

*Medical Issues -*

**MEDICAID REIMBURSEMENT OF NURSING FACILITY SERVICES**

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Government Performance Audit Committee  
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## **Issue Statement**

The North Carolina Medicaid program pays for 75 percent of all nursing home care provided in the State. Since FY87, payments have doubled, while the number of recipients increased by 35 percent. Cost data indicates that North Carolina nursing facilities compare favorably to nursing facilities in other states, but the current methodology does not promote efficiency. Steps must be taken to control expenditures while maintaining high quality care.

## **Background**

Approximately 325 nursing facilities operate over 32,000 beds in the State of North Carolina. Due to the high costs of nursing care, most nursing facility residents become eligible for Medicaid coverage at some point during their stays. In North Carolina, approximately seventy-five percent of all nursing care days were reimbursed by Medicaid. The number of nursing facility days covered by Medicaid is increasing and is generally higher in North Carolina than in other states.

Medicaid payments for nursing facility care totalled \$464 million in FY92, an increase of 100 percent from FY87. Payment for nursing facility services accounts for approximately 25 percent of the Medicaid budget. Payments per recipient were \$1,654, an increase of nearly 50 percent since FY87. The average payment per patient day was \$78.66 for skilled care and \$59.60 for intermediate care.

Between 1987 and 1992, North Carolina expenditures per recipient increased at a greater rate than the DRI index for nursing home costs. The DRI index, published by Data Resources, Inc., reports historical and projected changes in health care costs for skilled nursing facilities. The HCFA nursing home market basket index is a weighted average of the changes in prices of nursing facility inputs, including goods, services and labor. In order to establish the Market Basket index, Data Resources, Inc. developed weights of inputs from data collected in surveys by the National Center for Health Statistics. The market basket index includes price changes in the following expense categories: wages and salaries, employee benefits, food, drugs, supplies, health services, fuel and other utilities, liability insurance and miscellaneous expenses. The market basket index excludes changes in capital costs. Exhibit 1 includes a comparison of North Carolina expenditure changes and changes in the nursing home market basket.

## **Medicaid Reimbursement Methodology**

North Carolina Medicaid reimburses private nursing facilities on a prospective, facility-specific basis. Prospective rates establish payment amounts in advance, and allow no retroactive settlement based on a facility's actual cost experience. Separate rates are established for skilled and intermediate care. Rates are comprised of three components:

# EXHIBIT 1

## NURSING FACILITY SERVICES EXPENDITURES

Fiscal Year	Payments	Percent Increase (Decrease)	Recipients	Percent Increase (Decrease)	\$ Per Recipient	Percent Increase (Decrease)	Percent Increase DRI Nursing Home Market Basket
1987	\$230,243,041.32		207,669		\$1,108.70		
1988	\$246,604,437.85	7.11	213,864	2.98	\$1,153.08	4.00	4.6
1989	\$269,204,748.46	9.16	219,040	2.42	\$1,229.02	6.59	6.5
1990	\$313,688,684.36	16.52	229,80	4.91	\$1,365.05	11.07	6.3
1991	\$401,691,288.09	28.05	254,495	10.75	\$1,578.39	15.63	5.0
1992	\$463,924,297.70	15.49	280,361	10.16	\$1,654.74	4.84	3.6
1987-1992		101.49		35.00		49.25	28.9

Source: Division of Medical Assistance

direct care costs, indirect care costs and return on equity. State-operated facilities are reimbursed on the basis of reasonable cost receiving payment for all costs defined as allowable under Title XIX of the Social Security Act.

The direct care component includes costs incurred in the following cost centers: nursing, dietary or food service, laundry and linen, housekeeping, patient activities, social services and ancillary services. Direct care costs are subject to a ceiling which is equal to the eightieth percentile of all facilities' direct care costs. Facilities with costs below the ceiling must return the difference between their costs and the payment ceiling to the Division of Medical Assistance after audit of cost reports.

Facilities are reimbursed for indirect care costs based on a statewide flat rate. The payment amount for FY90 was \$16.86 per day for skilled care and \$16.54 per day for intermediate care. The indirect rate reimburses facilities for the following expenses: administrative and general, operation of plant and maintenance, property ownership and use and mortgage interest. Facilities receive the flat rate per patient day regardless of whether actual indirect care costs exceed or are less than the payment amount.

Payment for return on equity is made to proprietary facilities (i.e., investor-owned) on a retrospective basis (after-the-fact adjustments are made). The payment rate is equal to the rate paid by Medicare, subject to an 11.875 percent ceiling.

## Findings

### ***Finding 1: Comparative data indicate that North Carolina nursing facilities operate relatively efficiently.***

Comparative data indicates that along a number of cost dimensions, North Carolina nursing facilities operate efficiently compared to other states. Nursing facility costs in North Carolina are generally lower than the national average. As indicated in Exhibit 2, average total operating expense was \$62.53 in 1989, which ranks thirtieth among all states, and is slightly higher than the national average of \$60.45. The profit margin in North Carolina ranks twenty-fourth among all states and is below the national average. (See Exhibit 3.) Additional comparative data is provided in an appendix to this paper.

Given the relative importance of Medicaid as a payor, the State may wish to consider alternative reimbursement strategies to promote greater efficiencies. While the national comparative cost data suggests that the performance of North Carolina facilities compares favorably to other states, evaluation of the current reimbursement methodology and cost report data indicates that the current methodology could be modified in order to reimburse facilities more equitably, encourage more efficient operation and reduce Medicaid expenditures for nursing facility services.

## EXHIBIT 2

### STATE COMPARISON OF NURSING FACILITY INDUSTRY MEDIAN OPERATING COST PER DAY

	1990	1989	1988	1988-1990 Percent Change
Florida	72.97	68.53	62.38	17.0%
Virginia	64.63	59.45	57.61	12.2%
West Virginia	63.06	61.11	57.67	9.3%
North Carolina	62.53	57.46	51.64	21.1%
National Ave.	60.45	55.76	50.08	20.7%
South Carolina	59.42	55.54	51.77	14.8%
Kentucky	51.34	45.87	43.2	18.8%
Tennessee	49.3	44.06	41.1	20.0%
Georgia	47.63	42.47	39.41	20.9%

Source: 1992 Guide to the Nursing Home Industry, published by Health Care Investment Analysts and Arthur Andersen

### EXHIBIT 3

#### STATE COMPARISON OF NURSING FACILITY INDUSTRY MEDIAN TOTAL PROFIT MARGIN (PERCENT)

	1990	1989	1988	1988-1990 Difference
Virginia	5.22	4.79	5.88	-0.66
National Ave.	2.72	1.96	1.63	1.09
Kentucky	2.47	2.29	1.96	0.51
North Carolina	1.48	2.45	1.61	-0.13
Georgia	1.19	-0.09	0.22	0.97
Florida	1.18	1.03	1.81	-0.63
West Virginia	0.52	-1.82	-1.13	1.65
Tennessee	0.17	0.6	-0.97	1.14
South Carolina	0.03	1.64	-2.36	2.39

Source: 1992 Guide to the Nursing Home Industry, published by Health Care Investment Analysts and Arthur Andersen

***Finding 2: The North Carolina reimbursement methodology provides more generous reimbursement for certain cost components in comparison to other states.***

The current methodology reimburses facilities their direct care costs, subject to an eightieth percentile ceiling established by DMA using 1988 base year costs. Direct care costs are the "hands-on", patient care costs. If a facility's costs are below the ceiling, the facility receives its actual costs. Some states allow nursing homes to keep a portion of the difference between their costs and the ceiling rate as an "incentive" payment or "efficiency" payment. Because there is no efficiency or incentive payment used by North Carolina for direct care component costs, facilities have no incentive to control their direct care costs so long as their costs are below the ceiling. If efficiency payments were available, facilities would be encouraged to operate more cost-effectively. However, it can be argued that encouraging facilities to control direct care costs may compromise the quality of care provided.

One difference between North Carolina's direct care cost rate and the direct care rates used by other states is that the direct care component is more broadly defined in North Carolina. One option available to the State is to divide the direct care component into two or more components. One component would include the costs which directly affect patient care, such as nursing and dietary services; the current eightieth percentile ceiling methodology could be continued for these payments. Other costs currently included in the direct care component, such as housekeeping and laundry and linen, could be placed in a separate cost component, with a relatively more stringent cost ceiling and the opportunity for efficiency payments.

Some states reimburse nursing facilities for direct care costs under a case-mix system. Case-mix systems establish payment rates according to the level of care provided in facilities. For example, facilities which serve patients with more intensive nursing care needs receive higher payments than facilities serving patients which require a lower level of care. Because payment amounts are based on the relative needs of patients, reimbursement is more equitable. Additionally, a case-mix system encourages provision of care to patients with relatively greater needs.

Administrative and general expenses, operation of plant and maintenance expenses and capital costs are included in North Carolina's indirect care component, which is reimbursed on a statewide flat rate. This approach is an effective means to control costs, particularly capital costs. Facilities with costs less than the flat rate retain the difference as an efficiency payment. Rather than paying the flat rate to facilities with indirect costs below the rate, several states pay a percentage of the difference between costs and the rate. This would reduce Medicaid expenditures, yet would continue to encourage facilities to control indirect care costs. Alternatively, the State may place a cap on the amount the facility is permitted to retain. For example, facilities would be permitted to retain the difference between indirect costs and payment, limited to \$2.00 per patient day.

In recent years, many states have eliminated payments for return on equity. North Carolina allows nursing facilities to retain the difference between indirect costs and the indirect rate, and the rate is relatively generous. Consequently, many facilities already receive "profit" on their investment.

The current reimbursement methodology incorporates mechanisms which encourage facilities to operate efficiently. However, the eightieth percentile ceiling on direct care costs is generous relative to other states. For example, Alabama and Tennessee establish ceilings at the sixtieth and sixty-fifth percentile of median costs, respectively. Additionally, the indirect flat rate is enabling some facilities to derive very large profits from Medicaid payments.

Modification of the reimbursement system requires consideration of the Boren amendment to the Social Security Act, which requires Medicaid programs to reimburse the costs that must be incurred by economically and efficiently operated facilities. Costs are defined on standard cost reporting forms and audited based on Medicare's definition of "allowable" costs. Allowable costs are not the same, however, as "the costs that must be incurred by efficient and economic facilities." For example, all nursing wages are allowable costs. However, the efficient facility may pay \$25 an hour for a registered nurse, while a less efficient facility may pay an average of \$40 an hour because registry nurses are used. For this reason, states have attempted to establish payment rates according to methodologies which develop standards for efficient performance.

In recent years, several states have moved from facility-specific rates to peer grouped rates, or have employed peer groups to establish cost ceilings, in an attempt to establish such standards. The purpose of peer grouping is to recognize statistically significant differences in costs which are attributable to facility characteristics. For example, analysis may indicate that facility size (number of beds) affects the average cost per diem. By grouping facilities with similar characteristics known to affect cost and establishing separate payment ceilings for each group, the State may be in a better position to establish equitable payment rates and impose more effective cost control measures.

A case-mix system does not necessarily reduce total expenditures for nursing facility services. Payment levels may be established in order to achieve budget neutrality or may be set to enhance payment for heavy care patients. The primary benefit of a case-mix system is its ability to ensure payment levels which reflect the cost of resources necessary to fulfill patient needs, enabling the State to allocate funds for nursing facility services equitably.

Exhibit 4 summarizes features of nursing facility reimbursement systems used by other southeastern states. For the reader's convenience, North Carolina data is repeated on each page of the exhibit.



# EXHIBIT 4

## NURSING FACILITY REIMBURSEMENT - STATE COMPARISON

	North Carolina	Alabama	Florida	Georgia	Kentucky
Types of Peer Groups	None	Facility size	Facility size Location	Facility size Level of care Age of facility	Location
Standard for Rate Determination	<ul style="list-style-type: none"> <li>- Facility-specific rates for direct care component, subject to statewide ceiling, equal to the eightieth percentile of all facilities' costs</li> <li>- Indirect care component is paid a flat, statewide rate.</li> </ul>	Three components, patient care, other operating, and property. Rate ceilings for each of five cost components calculated at sixtieth percentile of median costs.	Patient care and other operating costs subject to class ceilings which are derived by a complex formula; property costs are reimbursed according to a fair rental value system or historical costs for facilities owned prior to July, 1984.	Five peer grouped cost components: routine and special services; dietary; laundry, housekeeping and maintenance; administrative and general; property. Rate ceilings for each cost component range from seventieth to ninetieth percentile of median costs.	Two cost components: nursing and all other. Rate ceilings calculated at 115 percent of median costs. Nursing cost component is case-mix adjusted. Other costs component divided into four sub-components: other care-related; other operating; indirect ancillary; capital.
Efficiency Payment	No efficiency payment for direct care component; facilities retain 100 percent of difference between indirect care costs and ceiling.	No efficiency payments.	No efficiency payments. Incentive payments for quality care and high proportion of Medicaid residents.	Seventy-five percent efficiency bonus, subject to maximum amounts ranging from \$.20 to \$.53 for each of five cost components. Intensity payments for facilities providing certain proportions of skilled care.	Efficiency payment equal to ten percent of difference between per diem cost per case-mix unit and 110 percent of peer grouped median, limited to \$1.50.

**EXHIBIT 4 (Continued)**

**NURSING FACILITY REIMBURSEMENT - STATE COMPARISON**

	<b>North Carolina</b>	<b>Alabama</b>	<b>Florida</b>	<b>Georgia</b>	<b>Kentucky</b>
<b>Occupancy Adjustment</b>	No	No	No	85 percent	Penalty to payment for fixed costs if occupancy less than 92 percent
<b>Return on Equity</b>	Yes, limited to 11.875 percent	Yes	Yes	Eleven percent rate of return built into property component rate	No
<b>Average Payment Rate Per Day</b>	FY92 Skilled: \$78.66 Intermediate: \$59.60	FY91 \$52.58	FY91 \$71.00	FY91 \$57.72	N/A

**EXHIBIT 4 (Continued)**

**NURSING FACILITY REIMBURSEMENT - STATE COMPARISON**

	North Carolina	Mississippi	South Carolina	Tennessee	Virginia
Types of Peer Groups	None	Facility size	Facility size	None	Location
Standard for Rate Determination	<ul style="list-style-type: none"> <li>- Facility-specific rates for direct care component, subject to statewide ceiling, equal to the eightieth percentile of all facilities' costs</li> <li>- Indirect care component is paid a flat, statewide rate</li> </ul>	Rate ceilings equal to sixtieth percentile of median costs. Other costs subject to specific limits, including director's fees and home office costs.	Rates determined according to four cost components: general; dietary; laundry, housekeeping and maintenance; administrative and medical records. Rates are case-mix adjusted and subject to ceilings calculated at 110 percent of mean costs for proprietary facilities.	Rate ceilings equal to sixty-fifth percentile of the median.	Two cost components: operating and plant. Rates are case-mix adjusted and subject to ceilings. Operating component divided into direct and indirect subcomponents. Payments for direct care are determined according to Patient-Intensity Rating System, a case-mix system .
Efficiency Payment	No efficiency payment for direct care component; facilities retain 100 percent of difference between indirect care costs and ceiling.	Efficiency payment limited to \$2.00.	Efficiency payment equal to 100 percent of difference between costs and ceiling, limited to \$2.00.	Efficiency payment equal to twenty-five percent of difference between variable costs and variable cost ceiling, limited to \$3.00. Facility must have minimum occupancy of eighty percent in order to receive efficiency payment.	Efficiency payments are calculated to increase proportionally as difference between ceiling and cost increases.

**EXHIBIT 4 (Continued)**

**NURSING FACILITY REIMBURSEMENT - STATE COMPARISON**

	North Carolina	Mississippi	South Carolina	Tennessee	Virginia
Occupancy Adjustment	No	80 percent	Rates assume 98 percent occupancy.	Costs deducted proportionally for occupancy rates less than 80 percent.	95 percent minimum occupancy for calculation of plant costs.
Return on Equity	Yes, limited to 11.875 percent	Yes, fifteen percent	No	Yes, limited to \$1.50 per day.	No
Average Payment Rate Per Day	FY92 Skilled: \$78.66 Intermediate: \$59.60	FY91 \$49.51	FY92 \$62.67	FY92 Skilled: \$102.24 Intermediate: \$63.45	FY92 \$60.00

Source: 1) Guide to Nursing Home Industry, published by Health Care Investment Analysts Inc. and Arthur Andersen, 1991  
 2) CCH Medicare/Medicaid Guide  
 3) Telephone survey conducted by Peat Marwick, 1992

## Recommendations

### ***Recommendation 1: Implement a prospective, peer-grouped, case mix based reimbursement methodology.***

Peer grouping identifies facilities that can be expected to incur similar costs based on certain statistically valid variables such as geographic location, bed size, and occupancy levels. A peer group ceiling rate, generally based on a percentile of costs, or the median, establishes the standard for efficient and economic facilities. Peer grouping will achieve savings for North Carolina because facilities with costs above the ceiling will have payments capped at the ceiling level. To encourage facilities with costs below the ceiling to maintain these costs, an efficiency incentive (e.g., 25 percent of the difference between costs and the ceiling) can be paid.

Separate peer group ceilings should be established for each cost component. North Carolina's current policy to allow more generous reimbursement of direct patient care costs to ensure quality of care should continue, but costs such as housekeeping and laundry and linen, which do not reflect the costs of hands-on patient care, could be moved into another component with more stringent ceilings. Each year, rates will be updated by an inflation factor, such as the DRI nursing home inflator. This allows greater predictability in estimating nursing facility expenditures. Finally, payments should be case-mix adjusted, to reflect the varying levels of resources required to treat patients.

#### **Implications:**

- Reimbursement is more closely tied to patient needs, promoting access for patient requiring a higher level of care.
- Nursing facilities should participate in the development of the methodology to promote greater understanding of the goals and objectives.

### ***Recommendation 2: Eliminate Return on Equity payments.***

Many states have eliminated return on equity payments. Current reimbursement policy permits facilities to retain the difference between the facility's indirect costs and the statewide flat rate; for this reason, nursing facilities already receive a "profit".

#### **Implications:**

- Medicaid expenditures are reduced.
- This approach is consistent with other states' policies.

### ***Recommendation 3: Establish a cap on indirect care efficiency payment.***

Under the current reimbursement policy, nursing facilities retain the entire difference between actual indirect costs and the flat rate. Differences between indirect costs and the flat rate are substantial for some facilities. Establishing a ceiling amount on these payments does not impair the State's ability to encourage facilities to operate efficiently. The State may limit efficiency payments to a dollar amount, such as two dollars per patient day, or according to a percentage of the difference between indirect costs and the flat rate.

#### **Implications:**

- Excessive nursing facility "profits" are eliminated.
- Medicaid expenditures are reduced with little impact on incentives to control indirect care costs.

#### **Implementation Considerations**

Development of the new reimbursement methodology will require State staff to conduct patient assessments in order to profile relative patient needs. Additionally, development of peer grouped rates will require statistical analysis of cost report data in order to determine appropriate peer grouping criteria. Implementation of a cap on efficiency payments and elimination of return on equity payments require minimal use of administrative resources.

Nursing facility administrators will require education to become familiar with the new reimbursement system. Consequently, the State will need to revise its Medicaid provider manual. Additionally, the State must submit a revised State Plan to the Health Care Financing Administration in order to obtain federal approval of the new system. As other states have implemented similar systems, this requirement should be accomplished with little difficulty.

#### **Cost Savings**

Exhibit 5 presents projected State savings associated with each of the recommendations. Projected figures are based on annual increases in expenditures equal to the DRI Nursing Home Market Basket Index, with no increase in the number of recipients. For this reason, the estimated savings are conservative estimates.

Implementation of a case-mix reimbursement system which establishes peer-grouped rates will produce estimated savings between seven and ten percent annually. Projected savings presented in Exhibit 5 are based on a seven percent decrease in total expenditures.

# EXHIBIT 5

## PROJECTED COST SAVINGS (In Millions)

Fiscal Year	93	94	95	96	97	98	99	0	1	2
Current Program	\$123.0	\$129.8	\$137.1	\$145.3	\$154.0	\$163.3	\$173.0	\$183.4	\$194.4	\$206.1
Implement prospective, case-mix system which uses peer groups	\$8.6	\$9.1	\$9.6	\$10.2	\$10.8	\$11.4	\$12.1	\$12.8	\$13.6	\$14.4
Cap efficiency payment at \$2.00	2.4	\$2.5	\$2.7	\$2.8	\$3.0	\$3.2	\$3.4	\$3.6	\$3.8	\$4.0
State and Federal	\$1.2	\$1.3	\$1.4	\$1.5	\$1.6	\$1.6	\$1.7	\$1.8	\$1.9	\$2.0
Total Cost Savings	\$12.2	\$12.9	\$13.7	\$14.5	\$15.4	\$16.2	\$17.2	\$18.2	\$19.3	\$20.5
Cumulative Savings	\$12.2	\$25.1	\$38.8	\$53.3	\$68.7	\$84.9	\$102.1	\$120.3	\$139.6	\$160.1

### Assumptions

- Expenditures and savings inflated by the DRI Nursing Home Market Basket Index
- Capping efficiency payments at fifty percent of the difference between facility costs and the indirect rate produces savings similar to those projected for the \$2.00 efficiency payment cap

# APPENDIX NURSING FACILITY COMPARATIVE COST DATA

1990 Median Administrative and General Expense				1988-1990 Percent Change			1990 Median Age of Plant			1988-1990 Percent Change			1990 Median Depreciation and Interest			1988-1990 Percent Change			1990 Median Total Operating Expense			1988-1990 Percent Change		
Rank				Rank			Rank			Rank			Rank			Rank			Rank			Rank		
Alaska	1	54.1	4.8%	40	5.24	54.6%	42	80	-5.9%	1	23.97	21.4%	1	190.25	12.8%									
Alabama	35	13.63	9.4%	31	6.2	49.0%	19	102	-1.0%	13	9.09	29.3%	40	50.17	17.2%									
Arkansas	37	12.93	15.2%	22	6.86	28.0%	22	100	1.0%	47	3.36	9.8%	47	41.09	20.6%									
Arizona	15	19.04	6.9%	43	4.56	62.9%	6	120	-6.3%	5	11.39	-6.5%	12	80.83	7.6%									
California	10	22.28	35.6%	19	7.05	17.9%	28	99	0.0%	20	7.69	26.7%	20	67.76	13.6%									
Colorado	39	12.57	7.1%	29	6.38	1.9%	35	90	-4.3%	22	7.39	6.8%	21	66.99	22.0%									
Connecticut	3	30.39	26.7%	24	6.79	8.3%	7	120	0.0%	8	10.45	51.4%	5	102.11	19.9%									
Delaware	8	22.8	36.9%	44	4.53	-26.0%	4	126	-8.0%	7	10.46	18.7%	3	105.23	49.1%									
Florida	19	17.41	17.0%	38	5.56	67.5%	8	120	0.0%	14	8.84	6.0%	17	72.97	17.0%									
Georgia	36	13.06	24.1%	15	7.63	25.1%	20	102	1.0%	42	5.08	12.9%	42	47.63	20.9%									
Hawaii	4	29.32	8.9%	17	7.18	-5.3%	23	100	1.0%	17	7.94	11.8%	4	102.22	15.0%									
Iowa	49	9.76	-2.9%	4	10.77	12.1%	45	69	1.5%	44	4.63	2.2%	44	44.65	19.5%									
Idaho	14	19.35	33.2%	36	5.83	17.5%	29	98	3.2%	19	7.77	13.6%	25	66.28	25.7%									
Illinois	33	13.82	7.1%	34	5.98	-14.4%	15	108	1.9%	28	6.48	34.2%	38	53.96	23.5%									
Indiana	25	16.27	19.8%	47	2.45	40.0%	24	100	0.0%	2	13.67	30.2%	18	70.55	13.7%									
Kansas	41	12.24	40.0%	16	7.3	17.0%	47	60	0.0%	46	3.73	-0.3%	43	45.81	17.8%									
Kentucky	38	12.76	11.7%	14	7.96	5.2%	25	100	0.0%	45	4	-2.4%	39	51.34	18.8%									
Louisiana	47	10.59	9.4%	26	6.57	16.5%	9	120	0.0%	41	5.22	3.6%	48	39.34	14.5%									
Massachusetts	5	26	31.2%	12	8.4	9.9%	34	91	9.6%	25	6.64	31.0%	7	93.39	24.3%									
Maryland	13	19.96	23.0%	21	6.98	-14.0%	10	120	14.3%	29	6.43	26.1%	15	74.17	21.6%									
Maine	42	12.15	26.3%	35	5.95	3.3%	48	60	0.0%	16	8.14	15.6%	13	75.82	17.0%									
Michigan	27	14.85	11.2%	25	6.62	-1.8%	32	92	0.0%	30	6.43	11.4%	36	55.59	11.1%									
Minnesota	23	16.52	18.8%	3	11.24	-13.1%	36	90	0.0%	48	2.44	-5.4%	24	66.3	22.6%									
Missouri	16	18.83	25.7%	28	6.4	40.0%	14	110	3.8%	4	12.76	5.0%	37	54.75	6.8%									
Mississippi	45	11.41	9.3%	37	5.7	30.1%	37	90	2.3%	27	6.59	27.7%	45	43.96	13.0%									
Montana	21	16.98	21.6%	6	10.12	15.0%	49	60	0.0%	43	4.86	45.1%	35	58.87	15.0%									
North Carolina	43	11.86	25.8%	33	6.03	-24.4%	13	111	6.7%	32	6.17	20.3%	30	62.53	21.1%									
North Dakota	29	14.46	7.7%	7	10.11	15.4%	33	92	-2.1%	33	6.14	22.3%	22	66.71	15.3%									
New Hampshire	7	23.69	18.5%	10	9.24	2.4%	17	104	-3.7%	18	7.83	23.5%	9	85.11	19.4%									
New Jersey	6	24.84	25.7%	39	5.44	6.7%	3	128	3.2%	3	13.56	44.9%	6	100.15	18.4%									

Source: 1) Guide to Nursing Home Industry, published by Health Care Investment Analysts Inc. and Arthur Andersen, 1991



# APPENDIX NURSING FACILITY COMPARATIVE COST DATA (Continued)

	Rank	1990 Median Current Ratio	1988-1990 Percent Change	Rank	1990 Median Days In Accounts Payable	1988-1990 Percent Change	Rank	1990 Median Days In Accounts Receivable	1988-1990 Percent Change	Rank	1990 Median Debt Service Coverage Ratio	1988-1990 Percent Change	Rank	1990 Median Direct Care Expense Per Resident Day	1988-1990 Percent Change
Alaska	14	1.56	85.7%	5	20.76	-15.9%	3	50.44	-14.2%	44	0.97	3.2%	1	58.91	8.3%
Alabama	9	1.63	-6.3%	37	8.83	-0.2%	15	36.98	13.2%	42	1.07	-1.8%	35	19.95	29.6%
Arkansas	10	1.61	-5.8%	15	13.61	31.8%	39	26.21	18.5%	1	3.66	-1.9%	47	13.79	29.7%
Arizona	44	0.97	64.4%	12	14.35	6.4%	19	34.56	-0.1%	47	0.86	-186.0%	14	29.65	12.2%
California	11	1.61	-10.1%	29	10.77	30.4%	11	39.69	15.8%	30	1.36	4.6%	22	25.7	8.3%
Colorado	2	2	-7.0%	23	11.99	29.6%	17	35.6	44.7%	38	1.15	-16.7%	16	28.5	37.5%
Connecticut	34	1.08	-9.2%	14	13.77	-5.1%	30	29.81	3.9%	39	1.14	40.7%	3	36.82	27.1%
Delaware	48	0.72	-55.3%	6	20.17	111.2%	44	23.38	-22.5%	45	0.9	47.5%	10	31.26	6.4%
Florida	22	1.28	6.7%	43	8.44	-12.4%	26	32.48	18.2%	25	1.45	9.8%	20	26.26	13.5%
Georgia	40	1	-3.8%	18	13.17	14.2%	25	32.51	9.2%	34	1.24	8.8%	42	16.9	19.4%
Hawaii	3	1.91	-14.3%	42	8.55	27.6%	6	44.84	28.1%	11	1.85	62.3%	9	32.81	38.8%
Iowa	15	1.55	15.7%	46	7.39	-2.2%	47	11.87	2.4%	16	1.64	54.7%	45	14.57	22.7%
Idaho	29	1.22	10.9%	31	10.05	-4.3%	40	25.29	-14.6%	41	1.11	22.0%	26	24.75	36.4%
Illinois	6	1.76	7.3%	2	31.07	158.3%	4	46.06	8.2%	7	1.97	22.4%	39	18.16	26.0%
Indiana	37	1.07	-15.7%	41	8.62	17.0%	48	-1	0.0%	48	-1	0.0%	40	17.27	37.2%
Kansas	35	1.08	-23.4%	38	8.71	-4.2%	46	14.26	0.6%	18	1.63	-4.7%	41	16.96	10.8%
Kentucky	31	1.21	-26.7%	24	11.83	7.5%	32	29.07	4.8%	26	1.43	-6.5%	38	19.02	64.7%
Louisiana	13	1.58	3.3%	44	8.32	7.5%	35	27.12	11.6%	22	1.53	2.0%	48	13.75	13.8%
Massachusetts	26	1.25	10.6%	7	17.29	20.8%	1	59.65	26.9%	21	1.55	38.4%	4	36.61	8.5%
Maryland	12	1.6	1.3%	18	12.97	3.3%	10	41.66	31.8%	6	2.01	20.4%	15	29.58	32.5%
Maine	38	1.05	26.5%	33	9.55	10.0%	45	22.85	10.3%	35	1.23	17.1%	6	34.43	27.9%
Michigan	23	1.28	28.0%	32	9.99	7.1%	12	38.95	58.1%	31	1.34	13.6%	33	20.91	16.9%
Minnesota	20	1.37	-10.5%	39	8.68	-18.2%	29	30.42	-14.2%	27	1.4	10.2%	21	25.78	18.8%
Missouri	30	1.22	-17.0%	22	12.45	18.5%	22	33.06	44.5%	43	1	-1.0%	23	25.63	34.8%
Mississippi	1	2.32	12.6%	45	7.54	-16.8%	43	24.02	5.4%	2	2.38	4.8%	46	13.94	12.8%
Montana	18	1.46	-27.0%	47	7.36	-3.2%	33	28.71	15.8%	15	1.67	28.5%	31	21.57	9.8%
North Carolina	21	1.35	-2.6%	35	9.43	-4.6%	34	28.36	21.4%	20	1.56	-13.3%	24	25.56	41.2%
North Dakota	24	1.28	13.3%	36	9.17	19.4%	42	24.88	25.0%	3	2.08	-9.6%	19	28.11	19.0%
New Hampshire	33	1.09	2.8%	40	8.63	9.4%	38	26.86	21.6%	14	1.79	45.5%	5	36.06	42.8%
New Jersey	41	0.98	-8.4%	4	26.08	13.0%	20	34.42	18.5%	36	1.22	11.9%	7	34.35	18.8%

Source: 1) Guide to Nursing Home Industry, published by Health Care Investment Analysts Inc. and Arthur Andersen, 1991

**APPENDIX**  
**NURSING FACILITY COMPARATIVE COST DATA (Continued)**

	1990 Median Administrative and General Expense			1988-1990 Percent Change			1990 Median Age of Plant			1988-1990 Percent Change			1990 Median Depreciation and Interest			1988-1990 Percent Change			1990 Median Total Operating Expense			1988-1990 Percent Change		
	Rank			Rank			Rank			Rank			Rank			Rank			Rank			Rank		
New Mexico	17	18.02	14.8%	45	4.45	25.0%	41	83	2.5%	10	9.64	16.8%	27	64.77	12.4%									
Nevada	9	22.53	28.3%	48	2.12	-37.8%	11	120	-1.6%	11	9.63	26.4%	8	90.04	34.7%									
New York	2	31.45	14.0%	20	7.05	-19.8%	1	200	-2.0%	12	9.21	11.8%	2	117.37	13.2%									
Ohio	44	11.69	17.7%	5	10.49	51.6%	26	100	0.0%	38	5.45	1.5%	19	68.41	19.6%									
Oklahoma	46	11.1	28.5%	49	-1	0.0%	43	79	3.9%	37	5.52	2.4%	49	38.03	18.3%									
Oregon	30	14.28	17.2%	27	6.45	56.9%	38	90	3.4%	23	7.06	7.5%	23	66.38	22.8%									
Pennsylvania	12	20.84	18.7%	32	6.04	6.7%	5	126	2.4%	6	10.92	8.7%	10	83.14	17.0%									
Rhode Island	11	21.81	46.0%	2	11.34	1.7%	44	72	20.0%	39	5.35	35.1%	11	81.11	16.1%									
South Carolina	26	15.11	27.4%	11	8.56	22.1%	21	102	0.0%	40	5.27	-13.3%	34	59.42	14.8%									
Tennessee	34	13.79	19.4%	23	6.85	2.9%	16	107	4.9%	36	5.6	8.9%	41	49.3	20.0%									
Total	28	14.61	18.0%	18	7.09	15.3%	27	100	1.0%	34	6.13	8.9%	33	60.45	20.7%									
Texas	40	12.31	12.8%	41	4.85	49.2%	18	104	4.0%	31	6.38	23.2%	46	42.81	17.7%									
Utah	20	17.05	9.4%	46	3.94	47.6%	39	90	2.3%	15	8.8	23.4%	32	60.83	6.0%									
Virginia	31	14.06	12.4%	8	9.64	5.5%	2	129	0.8%	21	7.56	28.8%	28	64.63	12.2%									
Vermont	22	16.96	11.1%	1	12.51	8.0%	12	120	0.0%	35	5.63	-7.7%	16	73.3	11.4%									
Washington	24	16.3	21.7%	13	7.98	23.5%	30	98	-1.0%	49	1.8	-21.7%	14	74.45	24.3%									
Wisconsin	18	17.47	35.4%	9	9.42	25.3%	40	87	1.2%	26	6.63	-2.9%	26	65.58	18.0%									
West Virginia	32	13.93	27.6%	42	4.81	52.7%	31	93	0.0%	9	10.39	-0.5%	29	63.06	9.3%									
Wyoming	48	10.46	9.2%	30	6.23	-5.5%	46	67	0.0%	24	6.67	76.0%	31	61.42	10.3%									

Source: 1) Guide to Nursing Home Industry, published by Health Care Investment Analysts Inc. and Arthur Andersen, 1991

**APPENDIX**  
**NURSING FACILITY COMPARATIVE COST DATA (Continued)**

	1990 Median FTEs per Average Daily Census			1990 Median Indirect Care Expense Per Resident Day			1990 Median Long-Term Debt to Total Assets			1990 Median Net Patient Revenue per Resident Day			1990 Median Occupancy Rate (Percent)		
	Rank	1988-1990 Percent Change		Rank	1988-1990 Percent Change		Rank	1988-1990 Percent Change		Rank	1988-1990 Percent Change		Rank	1988-1990 Percent Change	
Alaska	1	1.31	-11.5%	1	32.17	6.7%	22	0.62	-8.8%	1	205.41	18.6%	44	86.83	11.2%
Alabama	28	0.8	-1.2%	38	10.63	10.7%	28	0.59	-1.7%	39	46.84	14.0%	4	97.91	1.0%
Arkansas	48	0.44	-10.2%	44	9.14	17.5%	37	0.48	17.1%	45	43.34	22.0%	30	94.34	-1.9%
Arizona	19	0.85	2.4%	18	12.95	7.8%	1	0.97	1.0%	16	71.41	16.4%	42	90.21	7.1%
California	2	0.97	3.2%	16	13.72	15.1%	43	0.43	95.5%	20	68.29	17.9%	27	94.46	-1.0%
Colorado	31	0.77	4.1%	28	11.74	12.7%	6	0.83	9.2%	28	62.74	19.3%	46	85.84	-6.1%
Connecticut	14	0.87	0.0%	8	16.46	14.0%	30	0.56	-3.4%	3	104.27	24.9%	3	98.02	0.1%
Delaware	24	0.81	12.5%	6	16.85	29.0%	12	0.76	52.0%	7	92.39	37.6%	43	88.98	-3.7%
Florida	32	0.77	0.0%	19	12.82	10.7%	7	0.83	13.7%	17	71.18	13.0%	20	95.55	1.1%
Georgia	41	0.7	2.9%	42	9.99	27.4%	13	0.74	2.8%	40	46.62	21.6%	10	97.38	-0.9%
Hawaii	5	0.95	5.6%	3	17.96	23.4%	32	0.54	25.6%	5	95.72	5.6%	38	92.06	-5.1%
Iowa	47	0.45	9.8%	45	9.11	16.5%	14	0.74	29.8%	44	44.04	15.5%	33	93.85	-1.6%
Idaho	16	0.86	-4.4%	46	8.89	-17.9%	2	0.89	18.7%	31	59.36	16.8%	37	92.17	1.3%
Illinois	42	0.68	9.7%	32	11.12	15.1%	19	0.63	6.8%	37	53.46	26.2%	40	91.21	-2.9%
Indiana	25	0.81	3.8%	25	12.11	10.6%	3	0.88	-6.4%	48	-1	0.0%	47	83.08	3.8%
Kansas	45	0.59	5.4%	34	11.05	19.8%	24	0.6	-3.2%	43	44.6	16.3%	34	93.79	-1.3%
Kentucky	44	0.6	0.0%	39	10.44	14.9%	20	0.63	5.0%	38	51.23	19.7%	1	98.19	-0.1%
Louisiana	40	0.71	14.5%	48	7.59	12.6%	4	0.87	7.4%	47	40.56	15.4%	36	93.11	-0.9%
Massachusetts	3	0.96	2.1%	7	16.74	13.1%	33	0.53	6.0%	6	93.51	30.5%	9	97.39	-0.2%
Maryland	29	0.78	0.0%	15	14.09	10.6%	46	0.4	29.0%	14	76.19	24.5%	17	96.26	-1.3%
Maine	38	0.74	8.8%	10	15.03	12.9%	31	0.56	7.7%	12	78.51	24.0%	8	97.42	-0.8%
Michigan	8	0.89	-2.2%	35	11	3.3%	39	0.47	-6.0%	35	56.03	16.7%	14	96.98	1.1%
Minnesota	33	0.77	0.0%	14	14.36	32.8%	40	0.47	-9.6%	22	65.35	24.9%	18	96.18	-0.1%
Missouri	22	0.83	5.1%	30	11.22	2.6%	36	0.49	-14.0%	36	54.58	10.3%	26	94.47	0.7%
Mississippi	43	0.65	0.0%	49	6.89	11.9%	42	0.44	18.9%	46	43.31	10.6%	19	96.13	-0.3%
Montana	17	0.86	7.5%	26	11.8	9.5%	25	0.6	36.4%	34	58.04	16.6%	21	95.13	1.1%
North Carolina	34	0.76	-5.0%	23	12.32	13.7%	21	0.63	12.5%	28	62	18.0%	13	97.19	-0.6%
North Dakota	4	0.96	-1.0%	12	14.92	12.6%	35	0.52	10.6%	19	68.68	20.4%	12	97.28	1.7%
New Hampshire	18	0.86	3.6%	5	17.04	8.7%	29	0.59	-16.9%	9	87.32	23.6%	22	94.92	1.0%
New Jersey	12	0.88	10.0%	4	17.26	19.4%	10	0.78	-3.7%	4	99.58	22.4%	32	93.91	-1.2%

Source: 1) Guide to Nursing Home Industry, published by Health Care Investment Analysts Inc. and Arthur Andersen, 1991

**APPENDIX**  
**NURSING FACILITY COMPARATIVE COST DATA (Continued)**

	1990 Median FTEs per Average Daily Census			1990 Median Indirect Care Expense Per Resident Day			1990 Median Long-Term Debt to Total Assets			1990 Median Net Patient Revenue per Resident Day			1990 Median Occupancy Rate (Percent)		
	Rank	1988-1990 Percent Change		Rank	1988-1990 Percent Change		Rank	1988-1990 Percent Change		Rank	1988-1990 Percent Change		Rank	1988-1990 Percent Change	
New Mexico	37	0.75	5.6%	36	10.85	5.8%	5	0.87	19.2%	21	66.4	22.8%	28	94.46	1.8%
Nevada	9	0.89	-1.1%	22	12.41	4.8%	9	0.79	-2.5%	8	88.55	33.0%	41	90.55	-4.5%
New York	10	0.89	-5.3%	2	25.75	9.8%	44	0.42	-17.6%	2	124.02	9.5%	16	96.44	-0.8%
Ohio	26	0.81	2.5%	27	11.77	12.5%	34	0.53	-5.4%	18	70.49	23.3%	23	94.9	-0.6%
Oklahoma	49	0.37	0.0%	43	9.72	21.7%	49	-1	0.0%	49	-1	0.0%	45	85.94	-2.0%
Oregon	35	0.76	4.1%	20	12.68	17.6%	48	0.26	-23.5%	24	62.83	22.0%	39	91.49	1.5%
Pennsylvania	27	0.81	-8.0%	9	15.12	11.8%	18	0.67	-10.7%	11	79.49	19.9%	24	94.74	0.2%
Rhode Island	13	0.88	10.0%	17	13.1	18.0%	15	0.68	3.0%	10	80.16	24.3%	7	97.62	0.2%
South Carolina	7	0.91	0.0%	24	12.15	8.0%	23	0.61	8.9%	30	60.85	19.4%	6	97.65	0.1%
Tennessee	39	0.74	0.0%	37	10.67	13.6%	11	0.77	2.7%	41	45.9	18.9%	2	98.04	0.5%
Total	36	0.76	4.1%	33	11.12	11.5%	26	0.6	3.4%	29	61.09	22.1%	29	94.42	-0.7%
Texas	46	0.59	0.0%	47	8.24	12.6%	38	0.48	9.1%	42	45.01	20.9%	48	82.98	-3.8%
Utah	20	0.85	0.0%	40	10.22	1.2%	45	0.41	-14.6%	33	58.52	4.0%	49	78.87	-1.9%
Virginia	23	0.83	-2.4%	21	12.6	24.5%	18	0.64	-4.5%	27	62.1	8.5%	15	96.97	0.6%
Vermont	6	0.94	0.0%	11	14.94	24.3%	27	0.6	-15.5%	13	76.27	20.1%	11	97.35	-0.1%
Washington	30	0.78	-1.3%	41	10.08	9.9%	41	0.45	32.4%	15	73.71	25.3%	35	93.69	-1.4%
Wisconsin	21	0.84	1.2%	29	11.74	17.9%	47	0.34	-30.6%	23	64.59	24.5%	31	93.98	-0.3%
West Virginia	11	0.89	-1.1%	31	11.2	9.1%	8	0.82	6.5%	25	62.82	12.3%	5	97.82	3.5%
Wyoming	15	0.87	-2.2%	13	14.57	17.1%	17	0.67	15.5%	32	59.12	14.2%	25	94.72	0.6%

Source: 1) Guide to Nursing Home Industry, published by Health Care Investment Analysts Inc. and Arthur Andersen, 1991

**APPENDIX**  
**NURSING FACILITY COMPARATIVE COST DATA (Continued)**

	1990 Median Medicaid Resident Days			1990 Median Salaries and Benefits per FTE			1990 Median Total Profit Margin		
	Rank	(Percent)	1988-1990 Percent Change	Rank	per FTE	1988-1990 Percent Change	Rank	(Percent)	1988-1990 Percent Change
Alaska	1	85.27	4.4%	1	30143	3.8%	40	-0.39	89.2%
Alabama	21	72.28	7.7%	49	12288	21.2%	21	2.13	71.8%
Arkansas	6	81.7	-0.4%	14	20080	43.2%	3	5.59	21.0%
Arizona	42	54.45	8.0%	21	17885	18.6%	49	-4.86	-386.0%
California	24	71.35	7.3%	27	16745	26.7%	19	2.2	147.2%
Colorado	19	72.63	-2.0%	36	15546	12.8%	46	-2.02	-539.1%
Connecticut	29	65.97	7.2%	2	26684	31.5%	29	0.86	134.5%
Delaware	46	37.69	29.8%	3	25649	22.2%	48	-4.85	-172.5%
Florida	28	66.49	8.6%	20	18350	22.6%	27	1.18	-34.8%
Georgia	5	82.15	-0.9%	38	15119	20.8%	26	1.19	440.9%
Hawaii	11	75.7	0.4%	7	23354	9.6%	11	3.55	8.9%
Iowa	47	-1	0.0%	16	19239	11.9%	14	2.97	-43.6%
Idaho	39	57.3	10.8%	31	16231	9.5%	45	-1.82	-1920.0%
Illinois	34	62.91	8.5%	25	17110	9.9%	10	4.03	127.7%
Indiana	27	66.56	-5.4%	23	17365	11.4%	43	-1	0.0%
Kansas	44	52.05	7.5%	26	17009	22.4%	38	-0.19	-131.1%
Kentucky	15	74.1	0.5%	41	14848	10.4%	18	2.47	26.0%
Louisiana	2	84.69	-1.7%	44	14614	9.7%	6	5.17	11.2%
Massachusetts	7	80.35	3.4%	5	24409	39.3%	8	4.63	457.8%
Maryland	31	65.45	-6.7%	13	20684	25.5%	9	4.2	8.0%
Maine	9	77.13	1.6%	4	25178	51.7%	28	1.02	187.9%
Michigan	10	77.02	2.9%	42	14819	14.5%	32	0.63	672.7%
Minnesota	37	58.99	4.9%	12	20707	23.4%	17	2.56	84.2%
Missouri	41	54.58	-4.5%	43	14806	13.1%	33	0.52	-75.8%
Mississippi	4	82.5	1.2%	47	13934	13.5%	5	5.21	30.9%
Montana	36	60.37	1.8%	34	15896	11.2%	23	1.68	127.0%
North Carolina	20	72.84	0.1%	32	18084	30.6%	24	1.48	-8.1%
North Dakota	40	57.07	4.5%	39	15118	13.3%	20	2.16	-36.5%
New Hampshire	48	-1	0.0%	9	22201	16.7%	22	1.86	708.7%
New Jersey	35	61.56	3.7%	6	24264	15.8%	31	0.7	158.3%

Source: 1) Guide to Nursing Home Industry, published by Health Care Investment Analysts Inc. and Arthur Andersen, 1991

**APPENDIX**  
**NURSING FACILITY COMPARATIVE COST DATA (Continued)**

	1990 Median Medicaid Resident Days Rank (Percent) 1988-1990 Percent Change			1990 Median Salaries and Benefits per Rank FTE 1988-1990 Percent Change			1990 Median Total Profit Margin Rank (Percent) 1988-1990 Percent Change		
New Mexico	14	74.19	1.3%	28	16651	16.9%	12	3.52	245.5%
Nevada	45	50.84	-7.5%	10	21336	17.7%	47	-2.51	-24.9%
New York	3	83.91	1.0%	8	23032	11.9%	13	3.49	7.7%
Ohio	22	71.61	2.9%	33	16010	17.7%	7	4.87	85.9%
Oklahoma	49	-1	0.0%	22	17658	14.2%	44	-1	0.0%
Oregon	43	53	12.6%	15	19767	19.0%	35	0.3	-72.2%
Pennsylvania	38	58.12	-4.8%	11	20778	27.6%	30	0.8	385.7%
Rhode Island	13	74.69	-4.5%	17	19228	17.4%	39	-0.35	86.1%
South Carolina	18	72.67	5.4%	45	14478	16.1%	37	0.03	101.3%
Tennessee	12	74.94	2.6%	48	12954	16.5%	36	0.17	117.5%
Total	23	71.59	0.4%	24	17166	22.0%	15	2.72	66.9%
Texas	17	72.74	4.8%	40	14874	12.3%	1	7.95	38.7%
Utah	33	63.2	1.7%	37	15309	11.2%	42	-0.54	89.4%
Virginia	26	66.98	3.2%	30	16414	15.4%	4	5.22	-11.2%
Vermont	25	67.65	2.1%	19	18478	7.0%	2	6.34	3436.8%
Washington	16	73.27	2.5%	29	16605	14.4%	25	1.23	216.0%
Wisconsin	30	65.81	0.8%	18	18577	19.8%	41	-0.39	42.6%
West Virginia	8	77.44	2.9%	35	15612	16.3%	34	0.52	146.0%
Wyoming	32	65.25	3.1%	46	14351	12.8%	16	2.62	21.9%

Source: 1) Guide to Nursing Home Industry, published by Health Care Investment Analysts Inc. and Arthur Andersen, 1991