Setting Rates For Medicaid Managed Behavioral Health Care: Lessons Learned

Rate setting was a daunting task for Tennessee, but examining its mistakes can point the way for other states.

by Sheila Hoag, Judith Wooldridge, and Craig Thornton

ABSTRACT: This paper reviews Tennessee's experience setting, monitoring, and updating capitation rates for Medicaid managed behavioral health care, and draws lessons from those experiences for other states. Our review of assumptions about four components of Tennessee's rate-setting process—data, benefit design, savings expectations, and processes for monitoring and updating rates—suggests that the initial rate established by Tennessee was inadequate, and its inadequacy resulted primarily from the way available information was used to set the rate, rather than from the method of rate setting selected. Tennessee's experiences illustrate how difficult rate setting is and illuminate several key lessons about the rate-setting process.

FOLLOWING THE PRIVATE SECTOR, public insurance programs are turning to capitated managed care arrangements for behavioral (and medical) health services as a way to control costs and to make costs more predictable. The capitation rate—the payment per member per month for a defined benefit package—determines whether the insurance program can meet these financial goals without sacrificing quality of care.

Capitation rate setting involves a challenging balancing effort. States want to set rates as low as possible, to save money, yet high enough to attract good managed care plans.[1] States also want the rates to provide plans with specific incentives, such as managing care efficiently and improving care quality. States' efforts are typically complicated by a lack of accurate data, especially when expanding coverage to the uninsured.[2] Finally, states often lack experience in rate setting. Even if they hire actuarial firms to help, states may have few staff with the skills or resources to evaluate the rates. All of these challenges are magnified for Medicaid managed behav-

Sheila Hoag is a researcher, Judith Wooldridge is a vice-president, and Craig Thornton is a senior fellow at Mathematica Policy Research in Princeton, New Jersey.

"The TennCare Partners capitation rate was inadequate because of the way information was used to set the rate."

ioral health care programs, as funding and care delivery generally are fragmented between Medicaid and state programs, making utilization and costs under managed care difficult to predict accurately.[3]

This paper reviews Tennessee's experiences in setting, monitoring, and updating capitation rates for Medicaid managed behavioral health care. Tennessee implemented what is arguably the most comprehensive carved-out Medicaid managed behavioral health program in the nation. It not only incorporated almost all state-funded behavioral health services into this program, it also expanded program eligibility and raised Medicaid coverage limits for these services. Therefore, Tennessee's rate-setting experiences are instructive for other states, whether they have a similar goal of unifying their behavioral health care delivery system or need only to understand some subtleties of the rate-setting process.

In addition to reviewing Tennessee's experiences, we incorporate findings from other studies that document states' Medicaid managed care rate setting.[4] However, this paper moves beyond previous research to examine specific components of a state's rate-setting process and how assumptions about those components affected rate adequacy. Specifically, we assess Tennessee's assumptions about four key components that are common to all rate-setting endeavors: data, benefit design, anticipated managed care savings, and rate updating. Although these are not the only factors affecting rate adequacy, they have been identified in the literature as critical.[5]

■ **Methods.** From 1995 through 1999 we conducted a case study of Tennessee as part of an evaluation of five Medicaid Section 1115 waiver demonstration programs. We spoke with more than thirty key informants, including state and federal officials, representatives from participating managed care organizations (MCOs) and behavioral health organizations (BHOs), advocates, providers, provider organizations, and consumers. We also reviewed pertinent documents and the literature on rate setting in Medicaid.

■ **Background.** Tennessee converted its Medicaid program to managed care in 1994. This program, TennCare, also expanded eligibility to uninsured and uninsurable persons. Under this reform Tennessee continued to fund behavioral health services in a fragmented manner. TennCare MCOs were responsible for acute behavioral health services for all enrollees, but adults with severe mental illness (SMI) and children with severe emotional disturbances (SED) con-

tinued to receive intensive services from providers funded by the Tennessee Department of Mental Health and Mental Retardation (TDMHMR).[6] This design was implemented to protect persons with severe mental illness or severe emotional disturbances, since the state believed that the MCOs would not serve their complex needs adequately. However, Tennessee planned eventually to include all behavioral health services in managed care.

In early 1996 the Health Care Financing Administration (HCFA) approved Tennessee's proposal for a managed behavioral health carve-out program called TennCare Partners.[7] Under Partners, Tennessee would contract directly with BHOs for all behavioral health services. Partners also expanded eligibility to persons with severe mental illness or severe emotional disturbances who were not eligible for TennCare.[8]

To fund Partners, Tennessee combined TennCare funds (by reducing the MCOs' capitation rates because they no longer would provide acute behavioral health services) with the state's mental health budget. No additional substance abuse treatment funds were included in the Partners budget, since substance abuse benefits were not expanded under Partners.[9] By unifying TennCare and mental health funding, Tennessee created a new public behavioral health system and envisioned improved access and care coordination for enrollees as well as cost control.

Tennessee used an average aggregate cost approach to estimate the capitation rate for Partners. This approach divided estimated total costs by estimated annual enrollment to calculate annual average cost per member. To estimate total expected costs, Tennessee started with the TennCare MCOs' estimates of their 1994 expenditures for mental health and substance abuse (MH/SA) services. This amount ($7.53 per member per month) was then added to the state's inpatient and outpatient mental health budget, and the total was updated to 1996 dollars by applying an inflation factor. Total enrollment was estimated by summing an estimate of 1996 TennCare enrollment with an estimate of the newly insured persons with severe mental illness or severe emotional disturbances. An actuary validated this rate, as HCFA requires (HCFA does not conduct an independent analysis; states with Section 1115 demonstrations must submit an actuary's certification that proposed rates are actuarially sound). The state contracted with two BHOs and implemented the program on 1 July 1996.

Rate-Setting Challenges: Four Components

The TennCare Partners capitation rate was inadequate because of the way available information was used to set the rate and because

of the state's inexperience in rate setting. Others have blamed Tennessee's average aggregate cost methodology for the rate's inadequacy, but our review of the rate-setting process reveals deeper problems that would have resulted in an inadequate rate under any methodology.[10] Here we explore how Tennessee dealt with the four rate-setting components (data, benefit design, savings expectations, and updating). We also note, when available, information on how other states addressed these issues.

■ **Data.** The average aggregate cost method for calculating capitation rates is attractive because of its straightforwardness. In particular, it does not require states to construct cost estimates from individual-level data about service use and the costs of services. However, the aggregate method is crucially dependent on having good estimates of total costs and enrollment. If these underlying estimates are problematic, as was the case in Tennessee, the final capitation estimate will have similar problems.

Medicaid claims data provide a good starting point for estimating total costs. Nevertheless, even these data must be used cautiously. The service-use patterns captured by the Medicaid claims data may differ from those expected under managed care. The claims data will only capture Medicaid-covered services, which may be more limited than envisioned under managed behavioral health care. Furthermore, observed care patterns may result from providers' tailoring the services they deliver to fit what Medicaid covers rather than exactly what patients need.[11] Finally, Medicaid fee-for-service data reflect the experience of current beneficiaries and may not represent the experience of new populations to whom coverage might be extended.[12]

Tennessee faced an additional challenge in estimating Medicaid costs: Recent Medicaid claims data for the non-SMI and non-SED enrollees were no longer available because of the introduction of TennCare. Tennessee staff addressed this problem by asking the MCOs to estimate their aggregate 1994 expenditures on behavioral health care (individual-level encounter data were unavailable).[13] These estimates had some face validity because they were based on the experiences of more than 1.1 million beneficiaries. Nevertheless, there are several likely sources of error in these estimates. First, MCOs' efforts in 1994 were focused on operational start-up problems, and not on the data-processing activities required to produce accurate estimates of costs for specific services. Second, the data were not encounter data, and no validity studies of the data were completed. Third, MCOs were aware that the data would be used to reduce their own capitation rates, so they had an incentive to minimize their estimates.

"Tennessee learned that it had overestimated enrollment and thus underestimated the capitation rate."

States also must estimate the costs of behavioral health services that are funded through grant or other support programs. Those costs must be added to the Medicaid-covered costs, to estimate total costs. Data capturing these services often are hard to get. For example, grant-funded providers generally do not submit claims to secure these funds, and any data that grantees did submit would not be subject to the checks used for claim records.[14] As with Medicaid claims, the grant data may reflect service-use levels that are unrepresentative of what would occur for the managed care benefit package and population.

Problems also can arise in forecasting enrollment levels. The introduction of managed care, expansions of coverage, and factors that influence participation in welfare programs all can affect the mix and number of people who will enroll in Medicaid managed care. However, it is difficult to forecast these types of effects, particularly at the state level. Even sophisticated statistical models based on detailed national data can easily misestimate program participation by five to ten percentage points, and that level of error would directly translate into a similar level of error in average costs.

Tennessee clearly had difficulty projecting enrollment levels, although some of the problems arose from how the available data were used. The state projected that 1.3 million TennCare enrollees, plus 6,608 persons with severe mental illness or severe emotional disturbances who were eligible for the Partners expansion group, would enroll in Partners.[15] After implementation, Tennessee learned that it had overestimated enrollment and thus underestimated the capitation rate, which led to financial difficulties for participating BHOs. Even before implementation, however, there were signs that the caseload estimate was high: TennCare enrollment had never reached 1.3 million; TennCare enrollment had been steadily declining in the period preceding Tennessee's application to HCFA to implement Partners; the state had closed enrollment in TennCare to new uninsured persons in December 1994; and Medicaid-related enrollment had been stable from 1995 to 1996.[16]

■ **Benefit design.** Capitation rates must correspond to the benefit package, but this is sometimes difficult to achieve. First, states often add new benefits, but data from before the study period do not reflect these services; thus, states must make a special effort to include the costs of those services (as California has done in its

Medicaid managed care program).[17]

Second, states may include benefits in the managed care program that are unavailable in the community. If plans or providers need to develop services, the costs will be higher than if they merely have to recruit existing providers. For example, a study of a 1980s effort in Rhode Island to manage mental health care found that the program expected to save money by substituting lower-cost services. Unfortunately, those services were unavailable, so providers could not substitute lower-cost services without first spending time and money developing ways to supply them.[18]

Third, states may expect managed care to greatly reduce beneficiaries' service use and assume that even if benefits are added, utilization management of all services will offset the costs of any additional benefits. However, under managed care, plans often are held to performance standards that were not applied in the fee-for-service system, and these new standards could increase utilization and costs. For example, a study of compliance with Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) requirements for children in four states found that only 36–59 percent of the recommended preventive visits were made in 1992.[19] If health plans must provide EPSDT services at the federally required level—interpreted as 100 percent of Medicaid-enrolled children receiving preventive services—then utilization will increase under managed care, as will aggregate costs.

Tennessee had difficulties in all three of these areas. Its rate-setting process incorporated only those services for which data were available (inpatient, outpatient, and some pharmaceutical), instead of adding costs for all of the new services the contracts stipulated. Also, the TennCare Partners contract required several unavailable services. For example, the state required that all persons with severe mental illness or severe emotional disturbances (roughly 58,000) had to receive case management. The BHOs reported that even if all of the case managers in Tennessee were used at full capacity, this was an impossible requirement. To comply, the BHOs would have to attract new case managers to the state. As for utilization management, in the first six months of Partners the BHOs could not control admissions to, or utilization at, the state hospitals, yet this had been a key expectation in the rate-setting process. Key informants we interviewed noted that the state hospitals were run by the TDMHMR, as was the appeals unit for Partners, which created a conflict of interest: When BHOs tried to discharge inpatients or admit them to another level of care, the hospital would appeal to the TDMHMR, and the BHO would often be overruled.

■ **Savings expectations.** A review of the Partners actuarial analysis reveals that some of the utilization assumptions were inconsistent with Tennessee's existing program and with the literature. For example, for the non-SMI/SED population the actuary deflated MCOs' reported 1994 utilization figures for inpatient and outpatient services (by 20 percent and 10 percent, respectively), which, the actuary stated, "reflected the potential for significant reductions in MH/SA utilization under a managed care program."[21] However, these enrollees were already receiving managed behavioral health care (in TennCare), so substantial further utilization reductions seemed unlikely. Also, no analysis was conducted to determine whether utilization changed when the non-SMI/SED Medicaid population was transferred from fee-for-service to managed care in 1994. Moreover, the literature available in 1995 (when the state was planning this program) does not support these utilization assumptions. For example, studies of managed care programs in Utah and Massachusetts found that inpatient admissions declined but that outpatient visits either increased or did not change significantly.[22]

Similarly, cost assumptions in Tennessee were internally inconsistent and did not always consider published data. For example, for the non-SMI/SED group, the actuary used 1994 inpatient service costs from the state's regional mental health institutes (RMHIs) and assumed an inflation factor of 5 percent per year; however, in the same analysis the actuary assumed no increase in inpatient service costs for the SMI/SED group, which seems contradictory. Moreover, publicly available data indicated that average daily costs in the RMHIs increased more than 5 percent per year in the previous two years.[23] There are similar discrepancies in other utilization and cost assumptions used in Tennessee's rate-setting analysis.

■ **Monitoring and updating rates.** The inherent uncertainty about savings and utilization trends requires states to monitor, assess, and update rates over time, rather than viewing rate setting as a one-time event. The potential consequences of not monitoring and updating rates are jeopardizing quality of care through underpayment or creating political problems by overpaying.

At a minimum, rates need adjustment for inflation. States also may need to update rates to account for new technologies, medical advances, situational changes (such as case-mix changes), or unanticipated consequences of existing rates (such as service under- or overuse or cost shifting). Rates can be updated in several ways, such as by rebidding or through ongoing monitoring of plans' financial and encounter data.

The TennCare Partners contracts did not contain a clause for

"Some of the state's problems may have stemmed from a political desire to have managed care reduce total Medicaid spending."

adjusting the rates, even if the contract was extended past the initial twelve-month term (which it was; these contracts were still in effect as of December 1999). It seems that the state considered the rates to be accurate and did not anticipate the need for reassessment, although other sources indicate that inflationary adjustments would be made.[24] Still, the state planned to monitor the program to identify problems. Within six months of implementation, providers and plans reported that there were problems with the capitation rate and with overall program financing. (Since program enrollment was lower than projected, the two participating BHOs together lost more than $3 million per month in the first six months.[25] Although the BHOs did not have to provide care for the roughly 150,000 persons who were not enrolled, they lost administrative economies of scale; they also believe that the lower enrollment changed the enrollment case-mix so that the enrolled population was sicker.) Within another six months, and at HCFA's direction, the state revised its rate-setting methodology by introducing risk adjustment (establishing separate rates for SMI/SED and non-SMI/SED enrollees), increasing funding for the SMI/SED group, and establishing a minimum monthly budget that would be spent on the program, regardless of enrollment.[26] The state also began paying subsidies to community mental health centers, to offset their losses in the first program year.

Rates have been adjusted annually in Partners. However, these subsequent rate revisions were not based on precise actuarial analyses. Instead, political, media, and provider pressures combined to force the state to pay higher, but perhaps still flawed, rates.

Lessons From Tennessee's Experience

Tennessee's rate-setting experiences highlight the types of problems all states may face as they implement Medicaid managed behavioral health programs. All states are likely to lack accurate rate-setting data and must take steps to use the available data appropriately. This includes getting appropriate actuarial expertise, ensuring that rates are matched carefully with the benefit package, and using realistic estimates of savings from the switch to managed care. It also includes a process for monitoring and updating the initial, and inevitably problematic, rates.

■ **Anticipate data problems.** Like Tennessee, all states can expect to have trouble obtaining accurate data for rate setting. Tennes-

see's problems were exacerbated by the implementation of TennCare. Not only did TennCare change many service-use patterns, but the new MCOs were unable to provide accurate encounter data for the first few years after the initial implementation. However, even without this change the available data would have been incomplete. States, including Tennessee, undertake new managed care programs because they want to change the current system, so any data from that system are likely to provide only a limited basis for setting rates for the new system.

■ **Use information wisely.** Since problems with data are inevitable, states must act to offset these problems. In this regard, Tennessee's experience highlights several possible mistakes in how available information was used to set the rate: (1) The state used only inpatient, outpatient, and pharmacy data to develop a capitation rate that had to cover a variety of other services. (2) Tennessee estimated 1.3 million Partners enrollees, despite the fact that TennCare enrollment had been steadily declining and had never reached 1.3 million. (3) Rates were predicated on BHOs' being able to control inpatient utilization, yet the system was structured so that the state, rather than the BHOs, controlled it. Furthermore, large savings were anticipated from managed care, even though acute behavioral health care was already being managed.

Some of these rate-setting problems may have stemmed from a strong political desire to have managed care reduce total Medicaid spending. While all states face budget pressures, the challenge will be to balance cost savings with the need to attract reliable MCOs and to provide them with adequate funding for delivering the contracted benefit package. An open rate-setting process that allows for input from many sectors can help states to find this balance.

Tennessee's rate-setting problems also may have stemmed from an uncertainty over how managed care would change service delivery patterns. It appears that the implicit assumption underlying Tennessee's rate analysis was that the budget from the existing behavioral health delivery system—a combination of managed care, fee-for-service, and provider grants—was adequate for a system of fully capitated managed behavioral health care. However, Tennessee's experience indicates that this assumption was naïve. The approach does not seem to account for new services that were added to the benefit package for persons with severe mental illness and severe emotional disturbances, such as case management, housing, and crisis care.[27] The approach also did not capture trends in treatment, particularly the growing use of medications for treating specific mental illnesses. Finally, the approach seems to have overestimated the savings possible from the additional managed care efforts

that were expected to result from Partners. Future state rate-setting efforts can draw on the emerging research on how the Section 1115 demonstrations changed service use to make better estimates.

The aggregate cost approach also proved problematic for Tennessee because it allows little room for error. This approach uses only two estimates, total costs and total enrollment, and errors in these estimates can compound each other. Tennessee underestimated 1996 total costs while also overestimating 1996 enrollment; as a result, its estimate of 1996 average costs was below the actual level. If instead rates had been built up from estimated use rates and unit costs for each covered service, there would have been a greater chance that estimation errors would balance out in the overall calculation.

Despite our finding that Tennessee's use of actuaries did not prevent it from making serious errors, we feel that states should continue to seek actuarial assistance. Actuaries provide important skills and experience not likely to be found among existing Medicaid program staff. However, our analysis indicates that states need to allow actuaries to work independently so that they are not subject to undue political pressure. Also, actuarial analysis should be just one facet of the rate-setting process; states have to balance actuarial findings against the needs and experiences of plans, providers, and consumers, and political pressures.

The experiences of other states also suggest a number of ways that rate setting can overcome data problems. Options include looking at other data sources (such as trend data from other state Medicaid managed behavioral health programs), or implementing some type of program "safety valves" to protect the state, plans, and beneficiaries from the adverse effects of using incomplete data to set rates. Such safety valves include offering reinsurance or implementing risk-corridor arrangements in which the state shares savings and losses incurred by the plans. Results from other studies indicate that safety valves are one of the most commonly embraced aspects of Medicaid managed care rate setting. For example, John Holahan and colleagues studied forty-one Medicaid managed care programs and found that all but three states (Connecticut, Minnesota, and Oklahoma) had carved out, or partially carved out, at least one service.[28] This same study found that another seven states (Arizona, California, Hawaii, Iowa, Missouri, Rhode Island, and Utah) offer reinsurance arrangements to plans; Rhode Island's reinsurance terms specifically target behavioral health services.

■ **Align rates and benefits.** A third lesson from Tennessee's experience is that rates must correspond to the benefit package. Offering services not previously covered by Medicaid creates the challenge of estimating the costs of new services—or, as in Tennes-

see's case, suffering the consequences of not estimating these costs. Although states may expect managed care to produce savings automatically, plans will be starting from a "savings disadvantage" if rates do not reflect new benefits or new performance standards. Some other states have already absorbed this lesson (for example, California's rate-setting process incorporates new benefits offered under managed care).

■ **Make accurate savings assumptions.** A fourth lesson is the difficulty of making accurate assumptions about how participating plans will achieve savings. Fee-for-service Medicaid traditionally reimbursed providers at a very low rate; it is unlikely that even a large plan could negotiate better discounts.[29] Thus, savings must be achieved primarily by reducing utilization; here, too, caution is needed in considering what types and amounts of utilization reductions can reasonably be achieved. States should explicitly consider potential service substitutions, realizing that reducing coverage of one service may actually increase use of others.

■ **Update rates periodically.** Fifth, rates will need to be updated over time. States should anticipate this and plan how they will update rates. States may plan to rely on data generated under managed care to update rates, but many states have found that good encounter data are difficult to generate in the early years of a Medicaid managed care program. If data required to update rates through actuarial methods are unavailable, states might consider using a rebidding or renegotiation process to adjust rates. Whatever method states choose, continuous monitoring of financial and other factors, such as care quality and availability, is a critical part of the rate-adjustment process, since monitoring can reveal unanticipated rate or program effects on plans, providers, and consumers alike.

THE TRUE TEST OF RATE SETTING comes only after programs have been implemented and after plans provide program benefits for the specified capitation rates. Given the challenges of transforming a behavioral health program from a dual system of claims-based fee-for-service and grant-funded care to a single capitated system, our finding that Tennessee did not set accurate rates for TennCare Partners is not all that surprising. Rate setting was a daunting task for Tennessee, as it is for other states. In all cases, the goal should be to set rates as accurately as possible at the start but also to recognize that errors are inevitable. Thus, the initial rate setting must be followed by an active process of monitoring and adjustment that relies on a delicate process of judgment calls, based on available information and indices such as care quality, service availability, and MCO profits. Furthermore, perfect data

will never be available, so rate setting must identify the shortcomings of available data and make administrative judgments about trade-offs inherent in those shortcomings. This process should become easier as states such as Tennessee make their experiences available to guide the rate-setting decisions of other states.

The authors thank Jeff Buck of the Substance Abuse and Mental Health Services Administration (SAMHSA), Penny Pine and Rose Hatten of the Health Care Financing Administration (HCFA), Gordon Bonnyman, and an anonymous reviewer for helpful comments on a prior version of this paper. This evaluation is sponsored by HCFA and SAMHSA, under Contract no. 500-94-0047.

NOTES

1. J. Holahan, S. Rangarajan, and M. Schirmer, *Medicaid Managed Care Payment Methods and Capitation Rates: Results of a National Survey* (Washington: Urban Institute, May 1999); and S. Felt-Lisk, *The Changing Medicaid Managed Care Market: Trends in Commercial Plans' Participation* (Washington: Henry J. Kaiser Family Foundation, 1999).
2. M.C. Masland et al., "Planning and Implementing of Capitated Mental Health Programs in the Public Sector," *Evaluation and Programming Planning* 19, no. 3 (1996): 253–261.
3. S.K. Reed, "Serious Mental Illness and Capitation Financing," *Behavioral Sciences and the Law* 12, no. 4 (1994): 379–388.
4. These include Holahan et al., *Medicaid Managed Care Payment Methods and Capitation Rates;* A.A. Okunade and C.F. Chang, "Relative Success of State-Managed Behavioral Health Care: Does the Financing Structure Play Any Role?" *Journal of Health Care Financing* 24, no. 3 (1998): 27–40; and U.S. General Accounting Office, *Medicaid Managed Care: Four States' Experiences with Mental Health Carveout Programs*, Pub. no. GAO/HEHS-99-118 (Washington: GAO, September 1999).
5. Masland et al., "Planning and Implementing of Capitated Mental Health Programs"; and S. Minden and A. Hassol, *Final Review of Available Information on Managed Behavioral Health Care* (Rockville, Md.: U.S. Public Health Service, 1996).
6. J. Wooldridge et al., *Implementing State Health Care Reform: What Have We Learned from the First Year? The First Annual Report of the Evaluation of Health Reform in Five States* (Princeton, N.J.: Mathematica Policy Research, 1996).
7. HCFA oversees state Medicaid programs and must approve all mandatory managed care Medicaid reforms.
8. According to Tennessee, there were many (an estimated 51,253) TennCare enrollees with either SMI or SED, all of whom were eligible for Partners. Also, the state expanded eligibility for Partners to those with SMI or SED who were not eligible for TennCare: The state identified 6,608 persons with SMI or SED who were in this category. Funding for these persons was to come entirely from the state (unlike all other enrollees in TennCare and TennCare Partners, who are funded through a combination of federal and state funds). See Tennessee Department of Mental Health and Mental Retardation, *Proposed Amendment to the TennCare Waiver, the TennCare Partners Program* (Nashville: TDMHMR, September 1995).
9. However, both federal and state substance abuse funds were included in the 1994 TennCare program budget, so the TennCare funds reallocated to Partners included substance abuse treatment monies. See State of Tennessee, *TennCare: A New Direction in Health Care* (Nashville: State of Tennessee, 1993), 92.

10. C. Chang et al., "Tennessee's Failed Managed Care Program for Mental Health and Substance Abuse Services," *Journal of the American Medical Association* 279, no. 11 (1998): 864–869.
11. Masland et al., "Planning and Implementation of Capitated Mental Health Programs," 256.
12. Ibid.
13. Deloitte and Touche, *TennCare Mental Health and Substance Abuse Waiver Cost Estimates* (Nashville, Tenn.: Deloitte and Touche, 22 December 1995), 8.
14. Ibid., 2.
15. TDMHMR, *Proposed Amendment to the TennCare Waiver*, 56.
16. TennCare enrollment data provided by the TennCare Bureau, 1996.
17. PriceWaterhouseCoopers, for the Medi-Cal Policy Institute, *Capitation Rates in the Medi-Cal Managed Care Program* (Oakland, Calif.: Medi-Cal Policy Institute, May 1999), 16–18.
18. D. Mauch, "Rhode Island: An Early Effort at Managed Care," *New Directions for Mental Health Services* (Fall 1989): 43–54.
19. N.I. Gavin et al., "The Use of EPSDT and Other Health Care Services by Children Enrolled in Medicaid: The Impact of OBRA '89," *Milbank Quarterly* 76, no. 2 (1998): 207–250.
20. Holahan et al., *Medicaid Managed Care Payment Methods and Capitation Rates*, 2–3.
21. Deloitte and Touche, *TennCare Mental Health and Substance Abuse Waiver Cost Estimates*, 9.
22. J.J. Callahan et al., "Mental Health/Substance Abuse Treatment in Managed Care: The Massachusetts Medicaid Experience," *Health Affairs* (Fall 1995): 173–184; and J.B. Christianson et al., "Utah's Prepaid Mental Health Plan: The First Year," *Health Affairs* (Fall 1995): 160–172.
23. State of Tennessee, *Analysis of Expenditures and Positions and Selected Fiscal Data, for Fiscal Years 1989–1990 through 1994–95* (Nashville: State of Tennessee, 1995).
24. Although the BHO contracts had no rate-adjustment clause, Tennessee indicated to HCFA that rates would be inflation-adjusted. The BHOs confirmed that they expected a 5 percent annual adjustment to the rate.
25. Although TennCare enrollment declined between July and December 1996 by only about 25,000 members, or 2.2 percent, the capitation rate was predicated on enrollment that was 13 percent higher than the December 1996 level (roughly 150,000 persons).
26. State of Tennessee, Department of Health, *TennCare Partners Program Action Plan* (Nashville: State of Tennessee, May 1997).
27. The BHOs also had to provide twenty-four-hour residential treatment, psychiatric rehabilitation, specialized outpatient care, specialized symptom management, and psychiatric laboratory services.
28. Holahan et al., *Medicaid Managed Care Payment Methods and Capitation Rates*, 18.
29. For example, an analysis of 1993 data showed that Medicaid was paying providers about 47 percent of the rate of private providers. See Physician Payment Review Commission, *Annual Report to Congress 1994* (Washington: PPRC, 1991), 352.