Trends in Medicaid Nursing Home Reimbursement: 1978-89

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Medicaid nursing home reimbursement is of concern because of implications for nursing home expenditures. This article presents data on State Medicaid nursing home reimbursement methods, ratesetting methods, and average per diem rates, refining earlier data and updating through 1989. A trend in the early 1980s toward adopting prospective systems played out by the end of the decade. There were trends, however, toward case-mix methods, which may increase access for high-need patients, and toward cost-center limits on nursing, which may provide incentives to lower quality care. Analysis supports previous findings that prospective systems allow greater control over increases in rates.

INTRODUCTION

Medicaid nursing home reimbursement policy has strong implications for expenditures, which remain high despite decreasing proportions of Medicaid dollars for nursing home care (Swan, 1990)

and decreases in the early 1980s in the proportions of nursing home costs covered by Medicaid (Letsch, Levit, and Waldo, 1988). Nursing home expenditures were 66 billion dollars in 1992, 44 percent paid by Medicaid, representing a stable Medicaid share since the mid-1980s (Burner, Waldo, and McKusick, 1992).

Reimbursement has been of growing concern to nursing homes in recent years, as clientele, services, and costs of care have changed. Disability levels of residents increased from 1976 to 1984, with numbers of totally bedfast residents increasing from 21 to 35 percent of discharges and those dependent in mobility and continence increasing from 35 to 45 percent (Sekscenski, 1987). The average resident has about four of six limitations in activities of daily living, and 66 percent have some type of mental impairment or disorder (Hing, Sekscenski, and Strahan, 1989). Part of the increase in acuity is attributable to Medicare's prospective payment system (PPS) for hospital reimbursement (Neu and Harrison, 1988).

Swan, Harrington, and Grant (1988) reported State Medicaid nursing home reimbursement for the period 1978-86. This article presents new data on State Medicaid nursing home reimbursement, refining earlier data and updating them through 1989.

Nursing Home Care and Costs

The locus of complex, high-tech medical care has, in part, shifted from the hos-

pital into the nursing home, making care more difficult and costly (Harrington and Estes, 1989; Shaughnessy and Kramer, 1990). Although nursing home staffing and education levels are low compared with acute care (American Nurses' Association, 1986; Strahan, 1988), new Federal legislation (Omnibus Budget Reconciliation Act of 1987) mandates additional registered nurses and nursing time. Greater nursing time is associated with better quality of care (Spector and Takada, 1989).

High-staffing ratios are essential for high-acuity patients, about 7 hours of daily nursing time for the "functionally dependent with complex needs" (U.S. Department of Health and Human Services, 1987). AIDS patients in a freestanding skilled nursing facility (SNF) in California were found to need 7 hours of daily nursing time, nursing costs alone accounting for the full Medicaid per diem payment (Swan and Benjamin, 1990).

Of importance to expenditures are State Medicaid nursing home reimbursement methods and per diem rates. Rates are the major predictor of Medicaid nursing home expenditures per aged population (Harrington and Swan, 1987), and methods are determinants of rates (Swan, Harrington, and Grant, 1988). In States with either retrospective or prospective facility-specific reimbursement, routine nursing home operating costs tend to be higher when their percent of Medicaid patients are higher; but in States with prospective-class reimbursement, these costs tend to be lower with more Medicaid patients (Cohen and Dubay, 1990). Class-reimbursement methods may be adopted by States with historically higher nursing home costs or with higher nursing home costs outside the Medicaid market (Cohen and Dubay, 1990).

Reimbursement policies are important for reasons other than expenditures. Rates affect Medicaid recipient access to nursing home beds (Scanlon, 1980; Philips and Hawes, 1988). Cohen and Dubay (1990) found higher coverage of Medicaid nursing home patients in States with prospective facility-specific systems, but found States with prospective-class methods to have lower Medicaid proportions of nursing home patients, compared with States with retrospective Medicaid methods. Both severity and mental disorientation of patients were lower in States with prospective-reimbursement systems, whether class or facility specific. Interestingly, having case-mix adjustment for rates did not show any effects on average severity and mental disorientation of patients. Thus, compared with retrospective methods, prospective-class methods are associated with greater difficulty, prospective facility-specific methods with less difficulty, of admitting Medicaid patients; whereas prospective payment generally appears to make it harder to admit higher acuity patients.

Likewise, Kenney and Holahan (1990) showed hospital discharge delays to be related to Medicaid reimbursement policies. In particular, they found State Medicaid nursing home prospective-reimbursement methods to be related to longer hospital discharge delays. Unfortunately, they did not include reimbursement rate in the analysis, so there is no assessment of any effects of payment methods net rate levels, nor of rate levels net payment methods. Given our earlier findings of strong payment-method ef-

fects on rates (Swan, Harrington, and Grant, 1988; Harrington and Swan, 1984), this is an important issue.

Issues of provider equity also arise. For example, most States include some ancillaries as parts of daily rates, rather than separately reimbursing their provision (Swan, Harrington, and Grant, 1988). In such cases, change in patient need may present financial risks to facilities reimbursed under outdated assumptions about average levels of and costs of providing an ancillary. Likewise, reimbursement limits on cost centers may not reflect changes in the provision of services.

Reimbursement Policies Under Medicaid

State Medicaid reimbursement policy is complex. As previously (Swan, Harrington, and Grant, 1988), it is separated into reimbursement methods, ratesetting methods, and average per diem rates.

Reimbursement Methods

Reimbursement method refers to ways in which State Medicaid programs pay for care. Several payment-method categories are used: retrospective, prospective class, prospective facility-specific, combination, and adjusted. Payment methods are much more complex than this small number of classes; but use of a small number of methods is a convenient way to organize information on State Medicaid payment methodologies that has proved useful in explaining interstate variation in reimbursement rates and changes in rates (Swan, Harrington, and Grant, 1988). (More detailed information is available from the authors on request.)

Retrospective payment is the traditional manner of reimbursing care, based on costs determined after care provision.

It has been rapidly supplanted by other methods in which some or all of a daily rate is set prospectively, at least in part. Prospective methods have been shown to be associated with lower increases in per diem rates compared with retrospective methods (Swan, Harrington, and Grant, 1988).

Prospective-class (flat-rate) methods set prospective rates for types of facilities in a State. In California, for example, all freestanding SNFs within geographical regions have identical rates. Other States set class rates for a set of categories of SNFs that provide different levels of care. Prospective-class rates may be the most stringent in terms of restricting increases in per diem rates (Swan, Harrington, and Grant, 1988).

Prospective facility-specific methods set rates by facility, generally using cost reports from earlier rate periods. As defined here, such methods do not allow general upward adjustments in rates during or after the ratesetting period.

Combination methods set rates based on cost centers, some reimbursed prospectively, other retrospectively. For example, for several years Maine reimbursed prospectively for most cost centers but retrospectively for some costs that were considered beyond the control of the facilities (Swan, Harrington, and Grant, 1988).

Some States set rates prospectively but frequently or routinely allow upward adjustments in the rates, during or after a rate period. Swan, Harrington, and Grant (1988) reported, for example, that at the beginning of the ratesetting period, Kentucky set prospective rates by facility, whether or not cost audits were available, but that where such audits were lacking, rates could be adjusted up or down when

such audits became available. Such methods, previously included with combination methods, are separated out in this article as "adjusted" prospective facility-specific methods. This change in categories has been used to recode the 1978-86 data, as well as to code the 1987-89 data. Adjusted methods are assumed to be less stringent regarding increases in rates than are other prospective methodologies.

Ratesetting Methods

Whatever the payment methods, States differ in how rates are set. Ratesetting is complex, reflecting many dimensions of State Medicaid discretion. A small number of ratesetting methods are considered here as the most important: inclusion of ancillary services in the per diem rate; case-mix methods; cost limits, overall or by cost center; and methods of valuing capital.

A variety of nursing home ancillary services may be separately reimbursed, covered in the daily rate, or disallowed entirely. For example, physical therapy may be paid separately where it is provided, claimed, and allowed, or may be considered to be included in a per diem rate paid to facilities. The inclusion of an ancillary in the rate makes an explicit or implicit assumption about the average provision of that ancillary and about average costs of providing that ancillary.

When patient characteristics and needs change, assumptions about volume of ancillaries may become outdated, with resulting risks falling disproportionately across facilities. Inclusion of ancillaries in rates provides different incentive structures (to reduce unnecessary provision but also to withhold needed care)

than does separate payment. Where an ancillary is included, the rate should be higher, an allowed cost per assumed volume that may be less than actual costs. Where many or costly ancillaries are included in rates (prescription drugs are a prime example), the rates may appear particularly high; but such high rates may mask lower overall payment, with high risks to facilities that liberally provide included ancillaries.

Case-mix methods tie payment to patient characteristics, paying on the basis of patient care needs, accounting for differences in costs of providing for those needs. Such methods may improve access for heavy-care patients, enhance quality of care, increase facility efficiency, and more fairly treat facilities on the basis of patients admitted (Rosko, Broyles, and Aaronson, 1987). However, case-mix systems can create incentives to increase service delivery or patient dependence (Fries, 1990; Schneider et al., 1988; Cooney and Fries, 1985). Adequate patient tracking and quality assurance mechanisms, to implement case mix and reduce incentives to increase dependence, have high administrative costs (Swan, Harrington, and Grant, 1988). However, this may have become less of a factor following the fiscal year 1991 implementation of the Omnibus Budget Reconciliation Act (OBRA) requirements for patient assessment using approved instruments and reporting of the minimum data set information (Morris, Hawes, and Fries, 1987). Case-mix systems can be designed that explain resource use well (Schneider et al., 1988). However, even if they are generally adequate at predicting staffing costs, case-mix systems that are not adapted to identify high-care patients (outliers) may fail to

give providers incentives to admit high-care patients (Fries, 1990). The 1986 survey found eight States to have case-mix reimbursement systems, but many other States reported they were studying future adoption of such systems (Swan, Harrington, and Grant, 1988). Conforming with the usage of the previous survey, case-mix systems are defined as those that use patient characteristics in setting rates for individual facilities or patients.

Some States set limits on specific cost centers or on overall facility costs. Ways in which States define cost centers vary greatly (Swan, Harrington, and Grant, 1988), making categorization difficult.

States differ in how they value capital in setting rates. Capital-valuation methods can provide facility operators incentives to drive up apparent values of capital investments. Conversely, overly stringent methods can limit investment, or at least limit Medicaid access to nursing home beds. Capital-valuation methods are categorized as: historic cost, replacement value, market value, imputed value (Swan, Harrington, and Grant, 1988), as well as rental value and combinations of historic costs with the other methods.

This article is limited to the description and analysis of the four areas of ratesetting. These four areas may all influence how rapidly reimbursement rates increase. There are other Medicaid nursing home ratesetting policies (Swan, Harrington, and Grant, 1988), many of which may also affect rate increases.

Reimbursement Rates

Of chief concern are per diem rate levels. As before (Swan, Harrington, and Grant, 1988; Harrington and Swan, 1984), each State is characterized each year by one average rate for SNFs and one for intermediate care facilities (ICFs). Depending on payment and ratesetting methods, estimating average rates is variably complex. In prospective-class States, a few rate levels constitute all nursing home payment, it being comparatively simple to calculate average rates. With facility-specific rate setting, however, estimation of average rates is generally very difficult and imprecise. In some states, only maximum rate levels are available. Medicaid per diem rates are not average expenditures per day of care. Because spend-down arrangements differ, some Medicaid eligibles account for a variable portion of nursing home payment covered by Medicaid.

METHODOLOGY

The 1989 State Medicaid nursing home reimbursement survey is the third of a series, following surveys in 1983 and 1986 (Swan, Harrington, and Grant, 1988). These surveys are needed because of variation in State Medicaid program policies and because there is no Federal reporting requirement for reimbursement data. The Intergovernmental Health Policy Program and National Governors Association compile data on changes in State Medicaid policies, including reimbursement, but not specifically on existing policies nor on reimbursement rates.

The 1989 survey was conducted in conjunction with a mail survey by the National Governors' Association (NGA). Telephone interviews by the authors obtained data from four States not responding to the NGA survey, filled gaps of unreported data, for clarifications, and collected data on reimbursement to hospital-based nursing homes. Because

of the technical nature of the subject matter, use of a mail-back survey raises issues regarding respondent classifications and accuracy of responses. This necessitated our telephone re-interviews with selected State respondents; and the experience affirms our belief that direct (telephone) interviews with State respondents provide the most accurate, most timely data. The Institute for Health and Aging remains committed to using such interviews in the future.

Some problems will arise no matter how the data are collected. Coding involves many judgements on complex issues in the face of great interstate policy variation. Some decision rules are discussed here. In particular, allowing upward adjustments in prospective rates was redefined from "combination" to a new category of "adjusted" method, entailing the recoding of 1978-86 data.

Average SNF and ICF reimbursement rates were computed for each State, by year. Estimating average rates is a problem in facility-specific States, which vary widely in their data system capacity. States may report average rates weighted by days of care, beds, or numbers of facilities; but others report only unweighted averages across categories of facilities. One State provides median rates, and others report maximum rates. Many States provide component figures that survey staff use to compute weighted averages.

FINDINGS

Reimbursement Methods

Five categories were used to code 1978-89 methods: retrospective, prospective facility-specific, prospective class, combination, and adjusted. Table 1 reports SNF methods, Table 2, ICF methods.

A new "adjusted" category represents methods allowing upward adjustment in prospective rates. Use of this category is in keeping with arguments by Holahan (1985). The 1978-86 data previously reported by Swan, Harrington, and Grant (1988) were recoded using this new definition, having formerly been included in the "combination" category.

Adjusted systems vary. In some cases, interim prospective rates apply until cost audits are available. In others, interim rates, set for varying facility fiscal years, are adjusted on a single statewide schedule. In some States, prospective rates represent routine ratesetting, but upward adjustments are regularly allowed following appeals. The lines are often quite narrow between adjusted system and retrospective systems on the one hand, and prospective facility-specific systems on the other, involving difficult judgments regarding correct classification. For example, Georgia is listed as an adjusted system, based on a judgment regarding frequency of upward rate adjustments based on on-site audits, although State respondents see the State as having a prospective facility-specific system.

Swan, Harrington, and Grant (1988) reported SNF and ICF methods to differ in four States: Iowa, Kentucky, New Hampshire, and Tennessee. Recoding of 1978-86 data resulted in coding methods in Kentucky as "adjusted" for both SNF and ICF (except in 1978); but Maine's methods were now found to differ from 1982 forward.

Table 3 shows numbers of States by method and year for 1978-89. Swan, Harrington, and Grant (1988) documented a major shift from retrospective reimbursement during 1978-86. Data for 1987-89 show the shift to have ended, with only

Table 1

Recategorization of Reimbursement Methods Used by Medicaid for Skilled Nursing Facilities, by State: 1978-89

State	State Medicaid Skilled Nursing Facility Method In:											
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Alabama	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Alaska	RET	RET	RET	RET	RET	RET	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Arizona	—	—	—	—	—	—	—	—	—	—	—	PCL
Arkansas	PFS	PFS	PFS	PFS	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
California	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
Colorado	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Connecticut	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Delaware	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
District of Columbia	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Florida	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Georgia	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Hawaii	RET	RET	RET	RET	RET	RET	RET	ADJ	ADJ	ADJ	ADJ	ADJ
Idaho	RET	RET	RET	RET	COM	COM	COM	COM	COM	COM	COM	COM
Illinois	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Indiana	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Iowa	RET	RET	RET	RET	RET	RET	RET	RET	ADJ	PFS	PFS	PFS
Kansas	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Kentucky	RET	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Louisiana	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
Maine	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET
Maryland	RET	RET	RET	RET	RET	RET	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Massachusetts	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET
Michigan	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Minnesota	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Mississippi	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Missouri	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Montana	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Nebraska	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS	COM	COM	COM
Nevada	COM	COM	COM	COM	COM	COM	COM	COM	COM	COM	COM	COM
New Hampshire	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET
New Jersey	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
New Mexico	RET	RET	RET	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS
New York	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
North Carolina	ADJ	ADJ	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
North Dakota	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Ohio	PFS	COM	COM	COM	COM	COM	COM	COM	COM	COM	COM	COM
Oklahoma	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
Oregon	RET	RET	RET	RET	RET	RET	RET	RET	COM	COM	COM	COM
Pennsylvania	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET
Rhode Island	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
South Carolina	RET	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
South Dakota	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Tennessee	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET
Texas	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PFS
Utah	PFS	PFS	PFS	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
Vermont	RET	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Virginia	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Washington	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
West Virginia	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Wisconsin	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Wyoming	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS

NOTES: Detailed footnotes about specifics of reimbursement methods are not provided here but are available upon request from the authors. RET is retrospective. PCL is prospective class. PFS is prospective facility-specific. COM is combination prospective and retrospective. ADJ is prospective, rate can be adjusted upward.

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

Table 2

Recategorization of Reimbursement Methods Used by Medicaid for Intermediate Care Facilities, by State: 1978-89

State	State Medicaid Intermediate Care Facility Method In:											
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Alabama	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Alaska	RET	RET	RET	RET	RET	RET	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Arizona	—	—	—	—	—	—	—	—	—	—	—	PCL
Arkansas	PFS	PFS	PFS	PFS	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
California	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
Colorado	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Connecticut	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Delaware	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PCL
District of Columbia	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Florida	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Georgia	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Hawaii	RET	RET	RET	RET	RET	RET	RET	ADJ	ADJ	ADJ	ADJ	ADJ
Idaho	RET	RET	RET	RET	COM	COM	COM	COM	COM	COM	COM	COM
Illinois	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Indiana	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Iowa	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Kansas	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Kentucky	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Louisiana	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
Maine	RET	RET	RET	RET	COM	COM	COM	COM	COM	COM	COM	COM
Maryland	RET	RET	RET	RET	RET	RET	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Massachusetts	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET
Michigan	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Minnesota	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Mississippi	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Missouri	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Montana	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Nebraska	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS	COM	COM	COM
Nevada	COM	COM	COM	COM	COM	COM	COM	COM	COM	COM	ADJ	ADJ
New Hampshire	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
New Jersey	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
New Mexico	RET	RET	RET	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS
New York	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
North Carolina	ADJ	ADJ	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
North Dakota	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Ohio	PFS	COM	COM	COM	COM	COM	COM	COM	COM	COM	COM	COM
Oklahoma	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
Oregon	RET	RET	RET	RET	RET	RET	RET	RET	COM	COM	COM	COM
Pennsylvania	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET	RET
Rhode Island	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
South Carolina	RET	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
South Dakota	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Tennessee	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Texas	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PFS
Utah	PFS	PFS	PFS	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL	PCL
Vermont	RET	RET	RET	RET	RET	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Virginia	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS
Washington	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
West Virginia	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Wisconsin	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
Wyoming	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS	PFS

NOTES: Detailed footnotes about specifics of reimbursement methods are not provided here but are available upon request from the authors. RET is retrospective. PCL is prospective class. PFS is prospective facility-specific. COM is combination prospective and retrospective. ADJ is prospective, rate can be adjusted upward.

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

minor changes after 1986. Insofar as States adopted prospective or combination methods for cost-constraint purposes, the remaining States with retrospective systems apparently have either not felt such needs or have employed other methods to constrain Medicaid nursing home costs.

Ratesetting Methods

Ratesetting methods considered here are: use of case-mix methods, inclusion of ancillaries in daily rates, having cost-center limits, and methods of valuing capital.

Case-mix system can account for high-cost cases in the setting of payment rates, so that access and care may be improved for patients with high-care needs. Table 4 reports State use of case-mix reimbursement methods in the years 1987-89. These findings suggest a slow shift toward such methods, accelerating after 1985. Three States with case mix in 1978 had increased to 12 by 1989, 4 had demonstration case-mix methods in 1989, and 3 had adopted them by the end of fiscal year 1991.

Table 5 reports 1987-89 inclusion of ancillaries in rates. Inclusion of an ancillary in a rate may induce a higher per diem rate but also may result in overall program savings for the service by eliminating separate billing for services provided. Including an ancillary in a rate provides an incentive for a facility to be more restrictive in providing the service. There was a much greater tendency to include ancillaries in rates by 1987-89 than in 1984. For example, 27 States included physical therapy in rates in 1984, but 34 by 1987. Of great interest, although only five States reported including prescription drugs in rates in 1984, eight did in 1987.

Table 6 reports cost-center limits for the years 1987-89. Numbers of States reporting general cost limits declined from 23 in 1984 to 13 in 1989. There is also a shift toward cost-center limits on nursing, 15 States having reported such limits in 1984 (Swan, Harrington, and Grant 1988), but 22 by 1987. Cost-center limits on nursing costs may have a perverse effect of limiting quality of care, especially given that patient-care costs are what facilities themselves are most likely to cut in order to contain costs (Scanlon, 1988). We argue

Table 3
Number of States, by Type of Facility and Reimbursement Method: 1978-89

Type of Facility and Reimbursement Method	Medicaid SNF Reimbursement Method in Year:											
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Skilled Nursing Facility												
Retrospective	18	16	16	16	12	11	9	7	5	5	5	5
Prospective Class	4	4	4	5	6	6	6	6	6	6	6	5
Prospective Facility-Specific	16	16	17	16	18	19	19	20	20	20	20	21
Combination	1	2	2	2	3	3	3	3	4	5	4	4
Adjusted	11	12	11	11	11	11	13	14	15	14	15	15
Intermediate Care Facility												
Retrospective	14	13	13	13	8	7	5	3	2	2	2	2
Prospective Class	4	4	4	5	6	6	6	6	6	6	6	5
Prospective Facility-Specific	17	17	18	17	19	20	20	21	21	20	20	21
Combination	1	2	2	2	4	4	4	4	5	6	5	5
Adjusted	14	14	13	13	13	13	15	16	16	16	17	17

NOTE: To allow clearer comparisons over time, numbers for 1989 exclude Arizona.

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

Table 4
Medicaid Skilled Nursing Facility Use of Case-Mix Methods: 1978-89

State	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Alabama	No	No	No	No	No	No	No	No	No	No	No	No
Alaska	No	No	No	No	No	No	No	No	No	No	No	No
Arizona	—	—	—	—	—	—	—	—	—	—	—	No
Arkansas	No	No	No	No	No	No	No	No	No	No	No	No
California	No	No	No	No	No	No	No	No	No	No	No	No
Colorado	No	No	No	No	No	No	No	No	No	No	No	No
Connecticut	No	No	No	No	No	No	No	No	No	No	No	No
District of Columbia	No	No	No	No	No	No	No	No	No	No	No	No
Delaware[1]	No	No	No	No	No	No	No	No	No	No	No	Yes
Florida	No	No	No	No	No	No	No	No	No	No	No	No
Georgia	No	No	No	No	No	No	No	No	No	No	No	No
Hawaii	No	No	No	No	No	No	No	No	No	No	No	No
Idaho	No	No	No	No	No	No	No	No	No	No	No	No
Illinois	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Indiana	No	No	No	No	No	No	No	No	No	No	No	No
Iowa	No	No	No	No	No	No	No	No	No	No	No	No
Kansas[2]	No	No	No	No	No	No	No	No	No	No	No	No
Kentucky[3]	No	No	No	No	No	No	No	No	No	No	No	No
Louisiana	No	No	No	No	No	No	No	No	No	No	No	No
Maine[2]	No	No	No	No	No	No	No	No	No	No	No	No
Maryland	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Massachusetts[4]	No	No	No	No	No	No	No	No	No	No	No	No
Michigan	No	No	No	No	No	No	No	No	No	No	No	No
Minnesota	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Mississippi[2]	No	No	No	No	No	No	No	No	No	No	No	No
Missouri	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Montana	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nebraska	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Nevada	No	No	No	No	No	No	No	No	No	No	No	No
New Hampshire	No	No	No	No	No	No	No	No	No	No	No	No
New Jersey	No	No	No	No	No	No	No	No	No	No	No	No
New Mexico	No	No	No	No	No	No	No	No	No	No	No	No
New York	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
North Carolina	No	No	No	No	No	No	No	No	No	No	No	No
North Dakota[3]	No	No	No	No	No	No	No	No	No	No	No	No
Ohio	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Oklahoma	No	No	No	No	No	No	No	No	No	No	No	No
Oregon	No	No	No	No	No	No	No	No	No	No	No	No
Pennsylvania	No	No	No	No	No	No	No	No	No	No	No	No
Rhode Island	No	No	No	No	No	No	No	No	No	No	No	No
South Carolina	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
South Dakota[2]	No	No	No	No	No	No	No	No	No	No	No	No
Tennessee	No	No	No	No	No	No	No	No	No	No	No	No
Texas[1]	No	No	No	No	No	No	No	No	No	No	No	Yes
Utah	No	No	No	No	No	No	No	No	No	No	No	No
Vermont	No	No	No	No	No	No	No	No	No	No	No	No
Virginia	No	No	No	No	No	No	No	No	No	No	No	No
Washington[5]	No	No	No	No	No	No	No	No	No	No	No	No
West Virginia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wisconsin	No	No	No	No	No	No	No	No	No	No	No	No
Wyoming	No	No	No	No	No	No	No	No	No	No	No	No
Number of States with Case Mix	4	4	4	4	6	7	7	7	10	11	11	13

[1]Case mix considered in setting class rates, but individual facility does not have rates altered by its own case mix.
[2]Demonstration case-mix program reported.
[3]Demonstration case-mix program through 1989, full case-mix system implemented in February 1990.
[4]Case-mix system implemented in fiscal year 1991.
[5]Higher reimbursement on a patient-by-patient basis under exceptional care program, but applies to a very small portion of patients (perhaps 10 percent of facilities and well under 1 percent of patients).

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

Table 5
States, by Inclusion of Ancillary Services in Daily Nursing Facility Rate: 1987-89

State	PT	OT	NLD	RX	SUP	DME	PHYS
Alabama	No	Yes	No	Yes	No	No	No
Alaska	Yes	Yes	Yes	Yes	Yes	Yes	No
Arizona	—	—	—	—	—	—	—
Arkansas	Yes	Yes	Yes	No	Yes	Yes	No
California	No	No	Yes	No	Yes	No	No
Colorado	Yes	Yes	No	No	Yes	Yes	Yes
Connecticut	Yes	No	Yes	No	Yes	No	No
Delaware	No	No	Yes	No	Yes	Yes	No
District of Columbia	Yes	No	Yes	Yes	Yes	Yes	Yes
Florida	Yes	Yes	Yes	No	Yes	No	No
Georgia[1]	Yes	Yes	Yes	No	Yes	Yes	No
Hawaii	No	No	No	No	Yes	No	No
Idaho	Yes	Yes	Yes	No	Yes	Yes	No
Illinois	No	No	Yes	No	Yes	Yes	No
Indiana	No	No	No	No	Yes	No	No
Iowa[2]	Yes	Yes	Yes	No	Yes	Yes	No
Kansas	Yes	Yes	Yes	No	Yes	Yes	No
Kentucky	Yes	Yes	No	No	Yes	No	No
Louisiana[3]	Yes	Yes	Yes	No	Yes	No	No
Maine	No	No	Yes	No	Yes	Yes	No
Maryland	Yes	Yes	Yes	No	Yes	Yes	No
Massachusetts[4]	No	No	Yes	No	No	No	Yes
Michigan[5]	No	No	Yes	No	Yes	No	No
Minnesota	No	No	Yes	No	No	No	No
Mississippi	Yes	Yes	No	No	Yes	Yes	No
Missouri	Yes	Yes	Yes	No	Yes	No	No
Montana	No	No	No	No	Yes	No	No
Nebraska	Yes	Yes	No	No	Yes	No	No
Nevada[1]	No	No	No	No	Yes	No	No
New Hampshire[6]	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New Jersey	No	No	Yes	No	Yes	No	No
New Mexico[7]	Yes	Yes	Yes	No	Yes	Yes	No
New York	Yes	Yes	Yes	Yes	Yes	No	No
North Carolina	Yes	Yes	Yes	No	Yes	Yes	No
North Dakota	Yes	Yes	Yes	No	Yes	Yes	No
Ohio	Yes	Yes	Yes	No	Yes	Yes	No
Oklahoma[8]	No	No	Yes	No	No	No	No
Oregon	Yes	Yes	No	No	Yes	Yes	No
Pennsylvania	Yes	Yes	Yes	No	Yes	Yes	Yes
Rhode Island	Yes	Yes	Yes	No	Yes	No	No
South Carolina	Yes	Yes	Yes	No	Yes	No	No
South Dakota	Yes	Yes	Yes	No	Yes	Yes	No
Tennessee[9]	Yes	No	Yes	Yes	Yes	No	Yes
Texas	Yes	Yes	Yes	No	Yes	Yes	No
Utah	No	No	No	Yes	Yes	Yes	No

See footnotes at end of table.

that it is better to effectively require higher nursing expenditures by ensuring higher nursing home wages (Harrington, 1990). It may also be that attempts to restrain nursing costs represent a deflection of attention from areas in which control of rates can be more effective.

Other cost-center limits showed little change in overall numbers of States employing them. Cost-center limits on profits and capital, which may allow strong control of rates, were each reported by 10 States, compared with 6 and 7 States, respectively, in 1984.

Table 5—Continued

States, by Inclusion of Ancillary Services in Daily Nursing Facility Rate: 1987-89

State	PT	OT	NLD	RX	SUP	DME	PHYS
Vermont[10]	Yes	No	Yes	Yes	Yes	Yes	Yes
Virginia[3]	Yes	Yes	Yes	No	Yes	No	No
Washington	Yes	Yes	No	No	Yes	No	No
West Virginia	Yes	Yes	Yes	No	Yes	Yes	No
Wisconsin	No	No	No	No	Yes	Yes	No
Wyoming	Yes	No	Yes	No	Yes	Yes	Yes

[1]No ancillaries are included in intermediate care facility (ICF) rates for 1987-89.
[2]Only non-legend drugs, medical supplies, and durable medical equipment (DME) were included in ICF rates for 1987-89.
[3]Physical therapy (PT) and occupational therapy (OT) were not included in ICF rates for 1987-89.
[4]Actual provision of PT and OT not included rates; but training and technical assistance in PT and OT are included in the rates. Only PT and physician services (PHYS) were included in ICF rates in 1987. Only PHYS were included in skilled nursing facility (SNF) and ICF rates in 1988 and 1989.
[5]No ancillaries included in SNF or ICF rates in 1988 or 1989.
[6]Occupational therapy and PHYS not included in ICF rates.
[7]Only non-legend drugs, medical supplies, and DME were included in ICF rates in 1988 and 1989.
[8]Medical supplies included in SNF and ICF rates in 1988 and 1989.
[9]OT and prescription drugs were not included in ICF rates in 1987; prescription drugs and PHYS were not included in ICF rates in 1988 and 1989.
[10]OT also were included in SNF and ICF rates in 1988 and 1989.

NOTES: NLD is non-legend drugs. RX is prescription drugs. SUP is medical supplies.

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

Table 7 reports data on the valuation of capital for the period 1987-89. Historic-cost and market-value approaches may allow less control of changes in rates, by allowing greater increase in valuation of capital. There was a slight shift away from pure historic-cost valuation of capital; but many States used combinations of historic cost with other methods of valuing capital. It is likely that use of historic-cost methods of valuing capital is associated with lesser ability to control rate increases.

Reimbursement Rates

Table 8 reports State average SNF rates for 1981-89. The rate for the average State increased 72 percent. Variation in increases was considerable, that in South Carolina being only 7 percent (an average annual increase of only 0.9 percent). By contrast, the increase in New Hampshire was 230 percent (average annual increase of 16 percent); and 11 States had average SNF rates that more than doubled. Rates should be adjusted for inflation, however, because otherwise increasing dollar differences among States will appear solely on the basis of national inflation (and will also make the distribution of rates heteroskerdastic over time). Accordingly, a national Consumer Price Index adjuster was used to express rates in 1983-84 dollars. This does not adjust for interstate differences in costs. Accounting for national inflation, rates still increased by about 26 percent (average annual increase of 3.0 percent). Six States showed decreases— rate increases that did not keep up with national rates of inflation.

Table 9 gives ICF rates for the period 1978-89. The average rate increased about 68 percent. The highest and lowest increase States were the same as for SNF, with identical SNF and ICF rates. The same States showed doubling of ICF rates and SNF rates. Adjusted for inflation to 1983-84 dollars, the average increase is 23 percent, the same six States showing decreases as for adjusted SNF rates.

Table 6
Medicaid Skilled Nursing Facility and Intermediate Care Facility (ICF) Limits on Cost Centers in Daily Rate: 1987-88

State	General Limit	Nursing	Administration	Profits	Capital	Room and Board
Alabama	Yes	No	No	No	No	No
Alaska[1]	No	No	No	No	No	No
Arizona	—	—	—	—	—	—
Arkansas	Yes	No	No	No	No	No
California	Yes	No	No	No	No	No
Colorado	No	Yes	Yes	Yes	No	Yes
Connecticut	No	Yes	No	No	No	Yes
Delaware[2]	Yes	No	No	No	No	No
District of Columbia	Yes	No	No	No	No	No
Florida	Yes	No	No	No	No	Yes
Georgia[3]	No	No	No	No	No	No
Hawaii	No	Yes	Yes	No	Yes	No
Idaho	No	No	No	No	No	No
Illinois	No	Yes	No	No	No	Yes
Indiana	Yes	No	No	No	No	No
Iowa[4]	Yes	Yes	Yes	Yes	Yes	No
Kansas	No	Yes	Yes	No	Yes	Yes
Kentucky	No	Yes	Yes	Yes	Yes	Yes
Louisiana	Yes	No	Yes	No	No	No
Maine	Yes	No	Yes	No	No	No
Maryland	No	No	Yes	No	Yes	Yes
Massachusetts	No	Yes	Yes	Yes	Yes	No
Michigan	No	Yes	Yes	No	No	Yes
Minnesota	No	Yes	Yes	Yes	No	No
Mississippi	No	No	Yes	No	No	No
Missouri	No	No	No	No	No	No
Montana	No	No	No	No	No	No
Nebraska	No	No	No	No	No	No
Nevada[5]	No	Yes	Yes	Yes	No	No
New Hampshire	No	Yes	Yes	No	No	Yes
New Jersey	No	Yes	Yes	No	Yes	Yes
New Mexico	No	No	No	Yes	No	No
New York	No	No	Yes	No	No	No
North Carolina	No	No	No	No	No	No
North Dakota	No	Yes	Yes	No	No	No
Ohio	No	Yes	Yes	Yes	No	No
Oklahoma	Yes	No	Yes	No	Yes	No
Oregon	No	No	Yes	No	No	No
Pennsylvania	No	Yes	Yes	Yes	No	No
Rhode Island	No	Yes	No	No	Yes	No
South Carolina	No	Yes	Yes	Yes	No	No
South Dakota	No	Yes	Yes	No	No	No
Tennessee[6]	No	No	No	No	No	No
Texas[7]	Yes	No	No	No	Yes	No
Utah	Yes	No	No	No	No	No

See footnotes at end of table.

Analysis of Rates by Reimbursement Methods

Methods may affect rates. Data for 1979-89 were pooled (1978 excluded because of excessive missing data) for cross-sectional time-series regression analysis of rates by methods (retrospective methods were the contrast for other methods) and use of case mix, and changes over time. Correlated error

Table 6—Continued

Medicaid Skilled Nursing Facility and Intermediate Care Facility (ICF) Limits on Cost Centers in Daily Rate: 1987-88

State	General Limit	Nursing	Administration	Profits	Capital	Room and Board
Vermont	Yes	No	No	No	No	No
Virginia	No	No	No	No	No	No
Washington	No	Yes	No	No	No	No
West Virginia	No	Yes	No	No	No	No
Wisconsin[8]	No	Yes	Yes	No	No	No
Wyoming[9]	Yes	No	No	No	No	No

[1]Limits on nursing and room and board in 1988 and 1989.
[2]Limits on nursing, administration, and room and board in 1989, no overall capital.
[3]Limits on nursing, administration, capital, and room and board in 1989.
[4]Uses Medicare limits.
[5]No limit on profits in 1988 and 1989.
[6]Limit on profits for ICF only.
[7]Class-rate system set effective general limit through 1988.
[8]Limits on capital in 1988 and 1989.
[9]Limits on nursing, administration, and capital in 1988. Overall capital eliminated for 1989.

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

within States over time was adjusted using a random-effects model in the PANEL option of LIMDEP (Greene, 1989). Interactions of methods by time are created by multiplying method variables by measures representing numbers of years a method has been in effect. Method main effects control for rate differences at the beginning of the study period and when changes in methods occur. This should control out spurious effects, particularly resulting from a tendency to adopt methods based on existing rate levels.

This analysis relates rate differentials to reimbursement measures. This should provide evidence about the implications of different methods for constraint of rate increases. It is not meant, however, as a rigorous causal analysis (Holahan, 1985), nor an analysis of policy formation, which would consider the effects of a variety of State factors on both methods and rates.

Table 10 reports results for both SNF and ICF rates, both adjusted and unadjusted for inflation. Adjustment for inflation is needed because inflation causes proportional increases in unadjusted rates, so that unadjusted dollar amounts are farther apart, resulting in: (a) heteroskedasticity around the time line and (b) the appearance of changing rate differentials by method based solely on inflation, insofar as States already differ in rates by method.

Coefficients for interactions of methods by time represent differential change in (ie., constraint of) rates. Prospective-class, facility-specific, and adjusted methods show tendencies to constrain SNF rates. Combination systems are not shown to constrain rates; nor is any effect shown for case mix. Although combination systems and case-mix reimbursement have significant coefficients in the SNF equation for unadjusted rates, this appears to be an artifact—such methods were increasingly adopted toward the end of the study period, when inflation had driven unadjusted dollar amounts further apart.

Prospective-class methods seem to constrain ICF rates. Prospective facility-specific methods show a significant effect for unadjusted rates, probably as an artifact of inflation. Main effects for prospective facility-specific and adjusted

Table 7
States, by Method of Valuing Capital: 1987-89

State	Method
Alabama	Historic costs plus replacement value
Alaska	Historic costs
Arizona (1989 only)	Historic costs
Arkansas	Historic costs
California	Historic costs
Colorado	Rental value
Connecticut	Historic costs
Delaware	No method for valuing capital
District of Columbia	Historic costs
Florida	Rental value
Georgia	Historic costs plus replacement value
Hawaii	Historic costs
Idaho	Rental value
Illinois	Historic costs
Indiana	Historic costs plus market value
Iowa	Medicare
Kansas	Historic costs
Kentucky	Historic costs
Louisiana	Historic costs
Maine	Historic costs
Maryland	Rental value
Massachusetts	Historic costs
Michigan	Imputed value
Minnesota	Replacement value
Mississippi	Historic costs
Missouri	Replacement value
Montana	Historic costs
Nebraska	Historic costs
Nevada	Historic costs
New Hampshire	Historic costs
New Jersey	Replacement value
New Mexico	Historic costs
New York	Historic costs
North Carolina	Historic costs plus replacement value
North Dakota	Historic costs plus market value
Ohio	Imputed value
Oklahoma	Historic costs
Oregon	Historic costs plus market value
Pennsylvania	Historic costs
Rhode Island	Historic costs
South Carolina	Historic costs
South Dakota	Historic costs
Tennessee	Historic costs
Texas	Historic costs
Utah	Historic costs plus imputed value
Vermont	Historic costs plus imputed value
Virginia	Historic costs
Washington	Historic costs
West Virginia	Replacement value
Wisconsin	Historic costs plus replacement value
Wyoming	Historic costs

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

Table 8

Medicaid Skilled Nursing Facility (SNF) Average Per Diem Reimbursement Rates: 1981-89

State	Average per Diem SNF Reimbursement Rate in:								
	1981	1982	1983	1984	1985	1986	1987	1988	1989
Alabama	30.79	33.38	37.61	41.55	44.29	43.31	46.91	48.10	47.22
Alaska	107.35	105.27	119.31	136.04	148.47	152.78	191.35	201.30	214.73
Arizona	—	—	—	—	—	—	—	—	—
Arkansas	25.53	27.39	28.62	29.31	30.78	32.16	31.29	33.50	34.88
California	36.35	37.36	38.09	38.12	41.52	47.02	48.90	51.84	60.26
Colorado	28.24	30.78	34.88	37.26	46.97	45.63	49.57	50.25	54.30
Connecticut	36.50	41.60	46.78	56.64	60.37	60.37	66.89	74.34	83.86
Delaware	41.59	44.49	39.58	39.58	47.53	47.53	50.35	60.45	65.21
District of Columbia	65.90	81.98	102.00	126.89	125.52	161.42	126.38	150.27	173.51
Florida	23.82	36.26	39.11	45.40	46.70	50.27	53.45	56.96	61.14
Georgia	28.63	34.32	34.32	37.37	40.77	40.72	39.48	42.54	46.81
Hawaii	71.56	79.45	98.07	83.86	84.31	86.34	84.84	88.73	93.74
Idaho	25.35	27.61	28.72	39.48	44.03	45.78	47.29	49.52	52.47
Illinois	28.61	30.24	30.76	30.24	32.78	41.70	43.29	46.35	49.69
Indiana	38.37	42.11	46.75	50.82	53.94	56.74	58.67	60.42	63.70
Iowa	44.62	59.51	73.55	76.59	85.06	87.44	115.32	117.47	117.16
Kansas	27.80	31.75	32.44	36.01	37.03	38.00	40.70	44.93	48.96
Kentucky	45.00	51.31	49.35	46.54	46.54	51.04	54.00	56.07	62.32
Louisiana	31.86	29.65	34.80	34.80	36.55	38.19	39.19	40.80	42.62
Maine	61.15	65.93	71.20	72.15	85.69	57.76	59.35	70.66	83.07
Maryland	36.14	39.53	44.41	47.59	49.01	51.89	54.05	57.57	61.23
Massachusetts	41.06	44.40	49.27	52.92	56.97	59.16	64.94	71.82	90.94
Michigan	35.56	36.72	38.98	43.60	43.96	44.32	45.69	47.95	50.78
Minnesota	44.81	47.36	51.32	53.76	56.23	57.47	62.28	64.23	68.31
Mississippi	31.43	34.09	36.22	38.98	38.73	39.49	41.47	42.69	45.59
Missouri	30.00	35.00	40.00	39.79	43.66	44.28	45.29	46.10	46.95
Montana	36.75	39.58	40.08	41.15	44.31	45.96	47.84	49.21	50.86
Nebraska	41.23	44.64	49.27	42.68	48.42	53.20	(55.66)	58.23	61.91
Nevada	40.25	48.26	51.70	52.54	54.18	65.39	71.87	73.14	91.06
New Hampshire	38.26	44.88	59.22	57.52	59.79	94.84	96.06	100.01	126.20
New Jersey	46.13	51.91	58.05	59.03	58.35	62.17	66.19	69.81	73.70
New Mexico	60.86	73.41	71.41	71.36	74.71	72.51	91.37	88.14	85.65
New York	67.63	73.98	78.70	84.06	96.72	92.90	96.80	103.41	112.93
North Carolina	45.56	48.98	52.03	54.42	56.42	53.86	54.93	57.79	61.40
North Dakota	37.87	43.40	45.02	49.24	51.91	51.91	51.78	52.54	53.62
Ohio	35.39	38.22	39.39	44.83	47.22	52.18	55.42	59.46	59.72
Oklahoma	29.00	32.00	32.00	34.00	36.00	38.00	40.00	45.00	54.00
Oregon	39.79	45.15	50.12	60.41	67.29	72.46	78.02	79.76	83.41
Pennsylvania	33.15	42.26	39.89	46.13	47.83	54.79	60.41	68.71	76.36
Rhode Island	47.33	49.23	53.71	62.04	65.14	57.16	57.59	62.40	75.11
South Carolina	44.25	40.77	40.77	42.29	44.33	40.75	41.75	43.72	47.50
South Dakota	26.36	30.08	33.39	35.00	38.00	38.85	40.38	42.12	44.36
Tennessee	40.50	42.60	46.36	50.93	54.65	55.77	56.39	57.26	66.88
Texas	33.66	35.67	38.25	40.19	41.65	44.05	45.48	47.80	49.16
Utah	39.32	42.26	44.96	46.01	47.38	48.84	50.76	50.95	52.60
Vermont	39.25	44.07	46.73	54.99	57.02	50.04	52.70	54.12	59.69
Virginia	51.26	61.90	58.22	63.87	65.40	61.76	65.55	68.03	70.59
Washington	31.68	35.25	35.92	40.64	44.11	44.83	48.06	53.18	58.84
West Virginia	36.15	41.21	44.38	45.03	46.65	49.06	51.18	53.76	57.11
Wisconsin	42.00	42.52	44.22	48.70	50.09	50.82	52.01	54.41	57.27
Wyoming	33.71	38.12	40.85	42.18	43.70	47.49	49.25	52.63	53.74
Mean[1]	40.67	45.16	48.82	52.09	55.61	57.61	60.73	64.39	70.06
Adjusted Mean[2]	44.74	46.79	49.01	50.14	51.53	52.56	53.46	54.43	56.50

[1]Mean for the United States, weighting each State for its bed stock.
[2]Mean for the United States, adjusted for inflation (Consumer Price Index) to 1983-84 dollars.

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

methods show significant positive coefficients, suggesting that these methods tend to be adopted where ICF rates are already high—showing the advisability of including main effects to control for spurious relationships.

The results confirm previous findings (Harrington and Swan, 1984; Holahan, 1985; Swan, Harrington, and Grant, 1988) that prospective methods allow control over rates. There is no evidence that combination systems allow constraint of rate increases.

Coefficients for combination systems are not significant, providing no evidence that they allowed control of rates nor that they were adopted in higher rate or lower rate States. These systems may be used not because they allow control of reimbursement rates but to adjust the ratesetting system for other purposes—e.g., incentives to focus resources on one cost center rather than another, improved access for Medicaid recipients, and so on.

Neither case mix nor its interaction has a significant effect for any of the inflation-adjusted rate measures, providing no evidence that case-mix systems allow closer control of rates. Case mix epitomizes systems adopted by States, to create incentives for facilities to admit high-cost patients and to adjust payment more closely to appropriate costs rather than for cost constraint. Future analysis will consider effects of case mix on Medicaid access to beds.

CONCLUSIONS

Each of the Sates has its own system for reimbursing nursing homes under Medicaid, and there is wide variation in reimbursement rates. These systems, although complex in their specification, may be less rational in their determination.

Massive change in Medicaid nursing home reimbursement systems in the early 1980s largely played out by the end of the decade, with a few States changing reimbursement systems between 1986 and 1989. The major change involved the slow adoption of case-mix systems, accelerating in the late 1980s, with other system changes likely to be associated with the switch to case mix. Other States reported that they were "studying" case mix or had a demonstration case-mix program.

Other shifts included a trend toward cost-center limits on nursing. Nursing is an important variable-cost center. States might consider whether capping operating, particularly nursing, costs is as well advised as limiting other areas.

Prospective reimbursement systems allow greater control of increase in rate levels, as they did in prior analysis (Swan, Harrington, and Grant, 1988). There is new evidence that adjusted systems (those setting prospective rates but allowing upward adjustments during the rate period) also show greater control over rates than do retrospective systems. Case-mix-systems States do not show higher rate increases than other States do, suggesting that case mix might not tend to inflate rates.

The major thrust of these State Medicaid nursing home reimbursement policies has been oriented primarily to keeping rates low in order to contain expenditures. Rates and methods appear to be more reflective of State budget balances and overall State resources, which vary with times of scarcity and abundance, than tied to the actual costs of providing nursing home care or the need for more

Table 9

Medicaid Intermediate Care Facility (ICF) Average per Diem Reimbursement Rates: 1981-89

State	Average per Diem ICF Reimbursement Rate in:								
	1981	1982	1983	1984	1985	1986	1987	1988	1989
Alabama	24.20	25.11	25.81	29.31	31.53	31.23	31.98	33.10	33.54
Alaska	99.51	97.78	113.59	132.04	145.77	152.18	191.35	198.17	211.20
Arizona	—	—	—	—	—	—	—	—	—
Arkansas	24.65	26.01	27.99	33.64	30.08	31.44	29.82	31.99	33.28
California	29.38	30.20	31.14	30.16	32.68	37.99	38.50	38.62	44.22
Colorado	28.24	30.78	34.09	37.26	46.97	45.63	49.57	50.25	54.30
Connecticut	23.96	29.15	31.68	37.58	44.88	44.88	51.23	57.18	64.18
Delaware	41.59	44.49	39.58	39.58	47.53	47.53	50.35	60.45	65.21
District of Columbia	50.87	62.34	76.41	93.64	92.74	82.37	88.18	86.48	90.07
Florida	18.48	19.93	39.82	43.20	45.30	50.27	53.45	56.96	61.14
Georgia	26.17	25.94	26.56	29.34	30.87	30.89	36.35	39.20	42.95
Hawaii	64.45	72.54	72.27	68.40	68.24	71.90	72.51	75.45	81.29
Idaho	23.67	30.36	28.74	34.83	42.96	45.78	47.29	49.52	52.47
Illinois	20.48	22.91	28.84	(30.71)	32.78	33.92	35.21	36.88	39.73
Indiana	29.62	32.65	36.52	39.10	42.32	44.96	47.35	48.78	51.08
Iowa	24.00	25.89	26.50	28.32	29.44	31.65	32.17	35.23	36.89
Kansas	22.16	24.30	25.99	40.90	45.42	32.70	33.55	36.84	39.75
Kentucky	31.17	33.67	33.17	32.70	32.70	35.58	37.87	38.61	43.78
Louisiana	26.62	25.57	26.81	26.81	28.14	32.56	32.56	34.45	35.91
Maine	37.05	37.76	40.17	46.65	48.04	49.12	51.19	54.31	58.33
Maryland	36.14	39.53	44.41	47.59	49.01	51.89	54.05	57.57	61.23
Massachusetts	29.15	33.24	36.59	37.56	40.04	41.96	44.37	49.63	58.76
Michigan	32.52	35.49	37.09	41.58	(42.93)	44.32	45.69	47.95	50.78
Minnesota	29.96	31.21	33.72	36.79	38.94	47.45	46.29	47.13	50.90
Mississippi	26.27	27.98	30.75	29.91	29.90	31.99	33.63	35.64	36.64
Missouri	23.00	25.00	28.00	36.87	38.74	41.08	42.11	43.28	44.06
Montana	36.75	39.58	40.08	41.15	44.31	45.96	47.84	49.21	50.86
Nebraska	24.59	26.08	27.55	28.33	32.16	33.76	(34.48)	35.21	38.56
Nevada	39.03	43.61	44.04	46.23	49.27	53.71	55.82	57.87	61.71
New Hampshire	33.09	35.80	37.41	38.66	41.11	52.84	55.06	62.67	69.00
New Jersey	37.69	41.86	46.22	50.11	49.86	54.98	58.47	63.47	67.31
New Mexico	32.16	34.70	29.96	34.60	37.50	46.94	48.23	49.60	53.09
New York	42.74	47.05	49.21	52.19	55.98	61.18	63.83	67.17	72.83
North Carolina	31.81	34.14	36.23	37.89	40.29	40.88	41.69	43.75	46.33
North Dakota	27.62	30.46	31.30	34.32	37.25	37.25	39.45	40.11	40.99
Ohio	28.33	33.48	34.36	38.84	41.17	45.79	48.02	52.46	53.36
Oklahoma	28.00	28.00	28.00	29.00	30.50	29.00	30.50	33.00	37.00
Oregon	30.28	32.43	34.26	37.76	40.62	41.58	42.76	47.60	55.71
Pennsylvania	28.49	37.62	32.81	41.63	42.45	45.89	50.89	58.55	65.64
Rhode Island	35.00	38.95	42.25	48.43	50.85	50.98	53.02	57.87	65.00
South Carolina	33.28	31.65	31.65	32.52	34.05	40.75	41.75	41.64	44.64
South Dakota	23.91	26.88	29.66	31.50	33.35	29.08	31.23	32.46	35.24
Tennessee	27.40	28.60	30.61	32.28	33.00	34.01	35.81	37.51	38.83
Texas	24.48	25.64	28.48	28.09	29.20	32.73	33.28	35.13	36.36
Utah	34.06	34.53	36.69	37.53	38.63	40.57	40.57	42.15	43.65
Vermont	39.25	44.07	46.73	54.99	57.02	50.04	52.70	54.12	59.69
Virginia	38.19	42.66	43.77	46.07	47.18	44.91	47.23	50.32	51.78
Washington	31.68	35.25	35.92	40.64	44.11	42.86	47.01	51.78	57.46
West Virginia	29.75	34.87	37.12	37.67	40.32	44.14	46.56	49.90	52.78
Wisconsin	32.00	31.92	33.19	30.56	39.97	41.85	42.04	44.63	46.24
Wyoming	33.71	38.12	40.85	42.18	43.70	47.49	49.25	52.63	53.74
Mean[1]	32.53	35.36	37.69	40.81	43.56	45.61	48.77	51.09	54.77
Adjusted Mean[2]	35.79	36.64	37.84	39.28	40.37	·41.61	42.93	43.19	44.17

[1]Mean for the United States, weighting each State for its bed stock.
[2]Mean for the United States, adjusted for inflation (Consumer Price Index) to 1983-84 dollars.

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

Table 10
Time-Series and Cross-Sectional Analysis of Medicaid Nursing Home per Diem Rates, by Reimbursement System and Case Mix: 1987-89

Random-Effects Model Coefficient and (t-Score) for:	Medicaid per Diem Reimbursement Rates			
	SNF		ICF	
	Inflation Adjusted	Not Adjusted	Inflation Adjusted	Not Adjusted
Intercept	[1]42.31	[1]30.71	[1]31.23	[1]21.44
Year in Period	[1]2.44	[1]5.46	[1]1.09	[1]3.13
	(10.36)	(19.80)	(5.26)	(11.87)
Has Case Mix	-0.21	0.91	-0.46	-0.20
	(-0.10)	(0.36)	(-0.30)	(-0.10)
Prospective Facility-Specific	2.77	3.49	[4]3.27	[4]3.72
	(1.46)	(1.58)	(2.44)	(2.17)
Prospective Class	-3.62	-3.66	1.86	2.57
	(-0.96)	(-0.84)	(0.68)	(0.74)
Combination Prospective-Retrospective	-2.72	-5.05	0.55	-0.13
	(-0.91)	(-1.43)	(0.27)	(-0.05)
Prospective Adjusted	3.01	[2]7.85	[2]7.70	[2]13.54
	(1.37)	(3.07)	(4.57)	(6.34)
Interactions—Year by:				
Has Case Mix	-0.47	[3]-0.92	-0.24	-0.55
	(-1.21)	(-2.04)	(-0.90)	(-1.61)
Prospective Facility-Specific	[1]-1.65	[1]-2.55	-0.24	[3]-0.52
	(-5.68)	(-7.49)	(-1.04)	(-1.73)
Prospective Class	[1]-1.89	[1]-3.19	[1]-1.07	[3]-1.76
	(-5.08)	(-7.27)	(-3.77)	(-4.82)
Combination Prospective-Retrospective	-0.57	[3]-1.36	0.40	0.41
	(-0.99)	(-2.00)	(1.02)	(0.81)
Prospective, Adjusted	[1]-1.43	[1]-2.24	-0.06	-0.29
	(-4.69)	(-6.26)	(-0.27)	(-0.94)
N[5] = 542				
Mean (dollars) =	50.09	51.61	39.52	40.71
R-Square, Fixed Effects Model	[2]0.904	[2]0.902	[2]0.928	[2]0.911
R-Square Group Effects Only	0.862	0.681	0.888	0.699
R-Square Increase[6]	[2]0.042	[2]0.220	[2]0.040	[2]0.212

[1]Significant at .01 level, using one-tailed tests for coefficients.
[2]Significant at .01 level, using two-tailed test in the absence of a directional hypothesis.
[3]Significant at .05 level, using one-tailed tests for coefficients.
[4]Significant at .05 level, using two-tailed test in the absence of a directional hypothesis.
[5]There are 8 missing cases in 50 States for 11 years.
[6]A random-effects model is used. What is reported, however, is the increment in variance explained for full model over model containing only group (State) effects.

NOTES: Numbers in parentheses are t-scores. SNF is skilled nursing facility. ICF is intermediate care facility.

SOURCE: Institute for Health and Aging and National Governors' Association: State Medicaid Reimbursement Survey, San Francisco, 1989.

staff and more highly trained staff to improve the quality of care.

Recent changes in the policy environment since 1989 can be expected to have important impacts on future Medicaid nursing home rates and methods. First, the nursing home act in OBRA 1987 (Public Law 100-203) (implemented in 1990) has added to the costs for Medicaid (McDowell, 1992). OBRA eliminated the distinctions between SNF and ICF levels of care for Medicaid certification and imposed new requirements for resident assessment and new staffing requirements, all of which must be accommodated in Medicaid reimbursement methodology and rates. Those States that had different reimbursement methods for SNF and ICF have now had to somehow merge or otherwise accommodate these methods into a single system. OBRA 1987 also mandated more pre-admission

screening for mental and developmental treatments needs, which may also change the acuity mix of nursing home residents.

Second, there has been a flurry of legal actions under the Boren Amendment provisions that establish the Federal standard for the Medicaid rates (42 U.S.C. section 1396(a)(13)(A)) (Hamme, 1990). Many of these actions have challenged both the procedures and substance of State reimbursement methodology. More recently, the Supreme Court affirmed the right of health care providers to challenge a State's Medicaid reimbursement plan (*Wilder v. Virginia Hospital Association*, 1990). These actions may further alter State Medicaid nursing home reimbursement methods and increase rates.

The pressures under Medicaid prospective payment for hospitals should continue to increase the acuity mix for nursing home residents. The Health Care Financing Administration is currently conducting a case-mix demonstration project in four States to examine a system for Medicare and Medicaid reimbursement based on resident acuity and resource needs. States such as Minnesota, Massachusetts, and Oregon have adopted State health reform legislation, which could have future impact on provider reimbursement rates (U.S. General Accounting Office, 1992).

Another policy option is for States to mandate uniform nursing home methodology for private and public payment, such as the requirements in Minnesota. This may remove the shifting of costs from Medicaid to the private sector and should improve access for Medicaid residents.

Health care reform is on the national agenda. If adopted, such reform could have a major effect on nursing home payment. If based on a plan that includes long-term care, reform could have a major impact in restructuring nursing home rate-setting methods (Harrington et al., 1991; Health and Public Policy Committee, American College of Physicians, 1988; Kemper, Spillman, and Murtaugh, 1991; Kern and Bresch, 1990, Morone, 1992). Proposals for front-end or back-end benefits would result in very different resident mixes, with radically different needs and lengths of stay (Kemper, Spillman, and Murtaugh, 1991; Short et al., 1992). The form of financing and whether or not the program is a uniform Federal plan or varies across States will shape reimbursement policy for the future. A Federal approach could speed a national system for reimbursing nursing homes that is more uniform and reflective of costs, and it could be designed to upgrade the quality of care needed for nursing home residents.

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