significant revenue loss. The management responded by not only reducing costs, but also by seizing the crisis as an opportunity to address nagging issues with its physician

compensation methods. Since recovering from this shock, Hill has steadily re-built its financial strength to a thriving provider group much better positioned to sustain a sudden financial shock.

In July 1994, Hill received notice from its largest HMO that it was reducing its rates to Hill by approximately 15%. The impact was approximately $4 million per year, or about 4% of Hill's revenue at that time. Like many other provider groups, Hill operates on razor thin margins, and such a shock was devastating. Hill's profit margin in 1993 was 1.1% of revenue and has not exceeded 1.0% of revenue since. The other HMOs demanded similar reductions in 1995, creating a serious threat to Hill's financial stability. In the middle of 1995, management projected a loss for the year of almost $10 million.

Hill had been managing costs with a centralized approach that the management team recognized well before the 1994-1995 would not be sustainable as the organization grew. Micro-managing medical utilization from as administrative office was becoming too expensive and provoking too much resentment from contracted physicians. Hill's management recognized that its primary care physicians had sufficient share of key markets that a healthy inter-dependence had been achieved. However, Hill's specialty care expenditures were spread thinly over a larger than necessary specialist network. Hill needed to concentrate in volume with fewer, more committed specialists to achieve a sharper focus on costs and outcomes. Against this backdrop, Hill management seized the 1994-1995 crisis as the basis for changing its specialist model.

Hill clearly needed to reduce administrative and medical costs, but rather than impose arbitrary cuts, the leadership sought to fundamentally change how the bulk of its expenses were allocated. It shifted accountability for specialist physician budgets to its specialist leadership committees. In turn, these committees were to allocate funds based upon utilization and cost data, as well as upon their clinical expertise. This new approach was the key to easing the crisis of 1994-1995, and the financial rebuilding since.

With the administrative and medical cost reductions, Hill was able to avoid financial disaster. The group still lost $1,741,000 in 1995 and an additional $732,000 in 1996, but returned to profitability in 1997. Since recovering, Hill has steadily increased its cash position, from 27% of current liabilities at the end of 1996 to 80% at the end of 2000. Today, Hill is much better positioned to withstand financial shocks.

Table 7-2. Hill Physicians Financials

Income (in $1,000s)	1994	1995	1996	1997	1998	1999	2000
Net income	277	(1,741)	(732)	317	2,332	218	2,103
Cash*/current liabilities	n/a	n/a	27.1%	51.9%	53.6%	69.4%	80.2%

* Includes marketable securities.

Hill could have buffered its doctors from the impact the revenue loss from its HMOs by sustaining larger losses over a longer period, and drawing down its cash further; actions which in effect borrow from future cash flows to ease current pressures. Instead, Hill chose to focus on long-term viability.

Hill's management is quite clear that the organization's financial strength is a key link to its ability to achieve the best economic and service results for its contracted physicians. As an independent IPA, with no ties to a hospital, foundation, or other medical center, and with limited access to the commercial capital markets, Hill has generated its own capital to build a strong balance sheet. Hill accepts the responsibility and expense of recruiting, training and sustaining physician leadership which is willing to participate in the leadership committees. Hill also accepts the administrative burden of providing utilization and cost data in an accurate and timely manner to these various committees.

Management recognizes that its contracted physicians resent the organization in much the same way that physicians in general resent third party payers (e.g., insurance companies and preferred provider organizations) which restrict physician behavior and income. But, Hill's leadership, particularly its founders, Steve McDermott and Daryl Cardoza, view the purpose of Hill Physicians as "optimizing" organizational performance and strength to achieve better long-term stability and income for its contracted physicians. They actively recruit and train physician leaders who can represent not only their particular specialty, but also recognize the needs of sustaining Hill Physicians as a whole. Accordingly, Hill's physician leadership is expected to balance individual physician or physician specialty needs against the needs of the organization to take actions which preserve and strengthen it for the longer term. Some physician specialist committees handle their responsibilities better than others, but the overall structure works well. That is, the whole is greater than the parts.

Sante IPA Community Medical Group, Inc.

Late in 1999, the leadership of Sante Community Medical Group (Sante IPA) viewed the passage of Senate Bill 260 (SB 260) as a clarion call to fix a threatening $5 million accumulated deficit. For four years, the Sante IPA leadership had laid plans to fix the deficit, and while the deficit didn't grow, it didn't shrink either. They felt that SB 260 would ultimately expose their financial weakness, but by acting quickly they avoided this potentially embarrassing exposure. This opportunity would enable them to manage the corrective action plan without pressure or oversight from regulators, health plans, or perhaps even newspaper reporters.

Sante IPA serves approximately 150,000 HMO members of the greater Fresno area in California's Central Valley. The group contracts its IPA administrative services to Sante Management Services (Sante MSO), a wholly owned subsidiary of Community Hospital of Fresno. Sante MSO also provides management services for other IPAs, though its particularly noteworthy that Sante MSO also provides physician practice management services for Sante Community Physicians Medical Group, a primary care provider group with approximately 50 employed physicians. In turn, the medical group serves approximately 40% of Sante IPA's managed care members, giving Sante IPA a strong partner in establishing medical treatment protocols and specialist referral patterns which can influence the rest of the Sante IPA physician network.

Sante IPA's financial position was never terribly strong from the start, but the problems were exacerbated in 1994 when administrative costs spun out of control. At the time Sante IPA shared equal ownership of Sante MSO with Community Hospital of Fresno. The Sante MSO administrative costs approached 25% of revenue in 1994c—double the administrative expenses

for most IPAs. In 1995, Sante IPA sold its share of the MSO to Community Hospital and fixed its administrative fees at 12% of revenue while the hospital tackled the task of restructuring the MSO so it could live on this revenue base. Still, the damage was done. Sante IPA emerged from 1995 with an accumulated deficit of $5 million, a threatening shortfall compared to a revenue base of approximately $15 million and membership of approximately 30,000 members.

Over the next four years, the Sante IPA leadership sought to steadily reduce the deficit. Despite plans laid each year to reserve 3% of revenue, the reserves fell victim to one unexpected expense or another. The deficit didn't change in this period, a reflection on the IPA's ability to manage its costs. Still, Sante IPA's board and the Sante MSO were painfully aware that their financial vulnerability had other costs. For instance, Sante IPA could ill afford to cancel a low paying HMO contract because it had to have the monthly capitation checks to pay its claims, a fact that HMOs were likely aware of.

Against this backdrop, SB260 offered new incentive to remove the cloud of its $5 million deficit. The Sante leadership sought to move quickly in order to have the most time to fix the problem and do so with minimum pressure or guidance from outside parties.

Sante IPA's approach was helped by litigation with Sante MSO, that played a role in creating the IPA's deficit. In 2000, Sante sought to settle this litigation, along with litigation against Community Hospital of Fresno for its role in the MSO problems. Sante IPA also laid out a plan for approaching its health plans for one-time payments and capitation rate increases in 2000. The group was successful on all fronts. While the exact numbers from each source are confidential, by the end of 2000 the combined amount raised was sufficient to eliminate Sante IPA's $5 million accumulated deficit, and allow Sante to essentially comply with the Tangible Net Equity and Working Capital standards in Senate Bill 260.

Importantly, Sante IPA's leadership resisted the temptation to pay some or all of the funds in bonuses or other compensation to its contracted physicians. The leadership was convinced that it was in the group's term interests to eliminate its deficit and comply with SB 260, to give them a stronger position at the negotiating table with HMOs. Still, the rank and file physicians had to be convinced of the wisdom of keeping the funds in the IPA.

In historical context, the success of Sante IPA, indeed its survival, is surprising. In 1994, there were three IPAs based in Fresno: Valley Prime Care, Matrix IPA, and Sante IPA. Sante was clearly the weakest of the three, with the fewest members, an unstable MSO, and a large deficit. Yet, in 1995, Valley Prime Care filed bankruptcy under a cloud of suspicion over its business practices, and Matrix IPA filed for bankruptcy in 2001. Sante IPA grew from 30,000 at the end of 1995 to 150,000 members by Summer 2001. Now the IPA is financially stable and the only game in town.

Appendix A:
Literature Review and Additional References

Literature Review

For more information about financial distress models, please see the following references:

Citation	Summary
Ambrose, Jan M; Carroll, Anne M. Using Best's ratings in life insurer insolvency prediction Journal of Risk & Insurance, Jun 1994, 61(2):317-327.	Abstract: The efficiency is examined of Best's recommendations, Insurance Regulatory Information System (IRIS) ratios, and other financial measures in their statistical ability to classify solvent and insolvent life insurers by estimating classification models for a sample of insurers for 1969 through 1986 and applying the models to a holdout sample for 1987 through 1991. The financial variables and IRIS ratios outperformed Best's recommendations in distinguishing between the 2 groups in a logit model. However, combining all 3 types of predictors into one model provided the most accurate classification of solvent or insolvent life insurers.
Ambrose, Jan Mills; Seward, J. Allen. Best's Ratings, Financial Ratios and Prior Probabilities in Insolvency Prediction Journal of Risk & Insurance, Jun 1988, 55(2):229-244.	Abstract: Denenberg (1967) confirmed that Best's financial ratings provided an accurate estimate of those insurers that would not become insolvent. Several researchers have sought to quantify those predictions through the use of multivariate discriminant analysis (MDA). Here, Best's ratings are incorporated into discriminant analysis through a system of dummy variates. Using multivariate linear discriminant analysis, a comparison is made of the insolvency prediction abilities of Best's ratings, sets of financial ratios, and a 2-stage prior probability approach. The sample consists of 29 solvent and 29 insolvent insurance companies. The performance of Best's ratings and of the financial ratios is found to be statistically equivalent. However, the 2-stage approach outperforms using MDA on Best's ratings and using MDA on financial ratios. Thus, the results validate the practice of evaluating insurer health using Best's ratings and also show that regulators can improve prediction capability with a 2-stage approach.
Baldwin, Jane; Glezen, G. William. Bankruptcy Prediction Using Quarterly Financial Statement Data Journal of Accounting, Auditing & Finance, Summer 1992, 7(3):269-289.	Abstract: A study was performed to assess the usefulness of quarterly data for predicting bankruptcy and to determine if the earlier prediction by quarterly bankruptcy models can be obtained without the sacrifice of accuracy achieved by annual bankruptcy models. Data were collected on a sample of 40 public firms entering bankruptcy from 1977 to 1983. Multiple discriminant analysis was used to derive quarterly bankruptcy prediction models for each of the 3 quarters before and after the last annual period preceding bankruptcy and for the last annual period preceding bankruptcy. The classification accuracy, using assumptions regarding prior probability of bankruptcy and cost of misclassification and the statistical significance of the quarterly models for each of the 6 quarters tested, indicated that quarterly data are useful for predicting bankruptcy. There was no statistical evidence

Citation	Summary
	to suggest that the classification accuracy of the annual model was superior to that of the quarterly model.
Dimitras, A I; Zanakis, S H; Zopounidis, C. A survey of business failures with an emphasis on prediction methods and industrial applications European Journal of Operational Researchttp://www.titivillus-editorial.com/tes-busplan.htmh, May 10, 1996, 90(3):487-513.	Abstract: The considerable interest in the prediction of business failures is reflected in the large number of studies presented in the literature. Various methods have been used to construct prediction models. A review of the literature and a framework for the presentation of this information is provided. Articles can be classified according to the country, industrial sector and period of data, as well as the financial ratios and models or methods employed. Relationships and research trends in the prediction of business failure are discussed.
Drury, J. C. Title: A Study of Industry Financial Ratios Source: Management Decision, 1981, 19(1):24-35.	
Gallinger, George W. The current and quick ratios: Do they stand up to scrutiny?: Are they only window dressing? Business Credit, May 1997, 99(5):22-23.	Abstract: The two most popular ratios that people use to measure a firm's liquidity are the current ratio and quick ratio. The intent of these ratios is to provide measures of the margin of safety that a firm has in meeting obligations that will mature during the current period. Because these ratios are easy to calculate, many people rely on them. For the current ratio, they simply divide current assets by current liabilities. The quick ratio eliminates inventories and prepaid expenses from the current assets before dividing by current liabilities.
Gallinger, George. The defensive interval: A better liquidity measure Business Credit, Sep 1997, 99(8):26-28.	Abstract: The measurement of a firm's short run ability to pay its debts as they come due is a very important aspect of financial analysis. Most credit analysts use the current and quick ratios for this purpose. Are they adequate for the task? Is it reasonable to insist that a firm maintain (or have, on a certain date) a specified ratio of current or quick assets to current liabilities? If these ratios are a valid measure, current and quick assets should provide good indications of short run financial strength; current liabilities should measure the extent of the firm's requirements for current and quick assets; and the resulting ratio of, say, 1.5 should have operational meaning. The current and quick ratios fail to meet these requirements, as I will demonstrate.
Hollman, Kenneth W; Hayes, Robert D; Murrey, Joe H Jr. A simplified methodology for solvency regulation of life-health insurers Journal of Insurance Regulation, Summer 1993, 11(4):509-522.	Abstract: This study develops an accurate and easy-to-use model for predicting the financial ability of an insurer to survive. It uses interrelationships of financial ratios derived from publicly available data to assess the improvement or deterioration of life-health insurers from year to year and their vulnerability to failure. While the results of the study must be considered preliminary due to the limited statistical data on failures, the technique holds great promise as a predictor of insurance company failures.

Citation	Summary
Holmen, Jay S.. Using Financial Ratios to Predict Bankruptcy: An Evaluation of Classic Models Using Recent Evidence Akron Business & Economic Review, Spring 1988, 19(1):52-63.	Abstract: The performance of Altman's (1968) multivariate and Beaver's (1966) univariate bankruptcy prediction models are compared. A total of 84 bankrupt firms are identified for the period 1977-1984. An attempt is made to match each bankrupt firm with a non-bankrupt firm from the same standard industrial classification that has the same total assets and for the same time period. The Altman model correctly predicts between 56.2% and 76.0% of the sample, yielding an average error rate of 30.4% The Beaver model (cutoff += .07) correctly predicts between 70.8% and 91.7% of the sample, yielding an error rate of 20.2%. For this sample, the simple univariate use of the cash

flow to total debt ratio predicts bankruptcy with fewer errors than Altman's 5 ratio Z-score. The same conclusion holds when the sample is restricted to manufacturing firms and then further restricted to small manufacturing firms. For the small manufacturing sub-sample, both Beaver models have an average error rate of 21.4%, while the Altman model's rate is 35.7%. |
Huang, Chin-Sheng; Dorsey, Robert E; Boose, Mary Ann. Life insurer financial distress prediction: A neural network model Journal of Insurance Regulation, Winter 1994, 13(2):131-167.	Abstract: In attempting to forecast which companies are likely to suffer financial distress, the regulator is confronted with two fundamental issues. First, the regulator must determine which set of financial information, which variables; to use in the model. Second, the regulator must specify the specific manner, the functional form, in which these variables should interrelate within the model. For example, should these variables be summed, multiplied, raised to a power, etc.
Hughes, Stewart. Bankruptcy prediction models Credit Control, 1993, 14(11):16-22.	Abstract: Financial analysts and experienced Credit Managers are often able to predict the likelihood of a firm experiencing financial difficulties, possibly leading to bankruptcy, by monitoring closely its performance over a long period. Techniques available for predicting corporate bankruptcy fall into the three major types discussed below.
Innes, John; Aitken, Colin; Mitchell, Falconer. Prediction of Small Company Failure Credit Management, Sep 1991,37-41.	Abstract: Credit managers are interested in predicting the failure of companies to eliminate, or reduce, their own company's exposure to a customer's possible liquidation. When a company goes into liquidation or receivership, it is the creditors who receive little or nothing. Other parties, such as financial institutions, get their money before the creditors because they have some form of security over the assets of the company in liquidation. Research into predicting company failure was conducted using a combination of both financial and non-financial information from companies in the Scottish electronics manufacturing sector that had failed in recent years. The cost of developing the research model was relatively inexpensive. Results suggest that the model can be applied on an individual industry basis using a total of

Citation	Summary
	about 30 companies in any one industrial sector. The model can be used to predict the failure of small companies and can be adapted for companies in the service sector.
Kamath, Ravindra Title: How Useful Are Common Liquidity Measures? Source: Journal of Cash Management, Jan/Feb 1989, 9(1):24-28.	
Kaminsky, Kenneth S. Prediction of IBNR Claim Counts by Modelling the Distribution of Report Lags Insurance: Mathematics & Economics, Apr 1987, 6(2):151-159	Abstract: Property-liability insurance firms write insurance to cover many possible events for many different types of insured groups. Examples include: 1. workers insured against work-related injuries, 2. physicians insured against malpractice, 3. automobile owners insured against fire, theft, and liability for injury, and 4. homeowners insured against numerous hazards. A claim that has been incurred but not yet reported to the insurer is called an IBNR claim. Some methods of predicting the number of IBNR claims are discussed. These methods center on the principle of maximum likelihood prediction and are based upon appropriate assumptions about the nature of accident frequency and the delay (lag) between the accident and the report. A special feature of this study is that grouping of the data as they arise in insurance data collection is fully taken into consideration. An example involving exponential distribution of lags is given.
Kane, Gregory D, Richardson, Frederick M, Meade, Nancy L Rank transformations and the prediction of corporate failure Contemporary Accounting Research, Summer 1998, 15(2):145-166	Abstract: Rank transformation of observations has been shown to be useful in linear modeling because the models so constructed are less sensitive to outliers and/or non-normal distributions than are models constructed using standard methods. A study applies rank transformations to financial ratios to improve the predictive usefulness of standard failure prediction models. Kane, Richardson and Graybeal (1996) have shown that failure prediction can be improved by conditioning accounting-based statistical models on the occurrence of recession. Results suggest that rank-transformed data models show additional improvement in prediction without the added cost of having to predict recession for the companies undergoing testing for potential failure.
Koh, Hian C.; Killough, Larry N.. The Use of Multiple Discriminant Analysis in the Assessment of the Going-Concern Status of an Audit Client Journal of Business Finance & Accounting, Spring 1990, 17(2):179-192.	Abstract: Under the going-concern assumption, an entity is assumed to be a going concern only in the absence of information to the contrary. Determining what circumstances constitute information to the contrary and evaluating such information can present problems for auditors. One solution is discriminant analysis, a statistical classification technique first used by Fisher (1936) to classify types of plants. Failure-prediction models that attempt to predict business failures on the basis of financial ratios can give valuable insight into the expected continuity of firms and therefore supplement the auditor's subjective evaluation. The discriminant model was applied to a sample of 400

Citation	Summary
	COMPUSTAT companies selected randomly from the period 1980-1985. Out of the 400 companies, 14 are bankrupt firms. The model's overall accuracy rate was found to be 88.25%, whereas the auditors' overall accuracy rate is slightly lower at 86.50%. More importantly, while both the model and the auditors have similar accuracy rates for non-failed firms, the model strongly outperformed the auditors for failed firms.
Kristy, James E. Striking the right balance and proportion Business Credit, Feb 1993, 95(2):20-22.	Abstract: Proportion plays a role in many aspects of our life. If you've ever had the good fortune to see Michelangelo's carving of David in Florence, or the Venus de Milo at the Louvre, you've no doubt been struck by the exquisite proportion imparted by the artists. Proportion in architecture lends strength as well as beauty to structures, and in a similar way the relationships of assets, liabilities, and equity determine the strength and flexibility of our business balance sheets. Dollar amounts on financial statements give only a limited guide to a firm's condition; and bigger doesn't always mean stronger. It is the relationship between items or a part considered in relation to the whole that reveals the power to resist adversity, grasp opportunities, and run affairs smoothly, "little numbers" often signify large events, and in a few cases describe the very essence of a firm's condition.
Lee, Darrell E; Tompkins, James G. A modified version of the Lewellen and Badrinath measure of Tobin's Q Financial Management, Spring 1999, 28(1):20-31.	Abstract: Lewellen and Badrinath (1997) propose a superior method of measuring Tobin's Q. Unfortunately, their method is prone to a high percentage of missing observations and results in selecting samples of larger and more mature firms with lower Q statistics. We propose a slight modification that preserves the appeal of their method, yet almost doubles the sample size, avoids sampling problems, and is statistically indistinguishable from their Q measure. In addition, we clarify a step in the Lewellen and Badrinath Q calculation, which was inadvertently omitted in their explanation, and, if left undone, can result in downward-biased measures of Q.
Luther, Raminder K. An artificial neural network approach to predicting the outcome of Chapter 11 bankruptcy Journal of Business & Economic Studies, Spring 1998, 4(1):57-73.	Abstract: This study developed a prediction model using Artificial Neural Networks (ANN) for predicting the outcome of bankruptcy, based on the firm's financial ratios at the time of filing for Chapter 11. The performance of the Artificial Neural Network model was also compared to that of a Logit model tested on the same data set. The neural network model in this study was trained using the Genetic Algorithm technique, which iterates towards the optimum solution by looking only at the value of the objective function and not getting trapped in the local minima. Using a data set of 104 firms that filed for bankruptcy under Chapter 11 and had their cases decided before December 1992, the Artificial Neural Network was trained by using 13 financial ratios from their balance sheets and income statements of the year preceding the year of filing.

Citation	Summary
Make Sure Insurers Are Solvent: Risk Manager Source: Business Insurance, Mar 21, 1983, 17(12):22.	
Mossman, Charles E; Bell, Geoffery G; Swartz, L Mick; Turtle, Harry. An empirical comparison of bankruptcy models Financial Review, May 1998, 33(2):35-53.	Abstract: Four types of bankruptcy prediction models based on financial statement ratios, cash flows, stock returns, and return standard deviations are compared. Based on a sample of bankruptcies from 1980 to 1991, results indicate that no existing model of bankruptcy adequately captures data. If considered in isolation, the cash flow model discriminates most consistently 2 to 3 years before bankruptcy. By comparison, the ratio model is the best single model during the year immediately preceding bankruptcy. Quasi-jack-knifing procedures suggest that none of the models can reliably predict bankruptcy more than 2 years in advance.
Pearce, Jonathan W; Kaye, Jonathan. How should data be analyzed and reported in a risk-contracting environment? Healthcare Financial Management, Mar 1998, 52(3):29-32.	Abstract: Integrated delivery systems (IDSs) that enter into risk contracts with payers need sophisticated data analysis and reporting capabilities to ensure proper payment and to manage utilization. An IDS can develop these capabilities by following a six-step process. It should develop an IDS data management structure, obtain all requisite data, review and refine the data, consolidate the data, create a relational database, and develop a reporting structure. The reporting structure should consist of a set of standard reports and the ability to generate additional targeted reports that facilitate analysis of specific aspects of utilization and financial performance.
Platt, Harlan D.; Platt, Marjorie B.. A Note on the Use of Industry-Relative Ratios in Bankruptcy Prediction Journal of Banking & Finance, Dec 1991, 15(6):1183-1194.	Abstract: Industry-relative financial ratios have the potential to improve the prediction of firms in financial distress. Model specifications based on either unadjusted or industry-relative ratios are compared. Both specifications yielded stable parameter estimates over the time periods examined. However, the industry-relative specification appeared to add incremental information not contained in the model based on the unadjusted financial ratios; the converse case did not hold. In addition, with the industry-relative specification, ex post forecast accuracy was slightly improved relative to the ex ante forecast, while with the adjusted model specification, ex post forecast accuracy declined from that obtained ex ante.
Platt, Harlan D.; Platt, Marjorie B.. Development of a Class of Stable Predictive Variables: The Case of Bankruptcy Prediction Journal of Business Finance & Accounting, Spring 1990, 17(1):31-51.	Abstract: A study examined the effects of industry-relative financial and operating ratios and the changes in industry output on the likelihood of corporate failure. A justification was developed for the stability of industry-relative ratios, and a corporate failure model was built using industry-relative financial ratios and measures of industry growth. Industry growth tested specific business cycle effects on corporate failure. The ex post classification results of the model were superior to those of a more traditional model using

Citation	Summary
	unadjusted financial ratios. Moreover, the industry-relative model demonstrated relatively stable ex post and ex ante classification results.
Pottier, Steven W; Sommer, David W. Life insurer risk-based capital measures Journal of Insurance Regulation, Winter 1997, 16(2):179-196.	Abstract Regulators and rating agencies concurrently developed risk-based capital (RBC) models in the early 1990s. The calculation methods have much in common, but also exhibit significant differences. While the goal of rating agencies is to assess the relative financial strength of insurers, the National Association of Insurance Commissioners (NAIC has stated that risk-based capital requirements are regulatory minimum standards and should not be used to compare adequately capitalized companies. This paper examines the correlation among the risk-based capital ratios of the NAIC, A.M. Best, and Standard and Poor's to determine whether the different capital models yield significantly different results. Another issue this paper investigates is the correspondence between RBC ratios and insurer ratings. If there is not a high correlation between ratings and RBC ratios, such evidence would support the NAIC's argument that RBC ratios should not be used for ranking purposes. Our correlation analysis indicates that these three RBC measures are not all essentially equivalent, although they are highly correlated.
Rujoub, Mohamed A; Cook, Doris M; Hay, Leon E. Using cash flow ratios to predict business failures Journal of Managerial Issues, Spring 1995, 7(1):75-90.	Abstract: A study assesses the usefulness of cash flow disclosures as required by Statement of Financial Accounting Standards No. 95 in the prediction of bankruptcy, and determines whether cash flow data provide a superior prediction of business failure over the models employing conventional accrual accounting data. The conclusions were that: (1) Cash flow data provide a superior measure for the prediction of business failure over accrual accounting data. (2) The use of cash flow data in conjunction with accrual accounting data improves the overall predictive power of accrual accounting data alone.

The models used in the study may help users of accounting information to detect the deterioration of a firm's financial position. |
| Shaked, Israel Measuring Prospective Probabilities of Insolvency: An Application to the Life Insurance Industry Journal of Risk & Insurance, Mar 1985, 52(1):59-80. | Abstract: Given recent developments in the life insurance industry, there is an increased need for a framework that can be systematically applied in assessing insurers' financial viability. The probabilities of failure of 31 publicly traded life insurers are directly calculated by first assuming that asset returns are log-normally distributed, then calculating the parameters of that distribution for each insurer. The results suggest that most insurers are reasonably safe; however, the distribution of failure probabilities is skewed, meaning several life insurers pose a great enough insolvency risk to warrant regulatory attention. The sensitivity of insolvency risk to the estimated parameters of the basic framework is also examined, with 2 main findings: 1. Capital |

Citation	Summary
	ratios and the variance of asset returns are highly correlated. 2. The extension of the auditing interval can sharply increase the probability of insolvency.
Shulman, Joel M., Dambolena, Ismael G. Title: Analyzing Corporate Solvency Source: Journal of Cash Management, Sep/Oct 1986, 6(5):35-38.	
Spisak, Andrew W. A Control Chart for Ratios, Journal of Quality Technology, Jan 1990, 22(1):34-37	Abstract: Control charts are used extensively in statistical process control (SPC). The construction of a control chart for the ratio of 2 variables is presented. Data were collected through the US Department of Labor's Unemployment Insurance (UI) Quality Control (QC) program. UI QC supervisors and analysts employ several statistical tools, including control charts, to analyze program data. Additional examples of ratio estimates that can be used in control charts include: 1. the ratio of charges under-billed to total billings in a firm's accounts receivable, 2. the ratio of employees' time spent correcting errors or reworking faulty products to time devoted to productive work, and 3. financial ratios, such as savings to disposable income, price to earnings, or debt to equity. Ratios can also be employed to estimate characteristics of population subgroups from small sub-samples after a benchmark is obtained.
Trauner, Joan B; Chesnutt, Julie S. Medical groups in California: Managing care under capitation Health Affairs, Spring 1996, 15(1):159-170.	Abstract: California-based health maintenance organizations (HMOs) have reduced use of hospital services well below national averages; much of this reduction appears linked to lower surgical procedure rates. Also, multispecialty groups in California have been able to maintain physician compensation under capitated payment arrangements at the expense of retaining earnings at the group level. With capitation payments linked to HMO premiums for commercial enrollees, and with HMO premiums having dropped in response to market pressure from employers, California's provider groups are coming under increased financial pressure. A shakeout among thinly capitalized medical groups is anticipated. As full-risk capitated contracting becomes more common outside of California, these general trends are likely to be replicated at a national level.
Ward, Terry J. Is the scaling measure used for cash flows important in predicting financially distressed firms? Journal of Applied Business Research, Fall 1993, 9(4):134-140.	Abstract: Creditors and researchers must now determine the best scaling measures for developing cash flow ratios to predict financial distress. Although academic researchers have tended to scale cash flows by total liabilities (e.g., Casey and Bartczak in 1984 and 1985), many other scaling measures exist. The purpose of this paper is to determine whether the measure used to scale cash flows affects financial distress prediction results. This paper also attempts to identify the best scaling measure for each three net cash flows reported on a statement of cash flows.

Citation	Summary
Wertheim, Paul, Robinson, Michael A Issues in forecasting company liquidity Source: Business Credit, Oct 1993, 95(9):14-17.	Abstract: Credit analysts and others involved in the evaluation of a firm's financial position are often concerned with both measurement of current liquidity, as well as the accurate predictions of future liquidity. Trends in a company's liquidity position make it possible to use past and current information to help predict future liquidity. These measurements are often used to examine the company's financial position and evaluate its ability to meet financial obligations including the likelihood of bankruptcy. Past studies have examined the prediction of annual and quarterly earnings, cash flow, and earnings per share. A recent study extends previous work in cash flow and earnings forecasts to the area of forecasting annual company liquidity. Of the 8 short-term and long-term liquidity measures examined, the ratio of total liabilities to total assets was the liquidity measure most accurately forecasted, regardless of the prediction model used. In forecasting company liquidity, there is a significant difference in forecast accuracy among different prediction models.
Wertheim, Paul; Lynn, Monty L. Development of a prediction model for hospital closure using financial accounting data Decision Sciences, May/Jun 1993, 24(3):529-546.	Abstract: Using cost reports from the Health Care Financing Administration and a sample of 71 closed hospitals and a matched sample of 71 open hospitals, the relationship between 21 financial accounting ratios and hospital closure is examined. In a multivariate logit model one year prior to closure, the ratios of total liabilities to total assets (leverage), total revenues to total expenses (capital efficiency), and total assets to bed days available (asset availability), were found to be significant in predicting hospital closure. As leverage increased, and capital efficiency and asset availability decreased, the probability of closure increased. Ratios measuring liquidity, however, were not found to add significant explanatory power. Similar results were obtained for prediction models 2 years prior to closure.

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Appendix B:
Survey Instrument and Materials

CAPMETRICS PROVIDER SOLVENCY RESEARCH
Funded by the California HealthCare Foundation

RESEARCH SUMMARY

Over the past ten years, California has seen the rise of the delegated model for financing medical care, where health plans delegate the financial risk of patient care to providers through full or partial capitation. However, a recent wave of provider group financial failures, including MedPartners, FPA Medical Management, and other capitated provider groups[1], has led to a public debate about preventing provider group insolvency.

With the signing into law in October 1999 of Senate Bill 260 (SB260), the California Legislature and Governor Gray Davis set into motion a regulatory process to address the provider solvency issue. SB260 establishes a Financial Solvency Standards Board (FSSB), comprised of experts who advise the Director of the Department of Managed Health Care on solvency standards and regulations. However, the FSSB is working in the dark, because there is little sound quantitative analysis of solvency standards for provider groups. Also not available is systematically representative financial data for provider groups to support such an analysis.

This research is intended to fill these gaps of knowledge by collecting demographic and financial data for California provider groups. We will use the data to generate and test options for provider solvency standards, and to analyze the costs of the new regulations to the provider groups. Specifically, we will investigate the following research questions:

1. What standards and measures are the best quantitative predictors of insolvency?
2. How much is the capital deficiency that provider groups must overcome to comply with solvency standards?
3. To what extent is quality of care and access to care linked to solvency?

The research is sponsored by the California HealthCare Foundation, which has contracted with CapMetrics to perform the work. The lead investigators represent a mix of academic and practical experience. Several industry trade associations, including the California Medical Association, the California Association of Health Plans, and the Integrated Healthcare Association, have endorsed this research project.

One of the lead investigators is Christopher Ohman, a professional with 20 years of finance experience in the areas of banking, health plan financial and operations management, and medical group and IPA financial management. The other lead investigator is Paul Gertler, an economist at the Haas Business School and the School of Public Health at the University of California, Berkeley, who has written and taught extensively about financial risk management including capitation rate development.

The entire purpose of this research is to support a public policy debate in a serious, factual, and thoughtful fashion. The final results will be submitted for publication in leading healthcare trade journals. The use of the financial data is subject to the restrictions set forth in our confidentiality policy. The data only will be reported in a form that does not allow identification of individual groups.

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[*] Bodenheimer, M.D., "California's Beleaguered Physician Groups: Will They Survive?" *New England Journal of Medicine*, April 6, 2000.

CAPMETRICS PROVIDER SOLVENCY RESEARCH

Funded by the California HealthCare Foundation

CONFIDENTIALITY POLICY

At the heart of the CapMetrics Provider Solvency Research Project is a survey asking capitated medical groups and IPAs to share sensitive financial and operations information. CapMetrics and our research team recognize the proprietary and confidential nature of the information that we are requesting from these provider groups. This confidentiality policy is intended to demonstrate the precautions that we have taken and will take to prevent inappropriate disclosure of sensitive information.

Our purpose is to support a public policy debate in a serious, factual, and thoughtful fashion. The final results will be submitted for publication in leading academic healthcare journals. The provider solvency process led by the Financial Solvency Standards Board is an open and deliberative process that includes active participation by providers, health plans, and consumer groups. However, the outcome of the Financial Solvency Standards Board's efforts will be better for all parties if this advisory board can review a meaningful and representative analysis of the provider financial solvency data.

Our confidentiality policy is to report financial or other data about capitated medical groups and IPAs only in a form which does not allow identification of individual groups. In some cases, CapMetrics may request permission from a group to release certain data, a situation that only would occur with specific written permission from the group. The CapMetrics employees and contractors will be granted access to the names of groups and their data only after demonstrating a clear need for such access. In addition, the CapMetrics employees and contractors are contractually obligated to abide by this confidentiality policy.

Our data security procedures are several-fold. To assure compliance with this confidentiality policy and preserve the security of the data records themselves, these procedures include the following steps:

- Names of medical groups and IPAs are kept on a file which is physically separate from the financial and other data.
- This file is kept under strict control of the lead investigators for this research.
- The computer used to house the database will be completely stand-alone and will not be connected to the internet.
- Access to the database is password protected.
- Physical records (survey forms, etc.) will be secured in locked, limited access files. When maintenance of such records is no longer needed for this research project, the survey forms and other materials supplied will be destroyed.

If you have any questions about the research project or our confidentiality policy, please contact Christopher Ohman, President of CapMetrics, at 510-883-1741.

CAPMETRICS PROVIDER SOLVENCY RESEARCH
Funded by the California HealthCare Foundation

SURVEY INSTRUCTIONS

In addition to this survey instruction sheet, this package contains the following materials:

- Letter from the California HealthCare Foundation
- Research Summary
- Confidentiality Policy
- Survey Directions and Definitions
- Survey: two parts
  - Demographic Information
  - Financial Information
- Return envelope

Survey Information

Enclosed you will find a two-part survey questionnaire, consisting of a demographic information section and a financial information section. Please send or fax back the completed survey by **February 28, 2001** to the attention of Janice Gurley at the address below. A postage-paid return envelope is provided to return the survey by mail, or send by fax <u>with a cover sheet</u> to (925) 242-8050. This is a confidential fax.

Contact Information

If you have any questions about the enclosed materials or need assistance with the survey, please contact:

Janice Gurley
Project Manager
CapMetrics Provider Solvency Research
12657 Alcosta Blvd., Suite 550
San Ramon, CA 94583
Phone: (925) 242-8026
Fax: (925) 242-8050
Email: research@capmetrics.com
Web site: **www.capmetrics.com**

If you need further information about the CapMetrics Provider Solvency Research Project, please contact:

Christopher Ohman   **Paul Gertler**
Co-Investigator   Co-Investigator
President, CapMetrics   Haas Business School, UC-Berkeley
Phone: (510) 883-1741   Phone: (510) 642-1418
Email: ohman@capmetrics.com   Email: gertler@haas.berkeley.edu

CapMetrics Provider Solvency Research

Funded by the California HealthCare Foundation

February 1, 2001

<Contact>
<Provider Name>
<Address>
<City>, <State> <Zip>

Dear <Contact>:

As you are aware, many medical groups and IPAs in California are in a precarious financial condition. This situation has threatened to disrupt patients and physicians and has undermined confidence in the delegated model of health care in California. When some groups have failed, patients have had to find new physicians, physicians have gone unpaid, and the role of physician organizations in the state's healthcare system has been questioned.

The California State Legislature responded to this situation in the fall of 1999 with the passage of Senate Bill 260. Under Senate Bill 260, the Financial Solvency Standards Board was established to, among other things, provide guidance to the Director of the Department of Managed Health Care on developing solvency standards for risk bearing physician organizations. However, there is a lack of sound quantitative analysis of the proposed solvency standards and almost no systematic representative financial data available from provider groups with which to conduct such an analysis.

The California HealthCare Foundation has funded research that is intended to fill this information gap and contribute to the development of well-informed public policy to address this important issue. In order to perform this provider solvency research, our organization has contracted with CapMetrics, a Berkeley-based consulting firm.

We are asking for your help with this project by completing the enclosed demographic and financial information sheets, so that CapMetrics can collect the data necessary to evaluate the impact of the proposed solvency standards on California provider groups. The data gathered will be kept confidential, and will be reported in aggregate form only, without any ability to identify individual provider groups from the reported results.

Thank you for your participation in this effort to better inform the process of establishing meaningful provider solvency standards. Please review the attached instruction sheet which summarizes the enclosed materials and return the questionnaire to CapMetrics by February 28, 2001. For more information about this research project, Senate Bill 260 and the Financial Solvency Standards Board, you can visit the CapMetrics web site at **www.capmetrics.com**. For more information about the California HealthCare Foundation, you can visit our web site at **www.chcf.org**.

Thank you in advance for your consideration.

Sincerely yours,

Elaine Batchlor, MD, MPH
Vice President

CAPMETRICS PROVIDER SOLVENCY RESEARCH

Funded by the California HealthCare Foundation

SURVEY DIRECTIONS AND DEFINITIONS

General Questions: Who should fill out this form? What is a Group?

- *Who should fill out this form?* An organization which meets the definition of a "Group"

- *What is the definition of a "Group?"* A Group is a medical group and/or independent physician association (IPA) which receives capitation for at least three different *medical* specialties (primary care is considered one medical specialty and includes family practice, internal medicine, and pediatrics); **and**

  - Receives at least $10 per member per month for commercial or Medi-Cal HMO plan members

  or

  - Receives at least $30 per member per month for Medicare+Choice plan members

  An entity that meets these criteria is considered to be a "Group" for the purposes of this survey.

- *What if our Group is a foundation model or other form of a non-profit organization?* Our interest *is* in surveying all IPAs and medical groups which meet the definition of a Group. The survey asks for hospital foundation affiliations in the demographic information section, and the key financial reporting difference is that instead of "Shareholders' equity", we expect foundation model or non-profit entities to report a "Fund balance" account of some kind.

Demographic Information

1. If the Group itself is owned by a hospital or hospital system, or if the Group is a foundation model affiliated with a hospital, please mark "Yes" and provide the name of the hospital or hospital systems and provide a brief explanation of the relationship. Note, question 2 seeks to clarify the Group's relationship with a management services organization (MSO), and any hospital affiliation through the MSO should be indicated in question 2.

2. To the extent that the Group contracts with an MSO, please indicate the nature of the MSO relationship.

3. Please indicate the name of the software vendor and product name of the software used for managed care administration functions such as eligibility, claims payment, authorizations, and sub-capitation payments. Please indicate the name of the software vendor and product name of the software used for physician practice management functions such as appointment scheduling and billing.

4., 5., 6. Please indicate whether the Group is an IPA medical group or both.
- *What is the difference between an IPA and a medical group?* Ignore the legal form of the entity, and consider the following:
  - A **medical group** is an entity whose employed physicians and medical staff **provide care directly to members**.
  - An **independent physician association (IPA)** is an entity whose employees **arrange for medical care** by contracting with physicians and other medical care providers.
  - An entity can be both an IPA and a medical group.

7. Please indicate the number of primary care and specialist physicians that the Group employs or with which it contracts.

8. Please indicate the services for which the Group accepts risk for each of commercial, Medi-Cal and Medicare+Choice HMO plan members. Also indicate the form of the risk—whether the risk is taken in the form of capitation or in the form of a risk pool/risk sharing arrangement.

9. Please indicate whether the Group sub-capitates to, in effect, another Group. A "Group" is defined above.

10. Please mark the county(ies) included in the Group's service area. Service area is defined as the county or counties in which the Group has employed or contracted with primary care physicians and the primary county or counties from which the Group draws its patients.

11. Please provide the name of the accounting firm that most recently compiled, reviewed, or audited your financial statements.

Financial Information

All financial information should be reported in accordance with Generally Accepted Accounting Principles (GAAP). Please explain any components of your financial information that vary from GAAP.

Assets

- *Cash and short-term investments:* Cash in a checking account, bank interest bearing deposits or invested in financial instruments that can be readily converted into cash.

- *Accounts receivable – patient (net):* Billings for patient care provided directly by Group and due from third parties or patients, net of contractual and bad debt allowances.

- *Accounts receivable – risk pool (net):* Amounts due under any risk pool arrangement, such as pharmacy, institutional risk, point-of-service (POS), and professional pools, net of bad debt allowances. Recoveries from special funds, such as a transplant pools, should be recorded as *Accounts receivable – recoveries (net)*.

- *Accounts receivable – recoveries (net):* Includes stop loss recoveries, Coordination of Benefits (COB), subrogation recoveries, and special funds (e.g., transplant, AIDS, etc.), net of bad debt allowances.

- *Accounts receivable – capitation (net):* Includes capitation not paid and due for the period, net of bad debt allowances.

- *Accounts receivable – other (net):* Includes any other receivables, net of bad debt allowances.

- *Accounts receivable – total (net):* Sum of all previous accounts receivable categories, net of bad debt allowances.

- *Other current assets:* Any other current assets, including prepayments, supply inventories, etc.

- *Current assets:* Sum of all current assets.

- *Fixed assets (net):* Includes all property, plant and equipment, net of accumulated depreciation.

- *Intangible assets:* Includes all intangible assets such as goodwill, software, covenants not to compete, etc., all net of accumulated amortization.

- *All other assets:* All other non-current assets not in pervious categories.

- *Total assets:* Sum of all assets.

Liabilities and Equity (Fund Balance)

- *Accounts payable:* Includes accruals for trade payable accounts.

- *Claims payable and IBNR:* Includes claims payable, sub-capitation payable, reported but not processed claims, and incurred but not reported (IBNR) claims liability estimates.

- *Withhold/surplus payable:* Includes amounts accrued, typically as withholds from Fee-For-Service (FFS) or sub-capitation payments, which the Group expects to return to physicians or health plans, whether by contract or board policy. Also includes any risk pool surplus or other bonuses that the Group expects to pay to contracted physicians.

- *Other medical expense payable:* Includes any other medical or related expense payable.

- *Accrued expenses:* Includes accruals for accounts such as payroll, benefits, employees (including employed physicians) bonuses, etc**., but does not include accruals for withhold returns or risk pool surplus bonus payments**. Includes any amounts due to health plans under risk pool or fund loss recovery agreements.

- *Short term debt and current portion long term debt:* Includes principal amounts due within 12 months following the end of the period under interest-bearing lines of credit, capitalized leases, and long term debt. CPLTD means "current portion long term debt."

- *All other current liabilities:* Includes any short-term liabilities that are not included in the previous current liability categories.

- *Current liabilities:* Sum of all current liabilities.

- *Long term debt (including leases):* Includes principal amounts due 12 months after the end of the period for interest bearing debt and capitalized leases.

- *Other liabilities:* Includes any long term liabilities not included in the previous liability categories.

- *Shareholders' equity/(Fund balance):* Includes the sum of capital stock, paid-in capital, and retained earnings, if under the IRS code, Group is "for-profit." Includes the net fund balance account, if under the IRS code, Group is "not-for-profit."

- *Total liabilities and equity (Fund balance):* Sum of all liability and equity (Fund balance) accounts.

Income Statement

- *Capitation revenue:* Includes capitation amounts received, but does not include capitation deductions related to risk pools, stop loss premiums, or other contractual obligations. These deductions should be shown as expenses in the appropriate expense category below.

- *Risk pool revenue:* Includes risk pool surplus revenue recognized by the Group. May be negative if risk pools are in deficit for the period.

- *Recoveries:* Includes stop-loss, COB, subrogation, and special fund (i.e. transplant pool, etc.) recoveries recognized by the Group.

- *Patient revenue – HMO co-pays & HMO FFS:* Includes co-payments from the HMO patients, and fee-for-service (FFS) reimbursements received from an HMO or a Group for medical services provided to HMO members.

- *Patient revenue – FFS (PPO & private):* Includes PPO and other FFS reimbursements for patients not affiliated with HMOs. Includes co-payments from non-HMO patients, and cash payments from private patients.

- *Other revenue:* Includes any other revenue not reported in the previous revenue categories.

- *Total revenue:* Sum of all revenue categories.

- *Medical expense – sub-capitation:* Includes sub-capitation paid or accrued inclusive of withholds, to the extent that withholds are accrued under "Withhold surplus payable" above.

- *Medical expense – claims (contracted):* Includes all claims expenses for **contracted** providers whether actually paid, accrued, or calculated in the IBNR estimate, inclusive of withholds to the extent that withholds are accrued under "Withhold surplus payable" above.

- *Medical expense – claims (non-contracted):* Includes all claims expenses for **non-contracted** providers whether actually paid, accrued, or calculated in the IBNR estimate, inclusive of withholds to the extent that withholds are accrued under "Withhold surplus payable" above.

- *Medical expense – provider payroll/benefits:* Includes payroll and related expense for personnel engaged in the patient care activities, including non-provider personnel associated with patient care operations (i.e., reception, appointment scheduling, drivers).

- *Medical expense – facilities/supplies*: Includes medical office operating expenses including rent, utilities, supplies, insurance, etc.

- *Medical expense – other:* Includes medical expenses not included in the medical expense categories above.

- *Total medical expense:* Sum of all medical expense categories.

- *Administrative expense – MSO/IPA functions:* Includes all expenses related to IPA administrative functions, such as eligibility, claims processing, utilization management, customer service, medical management, and contracting. Includes expenses for personnel, insurance, equipment, rent, supplies, etc.

- *Interest income:* Interest received from cash accounts and interest bearing investments.

- *Interest expense:* Interest paid on interest bearing debt and capitalized leases.

- *Depreciation/amortization:* Includes depreciation and amortization expensed during the period.

- *Pre-tax income:* Income before taxes.

- *Income tax provision:* Amount accrued for income taxes for the period.

- *Net income:* Pre-tax income less the income tax provision.

Other Data

- *Membership – commercial:* At-risk members for the final month of the period from commercial HMO plans.

- *Membership—Medicare+Choice:* At-risk members for the final month of the period from Medicare+Choice plans. **Does not adjust Medicare+Choice members for "commercial equivalency."**

- *Membership—Medi-Cal:* At-risk members for the final month of the period from Medi-Cal or Healthy Families HMO plans.

- *Membership—total:* Sum of all members in the categories above.

- *Membership in top three health plans:* Membership in the three health plans which account for the most membership among of all of the Group's health plans (including commercial, Medicare+Choice, and Medi-Cal products).

- *Amount of "Total medical expense" set aside as "Withhold/surplus payable":* Includes the portion of income statement account "Total medical expense" in a given period which was not paid out in cash, but was recorded as an increase to the balance sheet account "Withhold/surplus payable."

- *Claims turnaround time percentage–commercial:* Percentage of the "clean" commercial plan claims paid (date check mailed) within 45 days of receipt by Group (receive date). Percentage should be the average for the quarter.

- *Claims turnaround time percentage – Medicare+Choice:* Percentage of the "clean" Medicare+Choice plan claims paid (date check mailed) within 30 days of receipt by Group (receive date). Percentage should be the average for the quarter.

- *Claims inventory—all products:* Dollar estimate of claims on hand (received but not paid) as of the end of the period.

- *Inter-company accounts receivable:* Amounts included in any asset category above which are due from a parent company, joint venture partner, "Dr. Friendly" affiliate, or other affiliate.

- *Inter-company accounts payable:* Amounts included in any liability category which are due to a parent company, joint venture partner, "Dr. Friendly" affiliate, or other affiliate.

- *Statements audited? (Y/N):* Indicate ("Yes" or "No") whether the financial statements were audited for the period.

CAPMETRICS PROVIDER SOLVENCY RESEARCH

Funded by the California HealthCare Foundation

- SURVEY -

For guidance, see enclosed "Survey Directions and Definitions"

Demographic Information

Name of medical group, IPA, or foundation ("Group"): _____

Address: _____

_____

City: _____ State _____ Zip _____

Chief Financial Officer:	Preparer: _____
_____	Title: _____
Degrees/Credentials: _____	Degrees/Credentials: _____
Phone: _____	Phone: _____
Fax: _____	Fax: _____
E-mail: _____	E-mail: _____

1. Is Group partially or wholly owned by a hospital or hospital system?

   ❏ Yes   ❏ No (*SKIP TO Q2*)

   1.a. IF YES, please name hospital and explain relationship: _____

   _____

2. Does Group contract with a management services organization ("MSO") for administrative services?

   ❏ Yes   ❏ No (*SKIP TO Q3*)

   a. IF YES, what is the name of MSO? _____

   b. Is MSO partially or wholly owned by a hospital, hospital foundation, or a hospital system?   ❏ Yes   ❏ No

   c. Is MSO partially or wholly owned by Group?   ❏ Yes   ❏ No

   d. Is MSO independently owned and operated without an ownership relationship to Group?   ❏ Yes   ❏ No

3. a. Name of software system(s) used for managed care administration:

    _____

    b. Name of software system(s) used for practice management (if applicable):

    _____

4. Is Group an Independent Physicians Association (IPA) only? ❏ Yes ❏ No

5. Is Group a medical group only? ❏ Yes ❏ No

6. Is Group both an IPA and medical group? ❏ Yes ❏ No

7. a. Number of primary care physicians: Contracted: _____ Employed: _____

    b. Number of specialist physicians: Contracted: _____ Employed: _____

8. For each service listed below, please check the risk assumed by Group.

Service	Commercial		Medi-Cal		Medicare+Choice	
	Capitation	**RiskShare**	**Capitation**	**RiskShare**	**Capitation**	**RiskShare**
Professional	❏	❏	❏	❏	❏	❏
Inpatient facility	❏	❏	❏	❏	❏	❏
Outpatient facility	❏	❏	❏	❏	❏	❏
Pharmacy	❏	❏	❏	❏	❏	❏
Ancillary	❏	❏	❏	❏	❏	❏
Out of Area	❏	❏	❏	❏	❏	❏
Other (Please explain: _____)	❏	❏	❏	❏	❏	❏

Does Group sub-capitate to a single entity for 3 or more types of specialty care?

       ❏ Yes   ❏ No (SKIP TO Q10)

9. a. Does Group sub-capitate for more than $10 per member per month for commercial HMO plan members?

       ❏ Yes   ❏ No

9. b. Does Group sub-capitate for more than $30 per member per month for Medicare plan members?

       ❏ Yes   ❏ No

9. c. If yes to 9 and either 9.a. or 9.b., please list the entities with which Group sub-capitates:

_____	_____
_____	_____
_____	_____

10. Check counties served by Group: ❏   All of the counties

❏ Alameda	❏ Imperial	❏ Modoc	❏ San Diego	❏ Sonoma
❏ Alpine	❏ Inyo	❏ Mono	❏ San Francisco	❏ Stanislaus
❏ Amador	❏ Kern	❏ Monterey	❏ San Joaquin	❏ Sutter
❏ Butte	❏ Kings	❏ Napa	❏ San Luis	❏ Tehama
❏ Calaveras	❏ Lake	❏ Nevada	Obispo	❏ Trinity
❏ Colusa	❏ Lassen	❏ Orange	❏ San Mateo	❏ Tulare
❏ Contra	❏ Los	❏ Placer	❏ Santa Barbara	❏ Tuolumne
Costa	Angeles	❏ Plumas	❏ Santa Clara	❏ Ventura
❏ Del Norte	❏ Madera	❏ Riverside	❏ Santa Cruz	❏ Yolo
❏ El Dorado	❏ Marin	❏ Sacramento	❏ Shasta	❏ Yuba
❏ Fresno	❏ Mariposa	❏ San Benito	❏ Sierra	
❏ Glenn	❏ Mendocino	❏ San	❏ Siskiyou	
❏ Humboldt	❏ Merced	Bernardino	❏ Solano	

11. Name of outside audit firm: _____

Financial Information - Page 4 of 6	Year ending 12/31/1998	Year ending 12/31/1999	Quarter ending 3/31/2000	Quarter ending 6/30/2000	Quarter ending 9/30/2000	Year ending 12/31/2000
Assets						
Cash and short-term investments						
Accounts receivable – patient (net)						
Accounts receivable – risk pool (net)						
Accounts receivable – recoveries (net)						
Accounts receivable – capitation (net)						
Accounts receivable – other (net)						
Accounts receivable – total (net)						
Other current assets						
Current assets						
Fixed assets (net)						
Intangible assets						
All other assets						
Total assets						
Liabilities and Equity (Fund Balance)						
Accounts payable						
Claims payable and IBNR						
Withhold/surplus payable						
Other medical expense payable						
Accrued expenses						
Short term debt and current portion long term debt						
All other current liabilities						
Current liabilities						
Long term debt (including leases)						
Other liabilities						
Shareholders' equity (Fund balance)						
Total liabilities and equity (Fund balance)						

Financial Information - Page 5 of 6	Year ending 12/31/1998	Year ending 12/31/1999	Quarter ending 3/31/2000	Quarter ending 6/30/2000	Quarter ending 9/30/2000	Year ending 12/31/2000
Income Statement						
Capitation revenue						
Risk pool revenue						
Recoveries						
Patient revenue – HMO co-pays & HMO FFS						
Patient revenue – FFS (PPO & private)						
Other revenue						
Total revenue						
Medical expense – sub-capitation						
Medical expense – claims (contracted)						
Medical expense – claims (non-contracted)						
Medical expense – provider payroll/benefits						
Medical expense – facilities/supplies						
Medical expense – other						
Total medical expense						
Administrative expense – MSO/IPA functions						
Interest income						
Interest expense						
Depreciation/amortization						
Pre-tax income						
Income tax provision						
Net income						

Financial Information - Page 6 of 6	Year ending 12/31/1998	Year ending 12/31/1999	Quarter ending 3/31/2000	Quarter ending 6/30/2000	Quarter ending 9/30/2000	Year ending 12/31/2000
Other Data						
Membership – commercial						
Membership – Medicare+Choice						
Membership – Medi-Cal						
Membership – total						
Membership in top three health plans						
Amount of "Total medical expense" set aside as						
"Withhold/surplus payable"						
Claims turnaround time percentage – commercial						
Claims turnaround time percentage – Medicare						
Claims inventory – all products						
Inter-company accounts receivable						
Inter-company accounts payable						
Statements audited? *Circle Yes or No for each period.*	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No

Notes

1. Robinson, J.C. "Physician Organization in California: Crisis and Opportunity," *Health Affairs 20*, no. 4 (2001): 81-96.

2. The Knox-Keene Act of 1975 was established to protect consumers by monitoring the financial conditions of plans and ensuring that they are capable of providing promised services to patients. One of the explicitly identified means of achieving these goals is ensuring that subscribers and enrollees have access in a manner that provides continuity of care.

3. Gallinger, "The Current and Cash ratios: Do They Stand Up to Scrutiny? Are They Only Window Dressing?" *Business Credit*, May 1997.

4. The results reported in Chapter 5 lead us to emphasize the cash ratio as a measure for identifying financial trouble. The quick ratio includes in the numerator not only cash and marketable securities, but all accounts receivable as well. For our purposes, we narrowly define the cash ratio to include only cash and marketable securities in the numerator, because we specifically want to emphasize the importance of excluding shared risk receivables from the cash ratio.

5. Working capital is calculated by subtracting current liabilities from current assets; the current ratio is calculated by dividing current assets by current liabilities. By converting working capital into a ratio (the current ratio), we eliminate the impact of group size on working capital, and can compare across groups the relative degree of shortfall and excess in working capital, as is done in Table 4.3.

6. Pottier, et al., "Life Insurer Risk-Based Capital Measures," *Journal of Insurance Regulation*, Spring 1990.

7. Rujoub, et al., "Using Cash Flow Ratios to Predict Business Failures," *Journal of Managerial Issues*, Spring 1995.

8. Gallinger, "The Current and Cash Ratios: Do They Stand Up to Scrutiny? Are They Only Window Dressing," *Business Credit*, May 1997.

9. Fridon, *Financial Statement Analysis,* John Wiley & Sons, Inc., 1995.

10. Payne Simon, Lisa and Monroe, Ann F., "California Provider Group Report Cards: What Do They Tell Us?" *American Journal of Medical Quality,* March/April 2001.

11. Ibid.

12. This analysis is primarily based on the October 2000 database of California provider groups prepared by the consulting firm, Cattaneo & Stroud.

13. As noted in the introduction, the number of members included in the study may somewhat understate the total members affected, since some may have changed providers or payer arrangements in the months prior to the actual closure of the group. We cannot estimate the numbers of members who retained the same provider relationships (changes provider groups or payer arrangements) and therefore did not actually experience any disruption at all. Finally, the member counts used may include members affected by more that one closures (i.e., a member was involved in successive events).

14. Case narrative based upon publicly available financial information.

15. Specifically, nonprofit hospitals face substantial restrictions caused by concerns over "inurement" of nonprofit resources for the benefit of for-profit organizations or individuals. All hospitals must be sensitive to anti-kickback and fraud rules, specifically under the various so-called "Stark" laws and associated rules.

16. From financial statements filed with the Department of Corporations, and published reports.