

Flex Monitoring Team Data Summary Report No. 4

CAH Financial Indicators Report: Summary of Indicator Medians by State

August 2007



The Flex Monitoring Team is a consortium of the Rural Health Research Centers located at the Universities of Minnesota, North Carolina at Chapel Hill, and Southern Maine. Under contract with the federal Office of Rural Health Policy (PHS Grant No. U27RH01080), the Flex Monitoring Team is cooperatively conducting a performance monitoring project for the Medicare Rural Hospital Flexibility Program (Flex Program). The monitoring project is assessing the impact of the Flex Program on rural hospitals and communities and the role of states in achieving overall program objectives, including improving access to and the quality of health care services; improving the financial performance of Critical Access Hospitals; and engaging rural communities in health care system development.

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The Medicare Rural Hospital Flexibility Program

The Medicare Rural Hospital Flexibility Program (Flex Program), created by Congress in 1997, allows small hospitals to be licensed as Critical Access Hospitals (CAHs) and offers grants to States to help implement initiatives to strengthen the rural health care infrastructure. To participate in the Flex Program, States are required to develop a rural health care plan that provides for the creation of one or more rural health networks, promotes regionalization of rural health services in the State, and improves the quality of and access to hospital and other health services for rural residents of the State. Consistent with their rural health care plans, states may designate eligible rural hospitals as CAHs.

CAHs must be located in a rural area or an area treated as rural; be more than 35 miles (or 15 miles in areas with mountainous terrain or only secondary roads available) from another hospital, or be certified before January 1, 2006 by the State as being a necessary provider of health care services. CAHs are required to make available 24-hour emergency care services that a State determines are necessary. CAHs may have a maximum of 25 acute care and swing beds, and must maintain an annual average length of stay of 96 hours or less for their acute care patients. CAHs are reimbursed by Medicare on a cost basis (i.e., for the reasonable costs of providing inpatient, outpatient, and swing bed services).

The legislative authority for the Flex Program and cost-based reimbursement for CAHs are described in the Social Security Act, Title XVIII, Sections 1814 and 1820, available at http://www.ssa.gov/OP_Home/ssact/title18/1800.htm.

Introduction

All hospitals, regardless of size and organizational structure, benefit from comparative data on financial condition and performance. The unique reimbursement and organizational structure of critical access hospitals (CAHs) make it important to have financial indicators that capture their own circumstances for performance assessment. CAHs differ from urban and other rural hospitals that are paid under the Medicare Prospective Payment System (PPS) in important aspects that affect the most appropriate way to measure financial condition. Unlike PPS hospitals, CAHs receive cost-based reimbursement for inpatient and outpatient care, and the incentives, financial management, and utilization practices under these two payment methods differ substantially. There are also organizational differences between CAHs and other hospitals that may affect financial performance; for instance, CAHs have relaxed staffing rules under Medicare, and they have limits on bed-size and average length of stay (and low volume hospitals have been found to face substantially more annual variation in demand for services, making financial planning difficult).

This Briefing Paper presents state and national median values of the twenty financial indicators included in the *CAH Financial Indicators Report*, a report that is distributed to each CAH administrator annually. As part of ongoing work of the Flex Monitoring Team, these indicators were specifically designed to capture the financial performance of CAHs. In order to identify the indicators that were most relevant to the financial performance of CAHs, a Technical Advisory Group (TAG) of four individuals knowledgeable in CAH financial and operational issues, data, and reporting practices was selected to provide advice to a research team from the University of North Carolina at Chapel Hill. The TAG evaluated frequently used indicators of hospital financial performance for their applicability to CAHs.¹ Their evaluation relied on three criteria: feasibility (whether the indicator can be accurately calculated from Medicare cost report data²), importance (whether the indicator is an important measure of the financial management of CAHs), and usefulness (whether the indicator is useful to CAH administrators). The TAG retained 13 of the most frequently used indicators from the review. In addition, 7 other financial ratios were added that are not commonly used in the financial assessment of larger hospitals, but that group members believed capture important attributes of CAH financial management.

The resulting 20 indicators fall under six domains: profitability, liquidity, capital structure, revenue, cost, and utilization. In the pages that follow, a brief description of the domains and the indicators within them is provided, along with a table that allows comparison across states. The Appendix to this report includes the median values for each indicator by state, enabling the values for all indicators for one state to be viewed on a single page. More detailed information about the definition and interpretation of the

¹ The list of potential indicators resulted from a review of financial ratios in articles, peer-reviewed journals, and other industry and scientific publications.

² Medicare cost reports were selected as the data source for calculating indicator values because they are the only national data that use standard definitions, have sufficient detail, and will eventually include data for all CAHs.

indicators can be found in the document “Briefing Paper No. 7. Financial Indicators for Critical Access Hospitals May 2005” which can be downloaded from the Flex Monitoring Team website:

http://www.flexmonitoring.org/documents/BriefingPaper7_FinancialIndicators.pdf

The following table includes, by state, the total number of Critical Access Hospitals with a Medicare Cost Report for at least 360 days in period, the minimum required to be included in the calculation of medians. The number of CAHs for a particular indicator may be less than the number in the table if there was unusable data for one or more CAHs in the state.

State	2005 Number of CAHs	State	2005 Number of CAHs
AK	8	NC	15
AL	1	ND	30
AR	16	NE	60
AZ	6	NH	9
CA	14	NM	6
CO	25	NV	6
FL	9	NY	9
GA	34	OH	26
HI	6	OK	23
IA	59	OR	20
ID	26	PA	7
IL	37	SC	2
IN	22	SD	34
KS	74	TN	8
KY	20	TX	56
LA	16	UT	6
MA	3	VA	4
ME	10	VT	4
MI	19	WA	36
MN	57	WI	46
MO	19	WV	15
MS	20		

*Median values calculated ONLY for states with post-conversion Medicare Cost Report data for at least 2 critical access hospitals in 2005

Profitability Indicators

Profitability is the net result of a large number of reimbursement and managerial policies and decisions and it reflects the combined effects of liquidity, asset management, and debt on operating results. *Profitability indicators* measure the ability to generate the financial return required to replace assets, meet increases in service demands, and compensate investors (in the case of a for-profit organization).

Total Margin measures the control of expenses relative to revenues.

$$\text{Total margin formula: } \frac{\text{Net income}}{\text{Total revenue}}$$

Cash Flow Margin measures the ability to generate cash flow from providing patient care services.

Cash flow margin formula:

$$\frac{\text{Net income} - (\text{Contributions, investments, and appropriations} + \text{Depreciation expense} + \text{Interest expense})}{\text{Net patient revenue} + \text{Other income} - \text{Contributions, investments, and appropriations}}$$

Return on Equity measures the net income generated by equity investment (net assets).

$$\text{Return on equity formula: } \frac{\text{Net income}}{\text{Net assets}}$$

State	Total Margin	Cash Flow Margin	Return on Equity
	%	%	%
US	2.63	4.73	5.87
AK	-2.88	0.98	-3.43
AR	0.32	-0.01	6.80
AZ	3.93	3.24	11.21
CA	3.47	-0.78	10.66
CO	3.79	3.78	5.47
FL	-0.88	-0.78	-15.60
GA	0.85	2.65	12.14
HI	-10.16	-17.89	-19.97
IA	3.75	7.02	5.81
ID	3.14	5.46	4.03
IL	4.75	7.87	9.76
IN	2.13	7.25	3.67
KS	-0.71	-6.38	-0.51
KY	2.42	7.51	7.75
LA	0.66	2.71	0.89
ME	1.91	4.59	5.46
MI	1.16	3.54	4.56
MN	3.06	8.10	7.23
MO	3.03	5.16	9.31
MS	-2.70	0.84	-4.67
MT	2.86	2.28	5.46
NC	1.84	2.63	6.77
ND	0.06	2.27	0.34
NE	4.24	7.80	6.63
NH	2.65	7.31	3.82
NM	4.77	7.40	12.54
NV	9.95	4.15	13.44
NY	3.29	6.87	7.24
OH	3.75	8.05	8.69
OK	4.47	1.52	12.15
OR	2.25	2.28	10.02
PA	1.53	5.59	7.10
SD	-0.31	4.34	0.39
TN	-2.03	1.20	-5.41
TX	2.86	-0.29	7.70
UT	5.70	4.78	17.10
WA	3.86	4.57	6.56
WI	5.83	10.52	11.30
WV	1.08	3.82	4.45
WY	5.24	5.95	8.97

Liquidity Indicators

A liquid asset is one that trades in an active market and hence can be quickly converted to cash at the going market price. An analysis of liquidity asks the question “will the organization be able to pay off its debts as they come due over the next year or so?” *Liquidity indicators* measure the ability to meet cash obligations in a timely manner.

Current Ratio measures the number of times short-term obligations can be paid using short-term assets.

Current ratio formula:
$$\frac{\text{Current assets}}{\text{Current liabilities}}$$

Days Cash on Hand measures the number of days an organization could operate if no cash was collected or received.

Days cash on hand formula:

$$\frac{\text{Cash} + \text{Marketable securities} + \text{Unrestricted investments}}{(\text{Total expenses} - \text{Depreciation}) / \text{Days in period}}$$

Days Revenue in Accounts Receivable measures the number of days that it takes an organization to collect its receivables.

Days revenue in accounts receivable formula:

$$\frac{\text{Net patient accounts receivable}}{(\text{Net patient service revenue}) / \text{Days in period}}$$

State	Current Ratio	Days Cash on Hand	Days Revenue in Accounts Receivable
	Times	Days	Days
US	2.11	53.42	57.40
AK	1.53	40.66	70.28
AR	1.62	21.92	50.10
AZ	3.24	44.77	67.24
CA	1.56	18.72	62.92
CO	2.86	78.44	59.40
FL	1.14	3.87	45.25
GA	1.90	22.31	55.95
HI	0.35	5.42	63.06
IA	2.04	104.32	57.14
ID	2.38	53.15	63.20
IL	2.21	74.39	58.86
IN	2.14	54.59	59.22
KS	2.09	47.49	55.99
KY	1.91	20.42	57.28
LA	2.83	61.73	58.59
ME	1.21	103.81	39.45
MI	1.95	53.40	47.92
MN	2.22	69.41	57.22
MO	2.30	68.66	59.54
MS	1.07	12.14	64.84
MT	2.60	63.13	56.02
NC	1.57	21.71	66.68
ND	1.52	44.68	51.82
NE	3.03	80.35	59.16
NH	2.10	172.92	56.91
NM	1.92	6.57	46.80
NV	4.72	98.88	74.54
NY	2.96	51.28	50.60
OH	1.83	60.30	53.33
OK	2.62	38.02	63.11
OR	1.97	43.65	61.37
PA	1.44	46.26	51.01
SD	1.61	42.54	56.68
TN	1.17	5.58	49.57
TX	2.29	49.92	68.24
UT	3.85	4.90	38.12
WA	2.34	55.74	55.85
WI	2.35	128.33	53.67
WV	1.36	7.46	56.41
WY	3.78	58.74	65.01

Capital Structure Indicators

The extent to which an organization uses debt financing, or financial leverage, has three important implications. First, debt allows not-for-profit organizations to provide more services than it could if it were financed only by contributed capital and retained earnings. Second, creditors look to the equity to provide a margin of safety, so the higher the proportion of total capital provided by the owners, the less the risk faced by creditors. Third, if the organization earns more on investments financed with borrowed funds than it pays in interest, the return on owner's capital is magnified, or leveraged up. *Capital structure indicators* measure the extent of debt and equity financing.

Equity Financing measures the percentage of total assets financed by equity.

$$\text{Equity financing formula: } \frac{\text{Net assets}}{\text{Total assets}}$$

Debt Service Coverage measures the ability to pay obligations related to long-term debt, principal payments and interest expense.

Debt service coverage formula:

$$\frac{\text{Net income} + \text{Depreciation exp.} + \text{Interest exp.}}{\text{Current portion of long-term debt} * (\text{Days in period} / 365) + \text{Interest expense}}$$

Long-Term Debt to Capitalization measures the percentage of total capital that is debt.

Long-term debt to capitalization formula:

$$\frac{\text{Long-term debt}}{\text{Long-term debt} + \text{Net assets}}$$

State	Equity Financing	Debt Service Coverage	Long-term Debt to Capitalization
	%	Times	%
US	62.23	2.93	22.47
AK	70.75	-3.81	3.45
AR	66.80	6.51	11.42
AZ	72.32	4.53	13.07
CA	45.96	3.72	35.27
CO	55.47	2.58	34.59
FL	25.55	0.92	17.19
GA	62.12	2.32	22.96
HI	23.61	-14.54	34.44
IA	64.87	3.47	25.33
ID	57.81	3.37	24.30
IL	58.41	3.63	21.07
IN	63.66	4.08	22.46
KS	73.31	0.52	6.82
KY	46.01	2.75	38.28
LA	68.12	1.69	10.40
ME	50.94	2.29	43.85
MI	58.23	1.39	26.44
MN	58.72	2.89	26.75
MO	46.94	2.76	34.78
MS	45.43	0.43	31.32
MT	68.58	3.55	20.75
NC	52.94	4.60	31.57
ND	58.66	1.53	28.28
NE	68.41	5.03	20.33
NH	54.50	4.55	37.79
NM	46.49	3.79	44.80
NV	73.12	4.87	18.79
NY	45.12	6.84	21.67
OH	66.78	3.52	18.18
OK	73.32	4.18	4.52
OR	55.59	3.44	25.05
PA	37.79	1.73	51.58
SD	61.52	1.71	20.96
TN	35.66	-2.01	30.65
TX	70.37	2.78	8.28
UT	91.05	2.80	0.00
WA	55.15	4.17	36.21
WI	57.30	3.99	34.60
WV	45.99	0.95	25.65
WY	71.52	8.86	13.49

Revenue Indicators

Most organizations receive revenues from many sources and relative profitability often varies among sources. A substantial proportion of revenue from commercial and private payers reduces reliance on the fixed margins of Medicare and Medicaid. *Revenue indicators* measure the amount and mix of different sources of revenue.

Outpatient Revenues to Total Revenues measures the percentage of total revenues that are for outpatient revenues (including, for example, Rural Health Clinics, free-standing clinics, and home health clinics).

Outpatient revenues to total revenues formula:
$$\frac{\text{Total outpatient revenue}}{\text{Total patient revenue}}$$

Patient Deductions measures the allowances and discounts per dollar of total patient revenues.

Patient deductions formula:
$$\frac{\text{Contractual allowances and discounts}}{\text{Gross total patient revenue}}$$

Medicare Inpatient Payer Mix measures the percentage of total inpatient days that are provided to Medicare patients.

Medicare inpatient payer mix formula:

$$\frac{\text{Medicare inpatient days}}{\text{Total inpatient days} - \text{Nursery bed days} - \text{NF Swing bed days}}$$

Medicare Outpatient Payer Mix measures the percentage of total outpatient charges that are for Medicare patients.

Medicare outpatient payer mix formula:
$$\frac{\text{Outpatient Medicare charges}}{\text{Total outpatient charges}}$$

Medicare Outpatient Cost to Charge measures outpatient Medicare costs per dollar of outpatient Medicare charges.

Medicare outpatient cost to charge formula:
$$\frac{\text{Outpatient Medicare costs}}{\text{Outpatient Medicare charges}}$$

Medicare Revenue per Day measures the amount of Medicare revenue earned per Medicare day.

Medicare revenue per day formula:
$$\frac{\text{Medicare revenue}}{\text{Medicare days} - \text{SNF Swing bed days}}$$

State	Outpatient Revenues to Total Revenues	Patient Deductions	Medicare Inpatient Payer Mix	Medicare Outpatient Payer Mix	Medicare Outpatient Cost to Charge	Medicare Revenue per Day
	%	%	%	%	%	\$
US	64.72	30.83	78.41	36.91	0.52	1370
AK	51.99	12.29	67.53	23.80	0.93	2191
AR	60.33	36.61	81.65	43.05	0.51	1023
AZ	83.41	40.58	67.89	31.82	0.46	1583
CA	59.78	40.12	62.85	25.13	0.42	1636
CO	65.22	32.12	77.81	39.49	0.54	1480
FL	63.26	51.82	69.13	33.02	0.40	1234
GA	57.98	39.47	74.47	34.79	0.48	1110
HI	47.40	40.26	49.65	14.27	0.65	1460
IA	72.41	24.18	83.92	45.42	0.56	1330
ID	62.87	26.06	69.15	32.12	0.60	1700
IL	65.57	37.59	83.83	40.23	0.43	1312
IN	75.48	42.19	71.41	35.05	0.40	1473
KS	58.32	26.18	87.47	44.15	0.56	1191
KY	65.85	48.47	74.18	31.12	0.36	1060
LA	67.25	45.52	72.98	33.12	0.54	1310
ME	71.49	32.95	74.92	38.04	0.48	1513
MI	70.07	28.19	76.73	39.35	0.48	1624
MN	60.39	24.63	78.01	37.35	0.50	1562
MO	73.21	37.50	79.20	34.08	0.46	1349
MS	45.74	35.36	83.33	36.04	0.52	924
MT	50.10	15.88	84.99	32.27	0.67	1219
NC	67.31	44.60	73.84	39.39	0.50	1356
ND	56.90	20.05	91.65	43.82	0.57	970
NE	64.80	20.62	81.60	44.20	0.57	1378
NH	72.34	36.91	76.25	33.79	0.42	1721
NM	74.28	39.34	55.42	33.38	0.43	1621
NV	72.48	26.61	61.71	32.12	0.48	1987
NY	68.12	39.20	86.54	32.78	0.45	1231
OH	72.51	40.59	75.25	29.83	0.42	1667
OK	58.33	43.66	81.34	38.10	0.53	1111
OR	64.86	33.30	67.47	36.85	0.54	2038
PA	67.70	50.55	65.81	32.99	0.42	894
SD	58.62	21.57	89.50	41.44	0.53	1221
TN	69.41	55.53	76.66	33.16	0.35	1163
TX	63.10	39.46	77.91	35.85	0.55	1357
UT	65.13	26.01	57.98	25.54	0.53	1476
WA	66.94	33.95	63.28	29.84	0.56	1788
WI	65.30	33.53	71.41	31.86	0.48	1561
WV	70.58	40.05	84.87	32.58	0.51	1107
WY	59.36	23.79	65.91	36.50	0.55	1725

Cost Indicators

Most organizations incur labor, supply, and capital costs. Cost management reduces the likelihood of financial problems due to low productivity, poor inventory management, and excessive asset acquisition costs. *Cost indicators* measure the amount and mix of different types of costs.

Salaries to Total Expenses measures the percentage of total expenses that are labor costs.

Salaries to total expenses formula:

$$\frac{\text{Salary expense}}{\text{Total expenses}}$$

Average Age of Plant measures the average age in years of the fixed assets of an organization.

Average age of plant formula:

$$\frac{\text{Accumulated depreciation}}{\text{Depreciation expense} * (\text{Days in period} / 365)}$$

FTEs per Adjusted Occupied Bed measures the number of full-time employees per each occupied bed.

FTEs per adjusted occupied bed formula:

$$\frac{\text{Number of FTEs}}{\text{Adjusted occupied beds}^1}$$

¹. (Inpatient days – NF Swing days – Nursery days)
* (Total patient revenue / (Total inpatient revenue – Inpatient NF revenue – Other LTC Revenue)) / Days in period

State	Salaries to Total Expenses	Average Age of Plant	FTEs per Adjusted Occupied Bed
	%	Years	FTEs
US	44.98	10.94	5.92
AK	44.27	18.71	16.31
AR	43.99	9.36	4.51
AZ	44.70	5.88	5.04
CA	44.20	19.95	12.94
CO	45.64	11.17	7.50
FL	46.98	11.25	5.33
GA	44.05	11.47	5.70
HI	47.38	22.06	11.02
IA	42.46	10.16	4.95
ID	44.98	8.75	7.70
IL	43.37	11.45	5.93
IN	45.36	8.51	4.86
KS	46.58	15.04	5.75
KY	41.44	8.68	4.45
LA	41.44	12.82	4.65
ME	46.48	12.75	6.03
MI	47.34	11.79	7.53
MN	45.55	9.57	8.62
MO	44.27	10.16	5.00
MS	46.71	9.64	5.74
MT	48.43	13.41	10.67
NC	43.42	13.37	6.14
ND	52.32	14.43	5.55
NE	47.13	10.35	5.81
NH	46.09	8.91	6.32
NM	41.06	8.13	5.49
NV	43.70	7.43	8.32
NY	48.66	10.83	6.85
OH	41.50	10.60	4.95
OK	46.78	12.88	4.89
OR	42.89	9.16	6.40
PA	39.27	11.64	2.99
SD	48.22	12.05	6.19
TN	45.43	9.64	4.40
TX	42.51	13.68	5.33
UT	39.27	13.29	4.86
WA	46.71	11.60	7.60
WI	42.44	10.06	5.92
WV	42.02	12.78	6.02
WY	45.12	14.08	8.93

Utilization Indicators

Overhead costs are incurred on all assets, whether used or not. More patient activity generates higher revenues and reduces unit costs by spreading fixed costs over more patients. *Utilization indicators* measure the extent to which fixed assets (beds) are fully occupied.

Average Daily Census Swing-SNF Beds measures the average number of swing-SNF beds occupied per day.

Average daily census swing-SNF beds formula:

$$\frac{\text{Inpatient swing bed SNF days}}{\text{Days in period}}$$

Average Daily Census Acute Beds measures the average number of acute care beds occupied per day.

Average daily census acute beds formula:

$$\frac{\text{Inpatient acute care bed days}}{\text{Days in period}}$$

State	Average Daily Census Swing-SNF Beds	Average Daily Census Acute Beds
	Days	Days
US	1.62	3.99
AK	0.75	1.07
AR	1.45	5.63
AZ	0.47	2.94
CA	1.17	2.68
CO	1.46	2.95
FL	0.90	5.38
GA	1.70	5.40
HI	1.54	0.81
IA	2.12	3.86
ID	0.59	3.65
IL	2.54	6.53
IN	1.51	8.52
KS	2.21	2.29
KY	1.48	7.26
LA	1.29	4.46
ME	3.03	7.63
MI	1.02	3.65
MN	1.19	3.62
MO	1.86	5.05
MS	4.68	5.55
MT	1.15	1.85
NC	1.05	6.43
ND	2.17	1.65
NE	1.78	2.77
NH	2.56	9.42
NM	0.53	5.25
NV	1.17	1.99
NY	2.82	2.56
OH	2.27	7.59
OK	1.27	3.28
OR	1.04	6.18
PA	2.62	5.50
SD	1.49	1.87
TN	2.12	5.13
TX	1.43	2.70
UT	0.97	2.97
WA	0.84	4.20
WI	1.91	6.03
WV	1.58	4.58
WY	1.74	3.94

2005 Median Indicator Values for Michigan and the United States

CAH Financial Indicators Report

Indicator	Issue 4	
	MI	US
Total Margin	1.16	2.63
Cash Flow Margin	3.54	4.73
Return on Equity	4.56	5.87
Current Ratio	1.95	2.11
Days Cash on Hand	53.40	53.42
Net Days Revenue in Accounts Receivable	47.92	57.40
Equity Financing	58.23	62.23
Debt Service Coverage	1.39	2.93
Long-Term Debt to Capitalization	26.44	22.47
Outpatient Revenues to Total Revenues	70.07	64.72
Patient Deductions	28.19	30.83
Medicare Inpatient Payer Mix	76.73	78.41
Medicare Outpatient Payer Mix	39.35	36.91
Medicare Outpatient Cost to Charge	0.48	0.52
Medicare Revenue per Day	1624	1370
Salaries to Total Expenses	47.34	44.98
Average Age of Plant	11.79	10.94
FTEs per Adjusted Occupied Bed	7.53	5.92
Average Daily Census Swing-SNF Beds	1.02	1.62
Average Daily Census Acute Beds	3.65	3.99
Number of Included CAHs	19	973

Number of Included CAHs is the Number of CAHs with a Medicare Cost Report for at least 360 days (used in analysis).

N/A denotes medians that could not be calculated since there were no valid values for this indicator for 2005. See complete report for discussion.