Engine of Change or One Force among Many?
Section 1115 Demonstration Projects and Trends in Medicaid Expenditures

February 7, 2001

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Submitted to:
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Executive summary

In the mid-1990s, states began to take greater advantage than they had previously of the option offered under Section 1115 of the Social Security Act to experiment with different methods of organizing and delivering services under their Medicaid programs. Many of these Section 1115 research and demonstration projects involve the introduction or expansion of some form of managed care for all or part of the state’s eligible populations. At least part of the motivation for the implementation of managed care in Medicaid has been the need to contain costs and to make state Medicaid expenditures more predictable over time. As these projects mature they give an indication of what the effects might be on expenditures from the various types of innovations they embody.

In this paper we describe trends in Medicaid expenditures in five states—Hawaii, Maryland, Oklahoma, Rhode Island, and Tennessee—during the years surrounding the implementation of their Section 1115 demonstrations. We compare trends in expenditures on medical benefits and on program administration in the five states to those in the nation as a whole for the period 1992-1998 and consider whether any differences seen in the trends can be attributed to activities under the demonstration projects. We do not address the question of whether states have met the budget neutrality condition that each agreed to as part of its Section 1115 waiver approval. Briefly, this condition stipulates that the cost to the federal government of the state’s Medicaid program be no greater under the demonstration than it would have been without it.

Medicaid is an enormously complicated program. As a joint state-federal endeavor it is designed to allow program variation in response to the political, economic, and health care system differences among the states. It is these structural differences within the states and the Medicaid program responses to these differences that determine in large measure the pattern of Medicaid expenditures in the states. The introduction of widespread managed care into the Medicaid programs under Section 1115 demonstrations was just one of many factors acting on expenditures over the study period.

The potential savings under a Section 1115 demonstration project and the cost of achieving those savings depend on where the state starts from and what level of reform it hopes to achieve through its program redesign. The five states varied greatly across these two dimensions. The different program features imply differences in medical benefits expenditures as well as differing levels of administrative complexity and associated expense. State economic conditions also varied both across states and within states over the study period so that changes in expenditures may reflect budgetary strictures rather than savings attributable to programmatic change.

The descriptive data presented here show five states that started from different places and were trying to achieve different objectives under their Section 1115 demonstration programs. Based on the available data and in light of the many other changes taking place in the programs and the states contemporaneously, we do not see clear evidence that the demonstrations have had a dramatic impact on expenditures in any of the states. Overall, the changes seen in trends in total expenditures on medical benefits are more closely associated with changes in enrollment, as in Hawaii or Tennessee under their demonstrations, or in provider reimbursement, as in Oklahoma in the years preceding the demonstration, than with the introduction of managed care under the Section 1115 demonstrations. Nor do trends in per enrollee expenditures on medical
benefits show a strong relationship with the implementation of the demonstrations. Holding enrollment and beneficiary mix constant, in only one state, Maryland, are medical expenditures per enrollee lower in 1998 than in the last full year prior to the demonstration. After netting out national trends in expenditure growth, Tennessee also sees a slight decline in medical expenditures per enrollee. Unfortunately, the analytic limitations imposed by the available data keep us from being able to separate out the effects of the varied forces acting on Medicaid program expenditures in the study period.

State-specific program factors also appear to exert a greater influence on administrative expenditures than does the common factor of the introduction of widespread managed care. The trends in administrative expenditures that were in evidence before the demonstrations continue after implementation. Three states held administrative expenditures per enrollee to their pre-implementation level although the apparent longer run trend is different in each of these states. Two states saw a rise, but in neither is there an evident trend, in one because the program is still quite new, and in the other possibly because of inaccurate data. The relatively low level of administrative spending in Hawaii and Tennessee, coupled with reported administrative difficulties these states had, suggests that both states underspent on administration during the study period. The most consistent effect seen in administrative expenditures is an apparent increase in the first year of the demonstration in four of the five states likely associated with program design and rollout costs or, in the states with eligibility expansions, with the large influx of new enrollees. There appear to be no other discernible effects of the demonstration on administrative costs.

Program maturity is likely to have a substantial influence on both benefit and administrative expenditures; the demonstrations in all of the study states are fairly new. As MCOs become more adept at managing care for the Medicaid population, as states refine their procedures and their administrative capacity, and as individual providers and beneficiaries familiarize themselves with the new system, costs are likely to change. In fact, the early years of the program may require higher expenditures as enrollees are brought into the system and as both MCOs and the states accommodate themselves to the requirements of the new structure. As a consequence, the costs of program redesign may not be recouped until several years out. Moreover, an analysis of changes in expenditures that does not take into account any changes in qualitative aspects of the demonstration cannot identify savings that may have been achieved only to be redirected into other demonstration goals such as increased provider participation, greater continuity of care, or higher quality of services.
INTRODUCTION

In the mid-1990s, states began to take greater advantage than they had previously of the option offered under Section 1115 of the Social Security Act to experiment with different methods of organizing and delivering services under their Medicaid programs. Many of these Section 1115 research and demonstration projects involve the introduction or expansion of some form of managed care for all or part of the state's eligible populations. At least part of the motivation for the implementation of managed care in Medicaid has been the need both to contain costs and to make state Medicaid expenditures more predictable over time. By transferring responsibility for arranging and paying for care to third parties, the states hoped to reduce costs through risk-sharing with managed care organizations and to smooth expenditures by replacing a predominantly retrospective fee-for-service provider reimbursement system with more predictable prospective capitation payments. Five of the earliest Section 1115 projects were begun in Hawaii, Maryland, Oklahoma, Rhode Island, and Tennessee in the period 1994-1997. As these projects mature, they give an indication of what effects might be expected from the various types of innovations they embody. The issues surrounding design and initial implementation, eligibility expansions, managed care plan reimbursement and retention, behavioral health care, effect on safety net providers, and beneficiary experience under managed care in these projects have been addressed elsewhere.1 In this paper we describe trends in Medicaid expenditures in these five states, both for benefits and for program administration, during the years surrounding the implementation of their Section 1115 demonstrations.

Rapidly rising Medicaid budgets were often the impetus for the development of the demonstration projects. States were looking to their Section 1115 reforms for ways to reverse this trend and free up funds for other priorities within their programs. In their proposals states outlined the ways in which the expected savings from the revamped programs would be redirected. Tennessee, Rhode Island, and Hawaii included eligibility expansions among their initiatives. Under TennCare, Tennessee had the most ambitious expansion plan, seeking to cover any uninsured person in the state, with state subsidies for those with incomes below 400 percent of poverty. Hawaii sought to extend Medicaid eligibility to people with incomes under 300 percent of poverty who were already
covered under two state-funded health insurance programs, rolling these two programs into its broader QUEST program. Rhode Island’s RIt Care envisioned a more modest expansion of eligibility to pregnant women and younger children up to 250 percent of poverty, with other savings to be directed toward improving care and access. Actual numbers of new enrollees differed from the original estimates and eligibility standards were often modified over the course of the projects in the face of changing fiscal conditions. The other two states did not include eligibility expansions in their proposals. Maryland chose to emphasize improving the quality of and access to care for enrollees through its HealthChoice program. Similarly, Oklahoma expressed its intention to target expected savings from SoonerCare into improving quality and access but with a particular focus on rural providers and beneficiaries.

Most of the states also hoped to streamline their administrative responsibilities by contracting with managed care organizations (MCOs) for the day-to-day responsibility for payment of provider claims, overseeing networks of providers, and direct contact with beneficiaries. There was recognition, however, that along with the transfer of some responsibilities to the MCOs would come new administrative tasks including the short term responsibility for designing and implementing the demonstration program along with the continuing tasks of plan contracting, enrollment and assignment of beneficiaries to plans, collection and analysis of encounter data, and quality assurance monitoring. Substantial changes in administrative infrastructure were planned in order to accommodate the sweeping change in responsibilities. In its proposal, each state discussed new organizational arrangements and responsibilities, often assigning a cost to the changes. Since in all states some part of the acute care Medicaid program remained under the fee-for-service (FFS) system, the new responsibilities were in addition to rather than in place of the old administrative responsibilities. Four states included additional funds for administration in their demonstration proposal budgets. In the fifth, Tennessee, where the remaining acute-care FFS component is tiny, officials expected that the rate of growth of administrative expenditures would slow under the demonstration.

Expected program expenditures were computed for each year of the demonstration and for the life of the project based on assumptions about enrollment levels and costs per enrollee. These calculations formed the basis of the budget neutrality
conditions included in each proposal. Briefly, budget neutrality requires that the cost to
the federal government of the state's Medicaid program be no greater under the
demonstration than it would have been without it. Where demonstration activities result
in lower expected program costs, the anticipated savings can be allocated to other
initiatives approved under the demonstration project. Whether the demonstration projects
had the desired effect on program expenditures is a complicated question. Not only are
enrollment levels in each of the five states quite different than anticipated, the distribution
of beneficiaries by type has changed due to welfare reform, the State Children's Health
Insurance Program and other new programs, and broader, unanticipated changes in each
state's economy. Costs per enrollee have also changed in ways that could not have been
predicted. Finally, as discussed in the next section, the expansion of managed care under
the demonstrations affected the reliability of the data as officially reported. As a result,
whether the demonstrations affected expenditures is one question; whether any change
can be identified and quantified is quite another.

We are not concerned here with the analysis of expenditures implied in the budget
neutrality conditions but rather with the less well-defined question of how the
demonstrations affected Medicaid program expenditures in the five states. In this report
we compare trends in expenditures on medical benefits and on program administration in
the five study states to those in the nation as a whole. We consider whether the
expenditure trends in the study states are different from national trends; and, if so,
whether the differences can be attributed to activities under the demonstration. The
period of analysis covers federal fiscal year 1992, before planning began for any of the
demonstration projects, to 1998, the last year for which reasonably complete data are
available. Three of the five demonstrations began in 1994—Tennessee's TennCare in
January, Rhode Island's RItc Care and Hawaii's QUEST in August. Oklahoma's
SoonerCare began in April 1996. Maryland's HealthChoice was the last of the five,
starting in June 1997.

In the following section we briefly present the data used and discuss its
shortcomings. We then discuss trends in expenditures, first for medical benefits, then for
program administration, and consider specific ways in which the Section 1115
demonstrations might have affected these trends. The final section summarizes the findings of the study.

DATA SOURCES AND ISSUES

We use data from Forms 2082 and 64 submitted to the Health Care Financing Administration (HCFA) by the states. HCFA-2082 data are based on annual state reports and include information on the number of enrollees, on payments for services, and on expenditures by type of enrollee. HCFA-64 data are based on quarterly financial reports submitted by states to claim federal matching payments. The Urban Institute maintains a merged file of HCFA-2082/64 reports for all states, edited for consistency and comparability over time and across states, from which we draw data on annual expenditures and number of enrollees.

For the purposes of this analysis, these data have two major limitations. First, the reporting format was developed before the widespread implementation of managed care in Medicaid. As a consequence, it is not well-suited for the collection of some financial and enrollment data. It is difficult to identify payments to managed care plans and to classify these payments by type of service provided or type of beneficiary. In addition, because the reporting format is not appropriate to the data, it offers the potential for undercounting or doublecounting in some areas. Second, as managed care has expanded in state Medicaid programs, states have been inconsistent in their reporting of managed care enrollees, making comparisons over time or across states unreliable. The net effect is that the data are least reliable in those states that have introduced or expanded managed care. While some data on managed care expenditures and enrollment are available from data sources at the state level, these data are generally not comparable across states nor to the available national data.

The problems in the reported data are most severe for the distribution of enrollees by eligibility category and the distribution of expenditures by type of service, but there are also worrisome problems even in total enrollment numbers for some of the states. Specifically, although Hawaii's data have been reliable historically, our reviews revealed that its data submissions in the years following implementation of its demonstration have been incomplete. Most troublesome, reported enrollment levels for nondisabled children
and adults, the largest category of enrollees, are unexpectedly low after the implementation of the demonstration and disagree with other, non-2082/64 data issued by Hawaii, suggesting a potential undercount. Maryland’s move to a new computer system in the year prior to its demonstration was not smooth, compounding the data problems related to the expansion of managed care. In Oklahoma and Tennessee, total enrollment figures are thought to be reasonable although there are questions about the distribution of enrollees by type. Historical trend data for Rhode Island are problematic because the state had no automated data system for Medicaid until 1993, the year before RIte Care was initiated. The reliability of earlier data is, therefore, hard to gauge, and there is no baseline with which to compare more recent numbers.

Administrative expenditure data come from HCFA financial management reports for total expenditures. These reports represent an annual summary of information submitted by the states on their quarterly HCFA-64 reports. We use the more detailed quarterly reports as the source of information for administrative expenditures by category. The expenditure categories of interest are those that might have contributed to changes in administrative expenditures under the demonstration projects. We look particularly at expenditures on information systems.

One area of concern is the occasionally large amount of annual administrative expenditures that are categorized on the HCFA-64 reports as “adjustments.” States use the adjustment mechanism when an expenditure for which they are claiming reimbursement in one period is for a service that was provided in a prior period. Adjustments assign the expenditures to the appropriate year and results in a change in the total expenditure for that prior year. The adjustment process can also be used to move past expenditures from one category to another within the same year. These adjustments are offsetting (added to one category and subtracted from another) so they do not show up in total adjustments and nor do they affect total spending levels. They may, however, affect the distribution of administrative expenditures by category and, since different categories of expenditures may have different federal matching rates, they may affect the federal share of spending. The quarterly reports reveal that the states appear to be looking carefully for savings of state dollars in their Medicaid programs in that adjustments are made not infrequently to switch an expenditure to a category with a
higher federal match, for example, from general administrative expenditures (matched at 50 percent) to information system expenditures (matched at 90 percent).

Using data from the quarterly reports submitted by the states for the years 1992-1999, we make the necessary adjustments to administrative expenditures by year and by category. (As the analysis ends in 1998, the 1999 reports are used only for adjustments). The adjustment process reveals additional data problems. Total adjusted spending for some categories is negative suggesting that the assignment of adjustments to particular years is not always completely accurate.

There are alternative sources of data on program expenditures for Section 1115 projects which are worth mentioning, even though we did not use them in this report. First, states are required to file periodic progress reports to HCFA, including participation and expenditure information. However, we found that state reporting formats differed, making it hard to compare programs across states. These reports also typically had little or no information about periods before the projects were initiated. Further, since the scope of projects sometimes changed (e.g., adding services or populations), these reports are not necessarily comparable over time even for a given state. These disadvantages make it hard to do trend analyses with these data. Second, states provided budget information to HCFA for use in computing budget neutrality, as required under their contractual terms and conditions. As we did not intend to replicate these official efforts, we did not use these data.

The advantage of the HCFA-2082 and 64 reports is that they are uniform reports that have been filed for many years by each state. They encompass the entire Medicaid program, so that the scope of services and people covered is more consistent over time. The disadvantages are that the data are sometimes flawed and they include people and services not covered under the Section 1115 projects. The HCFA-2082 and HCFA-64 data are, therefore, better for comparisons across states and time, but do not allow a tight focus on the Section 1115 projects themselves.

SECTION 1115 DEMONSTRATIONS AND TRENDS IN EXPENDITURES

The period during which these Section 1115 demonstrations were implemented was a period of great change in health care generally and in Medicaid in particular. The
demonstrations themselves differed across the study states although all had as a major component the expansion of mandatory managed care for large segments of the Medicaid population. In this section, we look at how Medicaid expenditures have changed over the period 1992-98 and consider the role of the demonstrations in any changes. We first look at medical expenditures (that is, expenditures on benefits exclusive of disproportionate share hospital payments) and then expenditures on program administration.11

EXPENDITURES ON MEDICAL BENEFITS

- Changes in medical expenditures are affected by enrollment expansions as well as by the cost of care. The two states with the most rapid expenditure growth, Hawaii and Tennessee, had large eligibility expansions. In all of the states except Hawaii, where expenditures grew more rapidly, growth in expenditures closely tracked growth in enrollment.

Demonstrations that include an expansion of eligibility have the potential to increase costs to the extent that they increase the number of beneficiaries. Enrollment is, however, a function of more than just eligibility standards. State economic conditions are a critical determinant of the number of people eligible, and state outreach and enrollment procedures affect the proportion of eligibles that enroll. It is also possible that the implementation of a Section 1115 demonstration could affect enrollment levels even holding other factors constant. Program rollouts have been associated with increased publicity making more people aware of the program. Some eligibles who had previously chosen not to enroll could be attracted by the opportunity to join an HMO which might be perceived to offer better benefits or access or to have less stigma attached. On the other hand, it is also possible that negative publicity about managed care generally could serve to discourage enrollment in Medicaid if managed care is mandatory, as it is under the demonstrations. The study states that expanded eligibility found that the actual number of new enrollees did not match predictions; Tennessee and Hawaii initially saw higher than anticipated new enrollment, while in Rhode Island enrollment fell short of the expectations.

Managed care in all of the study states involves capitated payments to MCOs. Capitation payments are prospective; in contrast, under the FFS system providers are paid individually after services are rendered. The change in the payment system has
implications for the timing of expenditures. First, to the extent that managed care is the dominant form of care purchased by the program, payments will be more regular over time since they will depend only on how many people are enrolled and not on what services enrollees use in a particular quarter or how quickly providers submit bills. Second, at least in the first year of the program, the state will be paying not only prospectively for services to be delivered to managed care enrollees but also retrospectively for services delivered in prior years for which bills are still being submitted. The effect could be a prospective-retrospective bulge in expenditures in the first year of the program reflecting not an increase in expenditures but rather their lumpy distribution.

Table 1 shows reported enrollment and expenditure data for the five states.\textsuperscript{12} Tennessee's program was the largest at the beginning of the period and had substantial growth over the period. Hawaii's program was the smallest in 1992 in terms of both enrollment and expenditures. By the end of the period, its enrollment had surpassed that of the next smallest program, Rhode Island, but its expenditures remained the lowest. Growth in enrollment and expenditures was lower in Oklahoma and Maryland which had no planned eligibility expansions.

Figure 1 shows Medicaid medical expenditures and enrollment in the US and in each of the study states, indexed to 1992 to allow a comparison of expenditure trends. Nineteen ninety-two expenditures and enrollment for the US and each of the states were set to 100 to serve as the base year; the lines in figure 1 thus represent the proportional growth in expenditures or enrollment for each jurisdiction since 1992. National Medicaid expenditures have increased steadily over the study period. Other states have instituted Medicaid managed care programs over the study period and so the national expenditure level is not independent of the influence of managed care, particularly in the later years.

We look first at the two states that had no eligibility expansions, Maryland and Oklahoma. In both states, enrollment growth over the study period is small. In Maryland, there is a slight rise in the rate of growth of expenditures between 1996 and 1997 which fits the hypothesis that expenditures should rise in the first year of a program as the state both makes prospective capitation payments and pays retrospective FFS bills. However, because of problems in the transition to a new information system Maryland's
1996-97 expenditure data is less reliable than other years, and the apparent post-implementation bulge may be an artifact of the data problems. Benefit expenditures level off in 1998 despite a small rise in enrollment. In Oklahoma, the rate of growth was lower than the national rate through 1997. In contrast to Maryland, no change in the rate of growth of expenditures is apparent with the introduction of SoonerCare. Two years out, however, expenditure growth has begun to accelerate; enrollment also rises during this period although somewhat more slowly.

In the other three states, eligibility expansions dominate the story, although there is also some evidence of a prospective/retrospective expenditure bulge. In Tennessee, expenditures were rising slightly more rapidly than the national rate prior to the implementation of TennCare, then increased in the first year of the demonstration (1994). There is a sharp rise in the second year paralleled by the rise in enrollment but also theoretically attributable to the prospective/retrospective payment bulge as spending growth outpaces enrollment growth. While expenditures in 1998 remain above this second year bulge level, the growth in expenditures has settled down to below the pre-demonstration rate of increase as enrollment has leveled off. Program officials used enrollment as a means to control expenditures by at times closing enrollment to certain categories of people who had been made eligible for Medicaid under the demonstration (Ku et al. 2000).

The pattern is similar in Hawaii. Even though the expansion was much smaller than in Tennessee there is a large post-implementation bulge after which expenditures fall. In 1996 the program was restructured in an effort to reduce both participation and expenditures in response to state fiscal pressures; both enrollment and expenditures decline in apparent response to the changes. State officials report that the high level of expenditures in 1995 is due to the payment of prior year bills and capitation payments at the same time providing anecdotal support for the idea of a post-implementation expenditure bulge.

The expenditure data for Rhode Island show a pattern that is more variable. There is a small post-implementation bulge which could be due to increased enrollment or to the prospective/retrospective payment issue. Expenditures then fall. It is difficult to determine what role if any the demonstration might have had on Rhode Island's
expenditures since, as noted above, we have concerns about the consistency of Rhode Island’s data over time. The post-implementation bulge follows, and is followed by, a year in which expenditures decline and may logically be attributed either to the change in reimbursement under managed care or to data anomalies. Growth in the following two years is above the pre-demonstration level although enrollment has leveled off.

For the US as a whole, we see that growth in expenditures is higher than growth in enrollment. Nationally, Medicaid enrollment begins to decline after 1995 but expenditures continue to grow. In comparison, among the study states, the growth in expenditures matches that in enrollment more closely than the national experience in three of the five — Oklahoma, Rhode Island, and Tennessee — although in each the gap begins to widen after 1996. In Maryland, albeit with only one year post-implementation, the difference between expenditures and enrollment has started to narrow. Only in Hawaii is the gap large and, the data suggest, persistent.

The potential savings to be achieved through the management of care also depends on the proportion of the Medicaid population enrolled in managed care, how much of this enrollment is new enrollment, and the composition of the new enrollment. In four of the study states capitated managed care was rare in the Medicaid program prior to the demonstration; only Maryland had a substantial proportion of its beneficiaries already enrolled in managed care. If managed care produces savings then any savings associated with beneficiaries enrolled in managed care prior to the demonstration will already have been realized. Thus, while the managed care penetration rate is high under the demonstration in both Tennessee and Maryland, a substantial portion of this enrollment and any associated savings are likely to predate the demonstration in Maryland but not in Tennessee. A high proportion of beneficiaries enrolled in managed care also implies that a broader range of types of beneficiaries are covered. In Maryland and in Tennessee, the disabled and the chronically ill are included in the mandatory managed care program. In contrast, Oklahoma’s program excludes such beneficiaries, as does Rhode Island’s and Hawaii’s. Furthermore, Oklahoma assigns urban residents to capitated managed care plans and rural residents to potentially more lightly managed primary care case management. Both the costs and the potential savings from managed care are different for these various populations.
Where the pre-demonstration level of managed care is higher the post-implementation bulge should be smaller. Post-implementation bulges are seen in Tennessee, Hawaii, and Rhode Island, all of which had low Medicaid managed care penetration before their demonstration projects. They all also had eligibility expansions which contributed to the surge in expenditures. In the non-expansion states, there are fewer years post-implementation and the pattern is less clear. In Maryland, pre-demonstration enrollment in managed care was relatively high while in Oklahoma it was very low. One would, therefore, expect the post-implementation bulge to be greater in Oklahoma than in Maryland, which is not the case.\textsuperscript{13} A possible contributor to this difference might be that Oklahoma’s new managed care enrollees were generally healthy children and mothers. Their contribution to expenditures is likely to be lower than that of Maryland’s new enrollees who were drawn disproportionately from among disabled or chronically ill enrollees. Much of Maryland’s healthier Medicaid population was already enrolled in managed care under the voluntary program that preceded the demonstration. The Maryland program used risk-adjusted capitation payments, meaning that while the number of new enrollees was lower than in Oklahoma, total capitation payments associated with the new managed care enrollment were probably relatively higher. The different composition of the new enrollee population and the different capitation system potentially offset the effect on expenditures of the larger percentage change in managed care enrollment. Again, data limitations preclude our looking at expenditures or enrollment by beneficiary type.

- \textbf{Changes in medical expenditures per enrollee are less dramatic. In all of the states except Rhode Island, per enrollee expenditures increased in the first year, probably because states were reimbursing retrospectively for fee-for-service as well as making prospective capitation payments. In all of the states except Maryland, per enrollee expenditures were higher in the year following implementation than in the implementation year.}

The introduction of widespread managed care under the demonstrations presents an opportunity for savings on medical expenditures per enrollee, and it is in this area that states hoped to reduce expenditures. States contracted with managed care organizations hoping to see not only declines in inappropriate utilization and but also an increase in
preventive and primary care that might decrease the need for more expensive care later. Part of the savings on medical care would necessarily go to finance the cost of care management, i.e., the administrative costs of the MCOs, but the states clearly expected that the savings would be sufficient to cover these costs as well as return some savings to the state for other program uses.

Per enrollee expenditures are not directly comparable across the states due to variation in the optional benefits covered under each state’s program, the composition of the covered population, as well as factors that affect local health care costs. In particular, it is worth keeping in mind the fact that, in general, medical costs are higher in New England and the mid-Atlantic states (Basu 1996). While all of the states made some adjustments in their benefit packages (e.g., Hawaii eliminated adult non-emergency dental coverage), the breadth of coverage remained broadly similar before and after the demonstration program. In the shift from a fee-for-service system to mandatory managed care, all of the study states either maintained their pre-demonstration benefit coverage or increased it slightly.

The distribution of enrollment by type of beneficiary is an important determinant of costs per enrollee. In states with large expansions, the distribution of beneficiaries was likely affected by the influx of new enrollees. New enrollees that are predominantly non-disabled adults and children as in Rhode Island and, for the most part in Tennessee, are generally lower cost and so could bring overall expenditures per enrollee down. New enrollees taken from the ranks of the uninsurable, as were some in Tennessee, may have high unmet needs for medical care that could increase per enrollee expenditures. This effect is less likely where the new enrollees are simply transferred from other insurance programs, as in Hawaii.

Trends in expenditures per enrollee give an indication of the growth of spending that takes into account the changing number of enrollees. Figure 2 shows expenditures per enrollee in constant (1992) dollars with US and state enrollments standardized to the national (1992) enrollment mix.14

Nationally, the rate of growth in medical expenditures per enrollee was fairly constant over the period at an average annual rate of 2.8 percent; expenditures per enrollee were $2732 in 1992 as compared with $3225 in 1998 (constant 1992 dollars).
With the exception of Hawaii, the states all maintain their positions relative to the national level and to the other study states over the study period. Nationally, and in all of the states except Maryland, constant dollar expenditures per enrollee are higher in 1998 than they were in the last full year before the state’s demonstration began. When the changes in national Medicaid medical expenditures per enrollee are netted out (table 2), Tennessee also registers a decline in per enrollee expenditures.

Factors other than the introduction or expansion of managed care are also likely explanatory in the trends seen here. In Maryland, expenditures were higher in the first year of the demonstration which is somewhat surprising given that the overall proportion of beneficiaries enrolled in managed care rose by only 10 percentage points. The small rise in managed care penetration would suggest that the prospective/re trosp ective bul ge should be relatively small. Maryland had some difficulties in the first year of its program in accurately calculating its risk-adjusted capitation rates and, as a result, payments to MCOs were higher than anticipated. The state revised the payment algorithms, and expenditures fell back to pre-demonstration levels in 1998. The unexpectedly large post-implementation bulge could reflect these events. In Oklahoma, the largest decline in per enrollee expenditures occurs well before the demonstration. During the early nineties, Oklahoma reduced provider payments with apparently greater effect on medical expenditures than realized later under managed care. In fact, it is only after implementation of the demonstration that per enrollee expenditures return to the level seen prior to the reduction in provider payment rates.

Tennessee’s medical expenditures per enrollee have been lower historically than the other study states’ and the national average. Given the large increase in managed care, the post-implementation expenditure bulge in per enrollee expenditures is surprisingly small. Tennessee state budgets were under some pressure in the first year of the demonstration (Ku et al. 2000) which may have constrained increases in Medicaid expenditures. The post-implementation bulge is most evident in Hawaii, apparently lasting for two years until expenditures level off to the national level. However, the likelihood of undercounted enrollees in the years following the implementation of the demonstration suggests that the magnitude of this bulge should be viewed skeptically.
The lack of a clear pattern seen in Rhode Island’s line may also reflect data anomalies more than a true representation of expenditure patterns.

Fluctuations in expenditures per enrollee might also reflect the difficulty that states had in setting capitation rates. Both Tennessee and Rhode Island found that their initial rates were too low and both raised rates in order to maintain plan participation. Hawaii and Maryland, in contrast, found the need to lower rates. The experience in Tennessee and Maryland suggests that to date optimal rates have not been found (Ku et al. 2000).

Finally, it is worth noting that expenditures that are either too high or too low can threaten the stability of the program. Tennessee’s per enrollee medical expenditures are the lowest among the five states. Providers in that state complain that they are in effect financing the Medicaid program; the largest Medicaid managed care plan is threatening to drop out and another faces serious financial troubles (Roman 2000). In contrast, Rhode Island’s high per enrollee expenditures have made the program so expensive that legislation is currently (as of June 2000) being proposed to tighten eligibility standards.

**EXPENDITURES ON PROGRAM ADMINISTRATION**

- In four of the five states, administrative costs rose per enrollee and as a percentage of total program expenditures in the year before project implementation, presumably due to design and startup costs. Tennessee and Hawaii had the lowest administrative costs per enrollee at the beginning of their demonstrations, and these fell at first, but rose again later. These two states also had the most serious management problems.

Administrative expenditures are a small but important part of state Medicaid expenditures. States have often found it more difficult to secure funds for program administration than for medical benefits. The underfunding of administrative costs can severely hamper the ability of states to manage their Medicaid programs adequately, particularly during times of dramatic programmatic changes such as the Section 1115 demonstrations.

There may be one-time administrative costs associated with the design and initial implementation of the demonstrations, including the costs associated with the enrollment of expansion population beneficiaries. In the year or possibly two years prior to
implementation, administrative costs may have increased with the demands of program
design. The magnitude of the resulting cost bulge may be related to the intensity of the
design process. In addition, startup costs in the first year of the program may show up as
increased administrative expenditures which may continue into the second or later years.
Startup costs may be greater where there is an eligibility expansion, reflecting both the
larger program size and the costs of new enrollment.

Program complexity may influence design and startup costs. Maryland, for
example, instituted an elaborate risk adjustment system for its MCO capitation rates
while the other states relied chiefly on demographic categories alone. Oklahoma had
distinct program structures for urban and rural areas. Hawaii, on the other hand,
simplified overall administration by combining state programs although, since the newly
integrated programs were not previously administered by the Medicaid agency, any
savings from the simplification would accrue to other agencies. The programs also
included varying numbers of service carveouts. Oklahoma and Rhode Island had none.
Maryland moved beneficiaries with “rare and expensive” conditions into case
management and provided specialty mental health services through a separate state
program. Hawaii carved out dental care and had a separate behavioral health program for
the severely mentally ill. Tennessee began its demonstration with no carveouts but
separated out behavioral health services in 1996.

Administrative expenditures may change as various administrative tasks, once the
responsibility of the states, are transferred to managed care organizations. These tasks
include payment of providers, enrollee relations, and provider quality assurance; financial
responsibility for these functions rests with the MCOs. Other responsibilities are new
under the demonstrations, such as assignment of beneficiaries to MCOs and MCO quality
monitoring, or enhanced, such as outreach and education. While it is difficult to predict \textit{a priori} whether the shift in responsibilities between the state and the MCOs would result
in a net increase or decrease in administrative expenditures for the state, as noted above,
four of the five study states expected administrative expenditures to increase.

The shift in administrative responsibility to the MCOs complicates the analysis of
the cost of administering the program because of how these costs are reimbursed and
reported. State administrative costs continue to be reported as administrative. MCO
administrative costs, however, which are not insignificant, are included in their capitation payments and so are reported by the states as medical benefits. Therefore, a decrease in administrative expenditures on the part of the state would not necessarily imply that overall the portion of total expenditures going toward medical benefits has risen.

In order to insure that expenditures on medical benefits did not fall too far some states, such as Maryland, established contractual limits on the medical loss ratios of participating plans. Medical loss ratios measure the proportion of plan expenditures that go to medical benefits. But, as Maryland found, these ratios are difficult to define and measure consistently across plans whose provider payment structures and subcontracting procedures may vary widely. Furthermore, enforcement of sanctions for violating such standards has proved difficult in the absence of a consistent definition and in light of the need to assure that an adequate number of plans continue to participate in the program. (See Ku et al. 2000 for a discussion of plan retention.)

Figure 3 shows state administrative expenditures as a percentage of total program expenditures by demonstration year. In four of the five states there is the expected rise in administrative expenditures in the year that the demonstration began, possibly reflecting design and start-up costs. However, in Oklahoma and Tennessee, the startup bulge appears to be more an enhancement of a trend of rising administrative costs rather than a sharp upswing. In Rhode Island, the increase is steeper, but again the historic data are less reliable. In contrast, in Hawaii there is a decline. In Maryland and Oklahoma, administrative expenditures continue to rise in the year following implementation although by two years out they have begun to fall in Oklahoma. In the other states, outyear administrative expenditures follow no trend that can be attributed to the demonstrations.

The design of the new programs was accomplished quickly in Tennessee, Rhode Island, and Hawaii, while in Maryland and Oklahoma the process was more extended over time and involved a greater number of stakeholders. The higher first year administrative costs in Maryland, and to a lesser degree in Oklahoma, could reflect the intensity of the design effort. In states with a less intensive design effort, one might expect to see a smaller first year increase but higher administrative costs following implementation as loose ends were tied up. The data do not show such an effect.
In all of the states the organization of program administration changed with the demonstration. The changes were most far-reaching in Oklahoma, which moved Medicaid administrative functions out of the Department of Human Services and into a separate authority two years before its demonstration began. Reported administrative percentages rose slightly following reorganization, then fairly sharply following program implementation. By 1998, however, administrative percentages had again fallen below the levels seen before the reorganization. Rhode Island’s program was staffed jointly by the Department of Health and the Department of Human Services. As a condition of federal approval of its demonstration proposal it engaged an outside contractor for program administration. The expenditure pattern seen in the data is again erratic, due either to data problems or true changes in administrative costs associated with the reorganization, including the outside contractor. Hawaii, on the other hand, inherited the administration of the programs whose enrollees were moved into Medicaid. No transition effect is evident in the administrative expenditure data. Tennessee’s administrative percentages remain fairly stable throughout the period in spite of the many structural and managerial changes that occurred (Conover and Davies 2000).

Given the wide range in the size of the state Medicaid programs it is plausible to expect some variation in administrative expenditures due to economies of scale in program administration. Evidence of scale economies could show up as a difference in the level of administrative expenditures across different sizes of programs or as a change in administrative expenditures with a change in the size of the program. Administrative expenditures in the five states range from about 3 percent of total expenditures in Tennessee to about 8 percent in Oklahoma; the national average ranged from 3.4 to 4.8 percent over the study period. Economies of scale in the administration of public programs is one possible explanation for Tennessee’s consistently low figures; Tennessee’s enrollment is 2 to 3 times larger than Oklahoma’s, depending on the year. The next lowest percentages, however, are found in Rhode Island and Hawaii, the two smallest programs in terms of enrollment, arguing against economies of scale as a major determinant of administrative expenditure differences. Maryland’s percentages are about midway between Tennessee and Oklahoma; its program enrollment is about 20 percent larger than Oklahoma’s.
A further argument against economies of scale as an important factor in relative administrative cost levels is found in the fact that administrative expenditures do not seem to change predictably as a percent of expenditures as enrollment changes over time. In the three states that had eligibility expansions, administrative percentages were higher at the end of the study period than they had been in the year before the program began. Tennessee’s percentage was only slightly higher despite a substantial expansion of enrollment; Rhode Island, on the other hand, with its very modest expansion saw a large increase. In Hawaii, where enrollment nearly doubled but the expansion was simply a rollover of state programs into Medicaid, administrative expenditures only began to rise two years after implementation.

As seen in figure 4, the patterns in administrative expenditures per enrollee are similar to those seen for administration as a percentage of expenditures. In the non-expansion states the first year of the demonstration is associated with a real rise in administrative expenditures per enrollee, followed by a leveling off in Maryland and a fall in the second year in Oklahoma. In Hawaii and Tennessee, expenditures per enrollee remain fairly steady in the year following implementation suggesting the possibility that any extra costs associated with program design and initial implementation are swamped by the effects of greatly increased enrollment. After a large rise at program start-up, the trend in Rhode Island, where the expansion was minimal, is not clear. Only in Tennessee are real administrative costs per enrollee lower at the end of the study period than in the year prior to the demonstration. Tennessee may have reduced its administrative burden somewhat since it all but eliminated the fee-for-service component of its acute care program; its lower administrative cost could reflect this administrative simplification.

While it seems likely that the change in administrative expenditures due to the shift in responsibilities to MCOs would be influenced by the level of managed care in the program prior to implementation, the data provide little support for this contention. In Maryland, where pre-demonstration levels were high, administrative expenditures per enrollee actually rose to a greater extent than in the other states where levels were lower. One possible explanation is that Maryland’s managed care experience made it more aware than the less experienced states of the additional resources needed to administer a managed care program, including a more highly differentiated reimbursement structure
and greater attention to the data. Alternatively, the composition of Maryland’s new enrollees, with a higher representation of disabled and chronically ill enrollees, may have contributed to its higher administrative expenditures. Tennessee, however, also enrolled a broad range of beneficiaries but did not see a rise in administrative expenditures. Nor did it see a rise in administrative expenditures in 1996 when it increased program complexity by carving out behavioral health services.

It is likely that there are state-specific factors unrelated to 1115 project activities that determine the level of administrative expenditures. The lowest expenditures per enrollee are found in Hawaii and Tennessee and, in contrast to the other states, these expenditures do not appear to be influenced by program implementation. It can be argued that both of these states underfunded program administration. Tennessee’s program, in particular, has been characterized by administrative difficulties including several changes of leadership and eligibility freezes in response to fiscal pressures. In the other states, administrative budgets were more generously funded and the programs appeared to have fewer administrative crises (Wooldridge and Hoag 1999). Adequate administrative support is particularly critical in the initial implementation phase. Hawaii, Maryland, and Oklahoma all saw a rise in administrative expenditures per enrollee in the first program year. In contrast, in Rhode Island and Tennessee, per enrollee administrative expenditures fell in the first program year. Since 1996, however, expenditures have been rising in both these states, perhaps in recognition of the possibility of underfunding.

- **Information systems are an increasingly important management tool particularly given the new monitoring functions entailed under managed care.** Expenditures on information systems do not appear to be consistently associated with the implementation of the demonstrations, with increases in such expenditures sometimes pre-dating implementation and sometimes following it. Information system expenditures appear to be in addition to historical administrative expenditures rather than substituting for them, suggesting either that returns to such investments are yet to be realized or that the benefits are to be found in increased quality rather than financially.

The expansion of managed care implies a need to reconfigure information systems to conform to the needs of the redesigned programs including, particularly, the
ability to accept and process the data that managed care organizations are required to submit. To the extent that new systems need to be developed for encounter data or for new management functions, information system design costs ought to rise. On the other hand, to the extent that managed care reduces the volume of claims to be processed as the state passes this responsibility to the managed care organizations, routine information system costs may fall. For many years, the federal government has sought to encourage investment in information technology by offering a higher federal match rate both for design and installation of new systems and for operating costs. States with 1115 projects could also take advantage of federally financed technical assistance for the design of their encounter data systems.\textsuperscript{17} The federal government has, however, offered the states little guidance on the structure and content of the systems, preferring to leave such decisions to the states’ discretion. States have, in many cases, sought help in this area from outside contractors.

Figure 5 shows expenditures on information systems, both for the design and development of new systems and for operations. The vertical bars show expenditures on private sector contractors, design and operations combined.\textsuperscript{18} Maryland and Rhode Island both made significant investments in new information systems design. In Maryland, the system was redesigned; in Rhode Island, the new system represented its first Medicaid management information system. Reported design expenditures in the other states were minimal. It is clear even in the states with new technology that systems operations represents a greater proportion of expenditures than does investment in new system technology. The data also show that states are relying extensively on private sector contractors to support their information systems. Even in Maryland, where the system was run primarily in-house through much of the study period, in 1998 private contractors assume a major role. The role of private contractors does not appear to change with the implementation of the demonstration projects in Hawaii, Oklahoma, and Rhode Island. In Tennessee, on the other hand, reported expenditures on information system contractors drop to zero.

Evidence of a correlation between the demonstrations and total information system expenditures is mixed. In Tennessee and Rhode Island, the start of the demonstrations coincides with a substantial rise in information system expenditures
which could reflect either the greater information system demands of more extensive managed care or the effect of increased enrollment, or both. Given that Rhode Island had no Medicaid management information system before 1993, a rise in information system expenditures would likely have occurred even in the absence of the demonstration. In Oklahoma, where there was no eligibility expansion, information system operation expenditures also rose with the implementation of SoonerCare. In contrast, in Hawaii, the introduction of QUEST is followed by a steep decline in expenditures as encounter data functions were taken over by the Department of Health. This function and the associated expenditures were later returned to the Medicaid office which then turned to a private contractor for assistance. In Maryland, HealthChoice implementation is not associated with a change in information system expenditures, possibly reflecting the fact that major system investment predated the demonstration.

Table 3 shows the proportion of administrative expenditures represented by expenditures on information systems. Increases in expenditures on information systems are not consistently accompanied by decreases in other administrative expenditures. This trend holds true in Maryland and Oklahoma where enrollment was fairly constant as well as in the states with eligibility expansions. That information system expenditures are additive rather than substituting for other expenditures implies that information systems are performing new functions or that they are performing old functions at a higher level of quality, or both. It is also possible that the returns to investment in information systems are yet to be realized and that these expenditures are simply startup costs with their contribution to program administration to be realized in later years. Hawaii, for example, despite its expenditures, did not have a functioning Medicaid management information system as of 1998.

SUMMARY AND DISCUSSION

Medicaid is an enormously complicated program. As a joint state-federal endeavor it is designed to allow program variation in response to the political, economic, and health care system differences among the states. It is these structural differences within the states and the Medicaid program responses to these differences that determine
in large measure the pattern of Medicaid expenditures in the states. The introduction of widespread managed care into the Medicaid programs under Section 1115 demonstrations was just one of many factors acting on expenditures over the 1992-98 study period. Given the widely varying programs into which managed care was introduced, it is not surprising that the evidence that any change in program expenditures can be attributed to the demonstrations is inconsistent. That is not to say that the activities under the demonstrations did not affect expenditures but rather that other changes occurring in the same time period had sometimes competing or contradictory effects on expenditures that may obscure the expenditure impacts of the demonstration programs.

Among other goals, the states were looking to their demonstration projects to reduce program expenditures through greater efficiency in the provision of care and streamlined administrative functions. The magnitude of the potential savings and the cost of achieving those savings depend on where the state started from and what level of reform it hoped to achieve through its program redesign. The starting point includes not only the basic components of the state Medicaid program such as eligibility standards and benefit coverage but also the level of managed care penetration prior to the demonstration. The programs in the study states were very different in their pre-demonstration periods, ranging from one with extensive managed care enrollment under a voluntary program to those with almost no managed care. A larger programmatic change entails greater administrative dislocations and associated costs but also offers greater potential for savings.

It would be unrealistic to expect the same expenditure response in a program that enrolls a smaller proportion of enrollees or enrolls chiefly TANF and TANF-related beneficiaries as compared to one whose new enrollees represent a large proportion of managed care enrollment or who are primarily the disabled and chronically ill. The composition of new enrollees varied widely from one state whose new managed care enrollees were predominantly the sickest Medicaid beneficiaries to another whose new enrollees covered the entire spectrum of beneficiaries. The level of care management ranged from full risk capitation under MCOs to a mixture of full risk and primary care case management. Payment systems varied as well from capitation based only on age
and sex to a detailed system of risk adjusted payments based on historical utilization patterns. Not only are these program features likely to affect benefits expenditures differently they also imply differing levels of administrative complexity and associated expense.

State economic conditions also affected program expenditures in ways that are independent of the demonstrations. For example, Hawaii and Tennessee experienced unanticipated budget problems during the early years of their demonstrations. Changes in expenditures in these states may reflect budgetary strictures rather than program savings attributable to programmatic change.

Program maturity is likely to have a substantial influence on both benefit and administrative expenditures; the demonstrations in all of the study states are fairly new. As MCOs become more adept at managing care for the Medicaid population, as states refine their procedures and their administrative capacity, and as individual providers and beneficiaries familiarize themselves with the new system, costs are likely to change. In fact, the early years of the program may require higher expenditures as enrollees are brought into the system and as both MCOs and the states accommodate themselves to the requirements of the new structure. As a consequence, the costs of program redesign may not be recouped until several years out. Indeed, program achievements may never show up in the expenditure data if what the reform buys is higher quality service or better access for beneficiaries.

The data presented here show five states that started from different places and were trying to achieve different objectives under their Section 1115 demonstration programs. Two of the states only recently implemented their programs. We do not see clear evidence that the demonstrations have had a dramatic impact on expenditures in any of the states. Overall, the changes seen in trends in total expenditures on medical benefits are more closely associated with changes in enrollment, as in Hawaii or Tennessee under their demonstrations, or in provider reimbursement, as in Oklahoma in the years preceding the demonstration, than with the introduction of managed care under the Section 1115 demonstrations. Nor do trends in expenditures on medical benefits per enrollee show a strong relationship with the implementation of the demonstrations. Holding enrollment and beneficiary mix constant, in only one state, Maryland, are
medical expenditures per enrollee lower in 1998 than in the last full year prior to the demonstration. After netting out national trends in expenditure growth, Tennessee also sees a slight decline in medical expenditures per enrollee.

State-specific program factors also appear to exert a greater influence on administrative expenditures than does the common factor of the introduction of widespread managed care. The trends in administrative expenditures that were in evidence before the demonstrations continue after implementation. Three states—Hawaii, Oklahoma, and Tennessee—held administrative expenditures per enrollee to near their pre-implementation level although the apparent trend is upwards in Hawaii, downwards in Oklahoma, and steady in Tennessee. Maryland saw a rise, although it is the newest of the five programs and its data may still be reflecting startup costs. The fifth state—Rhode Island—exhibited generally higher administrative costs but showed no clear trend. The relatively low level of administrative spending in Hawaii and Tennessee, coupled with reported administrative difficulties these states had, suggests that both states underspent on administration during the study period. The most consistent effect seen is an apparent increase in administrative expenditures in the first year of the demonstration in four of the five states likely associated with program design and rollout costs or, in the states with eligibility expansions, with the large influx of new enrollees. There appear to be no other discernible effects of the demonstration on administrative costs.

The analytic limitations imposed by the available data keep us from being able to separate out the effects of the varied forces acting on Medicaid program expenditures in the period surrounding the implementation of the Section 1115 research and demonstration projects. Part of the problem with the data can be traced to the introduction of managed care under the demonstrations. With managed care comes an entirely different system of accounting, with a change from a system that is focused on payments for services rendered to one that is based on payment for the number of people enrolled. Changes in the Medicaid reporting requirements at the federal level have not kept pace with the change in the organization of health care delivery at the state level.

The spread of managed care in public programs has highlighted the need to redesign reporting formats. HCFA has encouraged investment in information technology through enhanced matching rates for both hardware and software (although only two of
the study states took much advantage of this opportunity). It has, however, contributed to the data problems in the early demonstration years by its failure to provide clear guidance to the states on their HCFA-2082 data reporting. Recent efforts, such as the implementation of a national data system requiring electronic filing of HCFA-2082 data elements, have been aimed at facilitating accurate data reporting. The new system will allow centralized review and quality assurance across all states, which could alleviate some problems. Electronic filing cannot, however, resolve issues that are the result of lack of clarity or consistency across states and over time in the definition of particular data elements.

In order for HCFA to maintain the same level of information that it has had in the past, that is, basic data on expenditures and categories of enrollees, it will need to continue to work with the states to bring the structure of data collection into line with the evolving structure of the programs that are generating the data. Federal leadership in the area of systems compatibility with reporting requirements would facilitate accurate reporting and help insure that reported data are accurate and comparable across the states. The need for consistency across states, however, has had to be balanced against individual state needs and, despite efforts on both sides, to date, little has been resolved.

In summary, based on descriptive analysis only, the changes seen in the expenditure data can be more convincingly linked to state economic trends, changes in eligibility standards post-implementation, administrative reorganization, or changes in provider reimbursement not associated with the demonstration than to the demonstrations themselves. The introduction of widespread managed care into the complex structure of state Medicaid programs cannot, with the available data, be shown to have had a distinct effect on program expenditures at this stage of program implementation. Program maturity may also bring with it improved data reporting so that shifts in expenditures can be more accurately tracked. Finally, an analysis of changes in expenditures that does not take into account any changes in qualitative aspects of the demonstration cannot identify savings that may have been achieved only to be redirected into other demonstration goals such as increased provider participation, greater continuity of care, or higher quality of services.
REFERENCES


Ku, Leighton, Marilyn Ellwood, Sheila Hoag, Barbara Ormond, and Judith Wooldridge, “The Evolution of Medicaid Managed Care Systems and Eligibility Expansions in Section 1115 Projects,” The Urban Institute, April 6, 2000.


2 Both Tennessee and Hawaii tightened eligibility criteria over the course of the project in the face of budget problems. Tennessee continues to debate whether further changes are necessary, as does Rhode Island. All five states implemented their State Children's Health Insurance Programs (SCHIP) under Medicaid effectively expanding eligibility. At the time of its SCHIP implementation, Oklahoma also extended Medicaid eligibility to pregnant women in families with incomes up to 185 percent of the federal poverty level. Maryland had no eligibility expansion beyond SCHIP.

3 In addition, long term care remains under fee-for-service in all five states and will not be discussed here.

4 States undertaking Section 1115 demonstrations projects under Medicaid must meet strict budget neutrality conditions. In each of the waiver proposals explicit criteria were laid down as to what constituted adherence to budget neutrality based on assumptions about the rate of growth in the number of eligibles, the rate of growth of the various costs of the programs, and the net cost or savings of programmatic and administrative changes under the demonstration. How cost would be measured varied across the states (e.g., total expenditures, total expenditures less administrative expenditures, expenditures per enrollee, expenditures per eligible month). Budget neutrality criteria were incorporated into the terms and conditions for federal approval of each demonstration project.

5 Ideally, one would like to use multivariate analysis to help sort out the effects of the demonstrations from state-specific effects or pre-demonstration differences in the programs. However, the Medicaid programs in the five study states differ greatly one from another, and the demonstrations themselves have different goals and different components. Given the large number of factors that would, therefore, need to be controlled for, there too few observations to make multivariate analysis possible.

6 All annual expenditure figures refer to the federal fiscal year (FFY) which runs from October 1 to September 30. All 1998 data are preliminary.

7 While Oklahoma's Section 1115 project did not begin officially until April 1996, managed care was introduced in urban areas in July 1995 under a Section 1915(b) project.

8 HCFA Form 2082 is the Statistical Report on Medical Care: Eligibles, Recipients, Payments and Services. It includes data on both beneficiaries and expenditures including number of enrollees (also called eligibles, i.e. people participating in the program at any time during the year), number of eligibles receiving services, and payments to service providers and other medical vendors. Data on the HCFA-2082 can generally be used to classify expenditures by type of service and type of beneficiary receiving the service. Although expenditures reported on this form reflect payments made during the year, they do not necessarily represent services provided during that year. HCFA Form 64 is the State Quarterly Statement of Medicaid Expenditures for the Medical Assistance Program. It includes data on actual Medicaid expenditures made by the states for which federal reimbursement was received but does not provide any information about enrollees.

9 See Liska et al. 1997 for more information on the Urban Institute Medicaid data set.

10 There is a pattern in the adjustments in each state. Three states (Hawaii, Oklahoma, and Rhode Island) each have consistently small adjustments (with one significant exception in Hawaii). Maryland's adjustments also follow a consistent pattern but the size of the adjustments is generally larger. Tennessee, on the other hand, has not only a consistently higher percentage of adjustments but also more variability over time. Although adjustments represent a much larger percentage of Tennessee's administrative expenditures, at least 99 percent of the adjustments (measured in total dollars) apply to the same year (but a different quarter) or to the preceding year. Rhode Island and Hawaii have similarly innocuous adjustment patterns. In contrast, in Maryland adjustments are smaller than in Tennessee (as a percentage of administrative expenditures) but are more likely to be applied further back in time, with as long as a four year lag. Oklahoma shows a similarly unpredictable adjustment schedule but since the amounts involved are small relative to total administrative expenditures the lags are unlikely to affect the analysis. Because of administrative adjustments we end our analysis in 1998 under the assumption that most adjustments pertaining to 1992-98 will have been submitted by the last quarter of FY00 (i.e., October-December 1999), the last period for which we have quarterly statements.
Disproportionate hospital share (DSH) payments are made to hospitals for which Medicaid and low income uninsured patients represent a large proportion of their patient load. Payments are generally made as a lump sum and are not associated with particular services or enrollees. Over the study period DSH payments in many states increased greatly, often in ways unrelated to overall service provision. They may, therefore, distort an analysis of services, enrollees, and expenditures and so have been excluded. It is unlikely that the demonstration project activities would affect the level of DSH payments.

Enrollment refers to enrollment in the state's Medicaid program, and does not imply enrollment in Medicaid managed care.

Two years out Oklahoma's benefits expenditures rise while Maryland's flatten out, but the timing makes the prospective/retrospective phenomenon an unlikely explanation.

Expenditures are adjusted using the Health Services Producer Price Index (PPI). The Health Services PPI has been produced by the Bureau of Labor Statistics since 1994 and is published in the Health Care Financing Review. Estimates of the Health Services PPI for 1992 and 1993 were calculated assuming that the annual growth in the PPI for Health Services is the same as that for Finished Products, that is 1.1 percent for 1992 and 0.2 percent for 1993. See Seifert, Heffler, and Donham 1999.

Estimates of the extent of the overpayment vary from $80 to $200 million depending on which payments are included. Using the frequently cited figure of $112 million (Babington and Goldstein 1998) the "mistake" represents nearly 9 percent of benefits expenditures for 1997.

For example, one plan may pay providers directly and bear significant administrative and processing costs. Another may capitate provider groups, which then bear those cost internally. Moreover, even direct payments to physicians and hospitals incorporate substantial amounts for administrative costs within the provider settings although these are not likely to be different under managed care than under direct state reimbursement.

Of the 5 study sites, only Hawaii and Oklahoma took advantage of this service.

The apparent anomaly in expenditures in Tennessee in 1993 confirms that there are problems with the data on expenditures by administrative category. In the graph the $8,034,946 information system operations expenditures are swamped by the reported negative $7,995,359 design expenditures. This latter amount is due to a negative "adjustment" of over $10 million made in September 1996 with the expenditure reassigned to general administrative costs.
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</table>

Source: Urban Institute calculations based on HCFA 2092 and HCFA 64 data.

Not Enrollment includes individuals who are enrolled in the state Medicaid program, referred to as "eligibles" on the HCFA-2092 forms. Benefit expenditures exclude Disproportionate Share Hospital payments.

* indicates an adjustment of negative $70 million.

* indicates the start of the 1115 demonstration program.
Table 2: Medicaid Expenditure per Enrollee by State: FY 1992 - 98  
(Adjusted for beneficiary mix and net of the national trend.)

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>$2,449</td>
<td>$2,660</td>
<td>$2,983</td>
<td>*</td>
<td>$3,372</td>
<td>$2,733</td>
<td>$2,742</td>
<td>$2,669</td>
<td>0.37%</td>
</tr>
<tr>
<td>Maryland</td>
<td>2,389</td>
<td>3,162</td>
<td>3,181</td>
<td></td>
<td>3,178</td>
<td>3,163</td>
<td>3,312</td>
<td>*</td>
<td>-5.36%</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>2,638</td>
<td>2,566</td>
<td>2,289</td>
<td>2,224</td>
<td>2,191</td>
<td>2,199</td>
<td>2,254</td>
<td></td>
<td>1.36%</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>3,676</td>
<td>3,627</td>
<td>3,329</td>
<td>*</td>
<td>3,751</td>
<td>3,379</td>
<td>3,632</td>
<td>3,719</td>
<td>2.55%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>2,071</td>
<td>1,892</td>
<td>2,001</td>
<td>*</td>
<td>2,085</td>
<td>1,915</td>
<td>1,987</td>
<td>1,881</td>
<td>-0.55%</td>
</tr>
</tbody>
</table>

Source: Urban Institute calculations based on HCFA 2062 and HCFA 64 data.
Notes: Enrollment includes individuals who are enrolled in the state Medicaid program, referred to as "eligibles" on the HCFA-2062 forms. Benefit expenditures exclude Disproportionate Share Hospital payments, administrative costs, and accounting adjustments. Beneficiary mix refers to differences in the distribution of enrollees by basis of eligibility across states and years. US beneficiary mix for 1992 was used as the basis for adjustment. Expenditures adjusted using BLS Producer Price Index for Health Services (Seifert et al. 1999).
* indicates the start of the 1115 demonstration program.
Table 3: Information Systems Expenditures as a Proportion of Total Administrative Expenditures, FY 1992 - 98

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total Administration Information Systems Expenditures</td>
<td>$17,681,972</td>
<td>$17,142,422</td>
<td>$16,573,000 *</td>
<td>$28,449,324</td>
<td>$24,585,374</td>
<td>$30,091,040</td>
<td>$31,583,447</td>
</tr>
<tr>
<td>As % of Administration</td>
<td>21.78%</td>
<td>14.18%</td>
<td>21.71%</td>
<td>7.70%</td>
<td>3.26%</td>
<td>13.83%</td>
<td>15.74%</td>
</tr>
<tr>
<td>Maryland</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Total Administration Information Systems Expenditures</td>
<td>$84,063,027</td>
<td>$99,343,880</td>
<td>$18,604,497</td>
<td>$132,956,155</td>
<td>$139,329,069</td>
<td>$188,045,866 *</td>
<td>$202,296,879</td>
</tr>
<tr>
<td>As % of Administration</td>
<td>12.50%</td>
<td>11.85%</td>
<td>13.41%</td>
<td>13.08%</td>
<td>7.13%</td>
<td>6.17%</td>
<td>5.67%</td>
</tr>
<tr>
<td>Oklahoma</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total Administration Information Systems Expenditures</td>
<td>$85,676,921</td>
<td>$84,196,694</td>
<td>$88,597,717</td>
<td>$95,156,679</td>
<td>$105,216,774 *</td>
<td>$120,760,141</td>
<td>$112,641,513</td>
</tr>
<tr>
<td>As % of Administration</td>
<td>10.33%</td>
<td>7.90%</td>
<td>10.41%</td>
<td>8.03%</td>
<td>8.57%</td>
<td>12.02%</td>
<td>15.71%</td>
</tr>
<tr>
<td>Rhode Island</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Total Administration Information Systems Expenditures</td>
<td>$13,799,109</td>
<td>$18,536,579</td>
<td>$35,204,519 *</td>
<td>$35,357,554</td>
<td>$37,956,389</td>
<td>$31,925,274</td>
<td>$37,906,503</td>
</tr>
<tr>
<td>As % of Administration</td>
<td>1.90%</td>
<td>5.28%</td>
<td>7.87%</td>
<td>44.85%</td>
<td>30.00%</td>
<td>21.34%</td>
<td>24.98%</td>
</tr>
<tr>
<td>Tennessee</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total Administration Information Systems Expenditures</td>
<td>$65,080,376.00</td>
<td>$62,125,511.00</td>
<td>$91,543,222.00 *</td>
<td>$107,343,114.00</td>
<td>$97,733,814.00</td>
<td>$113,525,538.00</td>
<td>$127,581,779.00</td>
</tr>
<tr>
<td>As % of Administration</td>
<td>24.66%</td>
<td>0.05%</td>
<td>27.36%</td>
<td>35.61%</td>
<td>28.26%</td>
<td>26.91%</td>
<td>25.04%</td>
</tr>
</tbody>
</table>

* indicates the start of the 1115 demonstration program.
Figure 1: Change in Medicaid Medical Benefits Expenditures and Enrollment, FY 1992 - 98 (1992 = 100)

Maryland

Oklahoma

Tennessee

Hawaii

Rhode Island

United States

- Medical benefits expenditures
- Enrollment
- Start of the 1115 demonstration program.

Source: Urban Institute calculations based on HCFA 2002 and HFA 64 data. Benefits expenditures exclude Disproportionate Share Hospital payments.
Figure 2: Medicaid Medical Expenditures per Enrollee, Adjusted for Case Mix

Source: Urban Institute calculations based on HCFA 2082 and HCFA 64 data.
Notes: US trend shown as dotted line.
Expenditures exclude Disproportionate Share Hospital payments, administration, and adjustments.
Expenditures adjusted using BLS Producer Price Index for Health Services reported in Selbert et al. 1999.
State case mix in 1992 was used as the basis for adjustment.
● indicates the start of the 1115 demonstration program.
Figure 3: Administrative Costs as a Percent of Total Expenditure

Source: Urban Institute calculations of HCFA 2082 and HCFA 64 data.
Notes: Reported adjustments to administrative costs have been applied to the actual year that expenditures occurred.
○ indicates the start of the 1115 demonstration program.
Figure 4: Administrative Costs Per Enrollee

Notes: Administrative costs adjusted using Employment Cost Index. ○ indicates the start of the 1115 demonstration program.
Figure 5: Breakdown of MMIS Related Expenditure by State, FY 1992 - 98