7129
HRSA 98-146

AN ANALYSIS OF IMPLEMENTATION ISSUES RELATING TO CHIP COST-SHARING PROVISIONS FOR CERTAIN TARGETED LOW INCOME CHILDREN

PREPARED FOR THE HEALTH CARE FINANCING ADMINISTRATION AND THE HEALTH RESOURCES AND SERVICES ADMINISTRATION
UNDER CONTRACT NO.98-OA-140506

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MAY 1999

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EXECUTIVE SUMMARY

This analysis, prepared for the Health Care Financing Administration and the Health Resources and Services Administration, examines issues that arise under laws designed to avert excessive cost-sharing in the case of low income families whose children participate in the State Children's Health Insurance Program (CHIP). High cost-sharing has been shown to significantly affect children's participation in insurance programs, as well as their utilization of health services. As a result, the Federal CHIP legislation, while permitting cost-sharing under certain circumstances, also places limitations on the total amount of cost-sharing to which families can be exposed for services covered by State CHIP plans.

In examining possible mechanisms for implementing the CHIP cost-sharing protections, it is important to understand the extent of the potential problem – that is, the proportion of participating families that in fact might be exposed to high cost-sharing. It is also important to understand the factors that can be expected to influence the size of the affected population. After assessing the circumstances under which families might face high cost-sharing, we conclude that only a small proportion of all children would likely have annual health expenditures that meet or exceed five percent of total family income, even in the case of lower income families. Once coverage under existing CHIP programs is taken into account, the number of such children becomes extremely small. Of the estimated four million targeted low income children, about 68,000 high-need children can be expected to use CHIP-covered services at sufficiently high rates to trigger the law's cost-sharing protections. These children can be expected to be concentrated in the 17 States with relatively limited Medicaid coverage and broader CHIP plans (Alabama, Arizona, California, Colorado, Delaware, Florida, Georgia, Kansas, Kentucky, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Utah, and Virginia). In States that have extensive outreach programs through health providers, the concentration may increase.

However, for children with high cost health needs, States might wish to consider various means to lessen the effects of cost-sharing. Moreover, mechanisms for reducing the burden of cost-sharing would take on additional importance if States elect to either increase their premiums and copayments or add deductibles and coinsurance. Some of the design options might aid even those families whose children's average health needs nonetheless create a burden, because of the disjunction between the timing of the need and the annual framework against which "excess" expenditures are to be measured under the law.

- The first option is to not impose more than nominal premiums and copayments, and to avoid the use of high deductibles and coinsurance that could present significant barriers to utilization. No State program at the present time appears to use deductibles; at least one State uses coinsurance. Some States use premiums alone, others, copayments alone. As of February 1999, only half of the 25 States with freestanding programs used both premiums and copayments.

- The second option entails strategies for accelerating the rate at which a family's expenses accrue towards reaching the cap. More specifically, States could permit families to count:
  - incurred and projected expenditures toward services covered under the plan rather than only actual expenditures;
  - retrospective expenditures that were generated prior to the date of application to the program.

- The third option involves strategies designed to reduce the actual dollar value of the cap, thereby making it easier for a low income family to reach the limit on cost-sharing. These strategies include:
  - calculating the cap based on net rather than gross income;
  - using a lower cap;
  - creating a deduction for medical and health costs not covered under the State CHIP plan in order to lower countable income. The development of a deduction system to lower countable income would complement the protection of the five percent cap. The cap applies only to services covered under State CHIP plans and thus does not apply to expenditures for non-covered services, which in the case of certain plans that track commercial insurance could be considerable. As in the Medicaid spend-down program, a State could deduct from income the cost of expenses incurred for uncovered costs, such as additional services that exceed coverage limits or services that are totally uncovered.

These options, if pursued, have important implications for the design of freestanding State CHIP plans. At the present time, enrollment in freestanding programs is relatively low, a result that is not unexpected at the beginning of a new program. However, relatively generous policies that reduce or eliminate families' cost-sharing burdens could encourage greater enrollment by families whose children have chronic health care needs and increase utilization. Under these circumstances, the actuarial assumptions on which the State's premiums are based could be significantly affected. In States in which coverage for CHIP children is purchased through a larger pool (e.g., the State employee plan or the Medicaid managed care program), the additional assistance for low income

families with sick children might have only a very slight effect on the overall premium, but the effect could be more pronounced in States that buy coverage for CHIP children on a freestanding basis.

Thus, if a State with a freestanding CHIP program of limited size were to elect to take advantage of one or more options for reducing the cost-sharing obligations of lower income families, it would have to consider the actuarial implications of these design modifications. Were these implications not taken into account, a State might experience market pull-out by plans or attempts to severely limit utilization through other means in order to offset the utilization enhancing effects of removing cost-sharing barriers.

For the few states where tracking family expenditures toward the five percent cap may be an issue, three main mechanisms other than the "shoebox" approach currently used by all states (and by private insurers as well) may be considered.

- First, States could require in their contracts that participating plans acquire "swipe card" technology, issue a plastic magnetic stripe membership card to each family, and equip their providers with "point-of-service" electronic connectivity.

- Second, States could issue a "credit card" to each family, who would present it to the provider at the time of service. The provider would then call a telephone number to seek authorization of payment from the State, which in turn would pay the provider and obtain reimbursement of copayments from the family.

- Third, States could assign a case manager to high cost children identified by the State through a health status assessment performed at enrollment, and through a requirement that providers notify the State of new qualifying cases in the post-enrollment phase.

INTRODUCTION

This analysis, prepared for the Health Care Financing Administration and the Health Resources and Services Administration, examines issues that arise under certain provisions of law designed to avert excessive cost-sharing (i.e., cost-sharing resulting in total out-of-pocket expenditures that are greater than five percent of annual family income) in the case of low income families whose children participate in the State Children's Health Insurance Program (CHIP). High cost-sharing has been shown to significantly affect children's participation in insurance programs as well as their utilization of health services.[1] As a result, the Federal CHIP legislation, while permitting cost-sharing under certain circumstances, also places limitations on the total amount of cost-sharing to which families can be exposed.

The first part of this analysis presents a background and an overview of CHIP cost-sharing provisions. Part Two considers two basic issues, The first issue relates to the magnitude of the potential problem itself. In examining possible mechanisms for implementing CHIP cost-sharing protections, it is important to consider the proportion of participating families that in fact might be exposed to excessive cost-sharing. It is also important to understand the factors that can be expected to influence the size of the affected population.

The second issue considered is the range of mechanisms available to State CHIP programs to ensure that families have proper access to cost-sharing protections. The feasibility of these mechanisms has a good deal to do with the nature of the program as well as the potential size of the problem that the mechanisms are designed to address.

The analysis concludes with a series of recommendations for Federal and State policy makers.

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[1] See, e.g., Ku L, Coughlin T. The use of sliding scale premiums in subsidized insurance programs. Washington, DC: The Urban Institute, March 1997; Anderson G, Brook R, Williams A. A comparison of cost-sharing versus free care in children: Effects on the demand for office-based medical care. Medical Care 1991;29(9):890-898, and other studies cited in Markus A, Rosenbaum S, Roby D. CHIP, health insurance premiums and cost-sharing: Lessons from the literature. Washington, DC: Center for Health Policy Research, October 1998.

This analysis is based on research undertaken by the Center for Health Services Research and Policy (CHSRP), individual telephone discussions with representatives of several managed care organizations offering products that include upper limits on cost-sharing, and a meeting of Federal and State policy makers and health insurance experts that was conducted at CHSRP in the fall of 1998.

PART ONE. BACKGROUND AND OVERVIEW

The State Children's Health Insurance Program (CHIP) is a Federal grant-in-aid statute codified at Title XXI of the Social Security Act,* the purpose of which is to assist States to provide "child health assistance" to certain "targeted low income" children.[3] A State that elects to participate in CHIP can choose one of three program options. The State may apply its Federal funds toward an expansion of its Medicaid program for children. Alternatively, the State could establish a freestanding child health assistance program for children who are ineligible for Medicaid, group health insurance, or other health coverage. Third, a State can combine the two approaches (i.e., a limited Medicaid expansion reaching poorer children, coupled with the establishment of a freestanding program for less poor children). As of April 1999, forty-seven States had received approval of their CHIP plans from the Health Care Financing Administration (HCFA); of those, twenty-five had implemented, or indicated their intent to establish, separate CHIP plans either in whole or in part for targeted low income children.[4]

States that elect to administer their CHIP programs as Medicaid expansions either in whole or in part must comply with Federal Medicaid law with respect to targeted low income children. The Federal Medicaid statute prohibits virtually all cost-sharing in the case of categorically needy children under age 18 (i.e., children who are eligible for Medicaid by virtue of family income and resources alone, without taking into account medical expenditures made on their behalf).' Children who qualify for Medicaid after "spending down" excess income and resources to a State's medically needy income level (which in 1998 averaged about 50 percent

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[2] Section 2101 et seq. of the Social Security Act; 42 U.S.C. §1397 et. seq.

[3] Section 2110(b) of the Act; 42 U.S.C. §1397cc(b). A "targeted low income" child is a child who has been determined to be eligible for child health assistance and who is either a "low income" child (i.e., a child whose family income is at or below 200 percent of the Federal poverty level) or a child whose family income (as determined by the State under its plan) exceeds the Medicaid applicable income level by no more than 50 percentage points.

[4] Children's Health Insurance Program reaches 1998 target-Nearly one million enrolled, White House Press Release, April 20, 1999. Riley T, Pernice C. How Are States Implementing Children's Health Insurance Plans? An Analysis and Summary of State Plans Submitted to the Health Care Financing Administration. Portland, ME: National Academy for State Health Policy, September 1998.

[5] Section 1916(a) of the Act; 42 U.S.C. §1396o(a). States may impose limited monthly premiums in the case of poverty-level pregnant women and infants whose family incomes as defined in the statute equal or exceed 150 percent of the Federal poverty level.

of the federal poverty level for a family of three) are exempted from further cost-sharing.[6] While all children enrolled in Medicaid qualify on the basis of income alone and not through spend-down, the spend-down program is important for children with very high cost needs. Nineteen of the 25 States with freestanding CHIP programs also maintain a spend-down program for medically needy children.'

States that elect to administer CHIP in whole or in part as freestanding programs may impose cost-sharing (i.e., premiums, enrollment fees, deductibles, coinsurance and copayments) under certain circumstances. Cost-sharing, if imposed, must be in accordance with a public schedule.' States may vary cost-sharing but only in a manner that does not favor higher income children over lower income children.[9] No deductibles, copayments, or other cost-sharing may be imposed on preventive services, defined as well-baby and well-child care including age-appropriate immunizations.[10]

Federal law establishes different cost-sharing protections for children enrolled in freestanding CHIP programs, depending on family income levels. In the case of CHIP-enrolled' children with family incomes at or below 150 percent of the Federal poverty level, the law prohibits cost-sharing that exceeds permissible levels for non-exempt Medicaid beneficiairies (e.g., non-pregnant adults)." Thus, States must maintain deductibles, cost-sharing, and other similar charges at "nominal" levels, as the term is defined by the Secretary in Federal Medicaid regulations.'*

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[6] 42 C.F.R. §447.53(b).
[7] State Plan Amendments. Commerce Clearinghouse Medicare and Medicaid Guide, February 1999.
[8] Section 2103(e)(I)(A) of the Act; 42 U.S.C. §1397cc(e)(1)(A).
[9] Section 2103(e)(I)(B) of the Act; 42 U.S.C. §1397cc(e)(1)(B).
[10] Section 2103(c)(1)(D) of the Act; 42 U.S.C. §1397cc(c)(1)(D).
[11] Section 2103(e)(3)(A)(i) of the Act; 42 U.S.C. §1397cc(e)(3)(A)(i). At first blush, this section seems tautological, since Medicaid prohibits cost-sharing in the case of children. However, the provision is understood to permit cost-sharing in the case of CHIP children to the same extent that it is permitted in the case of non-exempt beneficiaries,
[12] Section 2103(e)(3)(A)(ii) of the Act; 42 C.F.R. §447.52. Federal guidelines permit premiums up to $19 per month, depending on family income and size. Proposed Federal standards would permit co-payments to vary, depending on whether services are delivered in a fee-for-service or managed care system. (Letter to State Medicaid Directors from Sally Richardson, February 13, 1998) Proposed fee-for-service cost-sharing standards are as follows: $1 for services of $15 or less, $2 for services between $15.01 and $40, $3 for services between $40.01 and $80, and $5 for services over $80. Managed care cost-sharing would permit co-payments of up to $5 for all services, except for inappropriate use of emergency room services, for which copayments may be set at up to $10.

In the case of "other children" (i.e., CHIP-enrolled children with family incomes above 150 percent of the Federal poverty level), the Medicaid rules do not apply; instead the statute provides that:

> * . * any premiums, deductibles, cost-sharing or similar charges imposed under the State child health plan may be imposed on a sliding scale related to income, except that the *total annual aggregate cost-sharing with respect to all targeted low income children in a family under this title may not exceed 5 percent of such family's income for the year involved.*[13] (emphasis added)

While the statute appears to limit the five percent cost-sharing protection to families with incomes above 150 percent of Federal poverty level, HCFA has interpreted this provision more broadly and has applied the five percent cap to families with incomes below 150 percent of the Federal poverty level.

Under this provision, a family's total annual aggregate expenditures on cost-sharing under a State's CHIP plan cannot exceed five percent of the family's total annual family income. This aggregate upper limit on total family cost-sharing expenditures consequently is referred to as a "cumulative maximum" limit on cost-sharing.[14] For purposes of this analysis, we refer to the statutory cumulative maximum amount as the "five percent cap." The cap parallels the type of cumulative maximum limits found in numerous private insurance contracts. In the case of private insurance, however, the cumulative maximum limit is almost always expressed in dollar terms (e.g., a $3,000 limit on out-of-pocket payments for covered services).

The CHIP statute leaves to State discretion the standards and methodologies that a State may use in establishing its cost-sharing policies. As long as a State adheres to the nominality rule and the "five percent cap" standard, it may decide, for example, what types of cost-sharing to use. Similarly, a State may decide whether to count only actually paid or also incurred obligations in calculating a family's out-of-pocket payments. A State could also decide to project regularly recurring cost-sharing (e.g., a monthly premium) in calculating the cap.

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[13] Section 2103(e)(3)(8) of the Act; 42 U.S.C. § 1397cc(e)(3)(B).
[14] Federal Medicaid regulations permit, but do not require, a State to set cumulative maximum amounts for all deductibles, coinsurance, and copayments that it "imposes on any family during a specified period of time." 42 C.F.R. §447.54(d).

Because a State has the authority to determine what constitutes "income" for purposes of calculating the cap, the State effectively can influence the dollar size of the cap.

From a policy perspective, the CHIP premium and cost-sharing provisions may be viewed as an attempt to balance two interests: 1) a State's interest in encouraging awareness of health care costs and appropriate use of services and 2) low income families' interest in being able to obtain access to necessary health care for their children without undue financial burden. Cost-sharing protections are important, since a substantial body of literature on cost-sharing in the case of lower income families suggests that excessive cost-sharing may deter both entry into health coverage systems and use of necessary health care.[15] Application of Medicaid cost-sharing standards to CHIP-enrolled children with incomes at or below 150 percent of the Federal poverty level helps ensure that these children are treated in a manner consistent with the standards that apply to the poorest adults. The use of a cumulative maximum amount in the case of children with family incomes below and over 150 percent of the Federal poverty level may help ensure that children do not face unreasonable cost-sharing burdens when enrolled in CHIP.

[15] Markus A, et al., op.cit. During the meeting conducted at CHSRP, the New York State CHIP official in attendance noted that the State had recently abandoned the cost-sharing requirements, since the estimated $3 million per year in cost-sharing that it collected was well below the State's administrative costs related to collection. The State also noted that there was insufficient inappropriate use of the emergency room to justify the $10 emergency room co-payment.

PART TWO. ISSUES IN STATE IMPLEMENTATION OF THE "FIVE PERCENT CAP"

A. What is the Extent of Exposure to High Cost-Sharing Among Low Income Children?

In devising mechanisms to ensure that families subject to the "five percent cap" actually receive the protections afforded them under the law, it is important to review in some detail at the outset the types of families who may be affected by cost-sharing in excess of the statutory limits, as well as the types of circumstances that can lead to elevated cost burdens. This review shows that only a small proportion of CHIP-eligible children would likely have health expenditures that reach five percent of family income. Once the current configuration of freestanding State CHIP programs is taken into account, the figure becomes extremely small.

Most children are healthy and use only limited amounts of health care in any year. If five percent of income is used as the cutoff point for determining what is excessive, then in fact most lower income families would not face excessive cost-sharing burdens over the course of a year. Take, for example, a family consisting of two parents and two school-aged children, whose annual income stands at 200 percent of the Federal poverty level (which in 1998 dollars rounds to $32,000). For this family, out-of-pocket expenditures must exceed $1,600 before the five percent cap is reached, assuming that the cap is based on gross family income.

If the family's children are healthy, $1,600 represents a substantial amount of health care, even in today's world. Tables la and 1 b (see p.28 and p.35) set forth health care utilization data for various types of children, using data from a series of health care expenditure studies. Using these data, we estimate that total annual medical care expenditures for a healthy child with an occasional cold or ear infection would amount to about $226. Even if eyeglasses and dental care were added to this amount, total annual expenditures for both children probably would remain below the family's five percent cap. Even if both children in the family had routine health needs, expenditures probably would remain under the cap. This, of course, is not to suggest that covering such expenditures with insurance is not extremely important, since a

family with such a modest level of income faces many competing needs for which there are no alternative financing mechanisms such as insurance. However, if five percent is considered the affordability cutoff, then, in fact, most children would fall below the line.

Of course, looking at the issue of financial exposure for low income families in an annualized fashion as required under the law paints a somewhat false picture in a practical sense. Children's health expenditures tend to come in concentrated lumps (e.g., in one two-month period, both children in the hypothetical family may become ill). To measure these monthly costs against the family's annual income is misleading, since the family, if uninsured, may be forced to pay all of these costs in the month they occur, unless it has access to a public hospital clinic, health center, or other provider that charges only in accordance with a schedule that is adjusted for monthly family income or extends credit and allows payment over time. However, over the course of a year, the family's financial exposure appears manageable.

Furthermore, even were the wavelike aspect of much child health spending to be considered as a practical matter, legally speaking the statute, as previously noted, extends the' protection against excessive financial burdens only in relation to annual income. Given this fact, only families with children who have higher than normal annual health care costs could be expected to have annual expenditures that exceed five percent of annual income.

Studies of childhood illness and disability suggest that the number of children with high annual health costs is relatively small. Data from the National Health Interview Survey (NHIS) indicate that approximately two-thirds of children are generally healthy[16] and therefore probably are not likely to use services in sufficient quantity to reach the five percent cap during a year. In addition to well-child care visits, these children may face an occasional minor illness (e.g., a cold or an ear infection), requiring medical care and prescribed drugs. On average, children make three ambulatory care visits annually, and physicians prescribe one medication during those visits." As noted, eyeglasses and dental care would add to these overall costs, but

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[16] Newacheck PW, Taylor WR. Childhood chronic illness: Prevalence, severity, and impact. American Journal of Public Health 1992:82(3):364-371.
[17] Schappert SM. Ambulatory care visits to physician offices, hospital outpatient departments, and emergency departments: United States, 1996. Vital and Health Statistics 1998:Series 13, Number 134.

typically not in sufficient amount to bring total annual health spending to levels considered excessive under CHIP (i.e., in excess of five percent of annual aggregate income).

Compared to those who are healthy, children who suffer from one or more chronic conditions are significantly more likely to be high health care users. However, the NHIS data show that the presence of a chronic illness or disability alone does not translate into high health care costs. NHIS data indicate that two-thirds of all children with chronic conditions are either never, or else only occasionally, bothered by their conditions and experience no limitations on their usual activities. Therefore, the group that raises particular concerns in the context of high health care expenditures is one-third of the one-third of all children with chronic conditions (about 11 percent of all children)."

Even among this group of children, however, the number with high health costs in a year may be small. NHIS data further indicate that only 12 percent of children with chronic conditions (about four percent of all children) experience actual activity limitations, and only five percent of all children with chronic conditions (1.7 percent of all children) have severe conditions that both bother them and limit their daily. activities.[19]

Applying these figures to CHIP eligible children, the number of children who face potentially high health costs can be expected to be extremely small. Of the estimated four million targeted low income children, 1.33 million children (one-third) could be expected to have one or more chronic conditions. Of these, 159,600 (12 percent of the 1.33 million) could be expected to experience actual activity limitations. Only 68,000 (1.7 percent of the CHIP-eligible children) would possibly fall into the most severe category (i.e., children who have conditions that both bother them and limit their daily activities), the majority of whom will likely be concentrated at the lower income end of the scale (i.e. between 100 and 150 percent of the Federal poverty level).

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[18] In addition, of course, a very small percentage of the two-thirds of otherwise healthy children could be expected to experience a catastrophic incident leading to high health costs.
[19] "Childhood chronic illness, op. cit.

Even this 68,000 figure may overstate the number of children with high health care utilization patterns who might be affeoted by the five percent cap. This is because in six of the 25 States with separate CHIP programs (Connecticut, Maine, Massachusetts, Michigan, New Hampshire, and Vermont), Medicaid coverage actually extends up to and past 150 percent of the Federal poverty level.[20] As noted, cost-sharing is virtually prohibited under Medicaid. Because Medicaid eligibility turns on net rather than gross income, in these States, once Medicaid-required deductions and disregards are taken into account, most children with gross family income up to 200 percent of the Federal poverty level in fact probably would qualify for Medicaid and thus would be exempt from all cost-sharing.

It is in 17 of the 19 other States with more limited Medicaid coverage and broader CHIP plans (Alabama, Arizona, California, Colorado, Delaware, Florida, Georgia, Kansas, Kentucky, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Utah, and Virginia)*' where a greater proportion of targeted children could be enrolled in a freestanding CHIP program. In these States, the five percent cap would be more relevant, because more children would need the cap as a protection against high cost-sharing. Additionally, although the majority of states with freestanding CHIP programs also have a Medicaid medically needy spend-down program in place, families' spend-down obligations would be quite large (Table A). Thus, the alternative coverage route of Medicaid following a large spend-down would be far less desirable than being able to take advantage of immediate coverage through CHIP. For example, a family of two with a monthly income of $1,672.75 (the equivalent of 185 percent of the Federal poverty level) would have to incur monthly medical expenses in excess of $1,000 in order to qualify for Medicaid spend-down coverage in Florida. Again, even families with children who have higher than average health needs are not likely to spend that much on their children's care.

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[20] How Are States Implementing Children's Health Insurance Plans?, op. cit.
[21] Id. The two remaining States, Mississippi and Montana, have more limited CHIP plans with upper eligibility levels 'set at 133 and 150 percent of the federal poverty level, respectively.

TABLE A: HCFA-approved, stand-alone CHIP programs with a Medicaid Medically Needy Program

States with stand-alone CHIP plans	Medicaid Medically Needy Program?	Medically Needy income level maximum per month for a family of two	Date effective
AL	No	N/A	N/A
AZ	No	N/A	N/A
CA	Yes	$750	7/1/89
CO	No	N/A	N/A
CT	Yes	up to $733.59	7/1/95
DE	No	N/A	N/A
FL	Yes	$241	7/1/93
GA	Yes	$317	10/1/91
KS	Yes	$475	1/1/97
KY	Yes	$266.67	1/1/92
ME	Yes	$341	1/1/93
MA	Yes	$650	4/1/98
MI	Yes	$458	1/1/96
MS	No	N/A	N/A
MT	Yes	$491	7/1/98
NV	No	N/A	N/A
NH	Yes	$642	1/1/98
NJ	Yes	$434	7/1/95
NY	Yes	$833.33	1/1/97
NC	Yes	$317	1/1/92
OR	Yes	$884	5/1/97
PA	Yes	$441.67	1/1/90
UT	Yes	$456	10/1/95
VT	Yes	$683	7/1/96
VA	Yes	$400	6/14/89

Source: State Plan Amendments. Commerce Clearinghouse Medicare and Medicaid Guide, February 1999.

Thus, the five percent cap would appear to have the greatest potential Importance for severely ill children with family incomes between 150 percent and 200 percent of the Federal poverty level who live in the 17 States noted above that maintain relatively limited Medicaid coverage levels and freestanding CHIP programs. It is in these States that tracking expenditures for the several thousand CHIP-enrolled children with costly chronic illnesses takes on increased importance.

To the extent that outreach to targeted children is particularly active among health providers serving chronically ill children, the proportion of CHIP children with chronic illness may be somewhat higher than would otherwise be the case under the population-widefigures from the NHIS. Anecdotal evidence from State outreach programs suggests that health providers are particularly aware of the availability of CHIP and may be especially likely to actively refer and aid enrollment in the case of chronically ill high cost patients. To the extent that outreach skews enrollment toward sicker children, this could elevate the proportion of children in State CHIP programs with costly conditions.

In sum, while the five percent cap represents an important safeguard, its importance appears to be significantly limited in a number of respects. The value of a cap this high is closely tied to the degree to which children experience illness or disability. Only a relatively few children are high health care users. Since the protection is triggered only when costs exceed a dollar threshold that is tied to *annual* income, the cap is unlikely to be of assistance for families whose children have routine health care needs, even if those needs occur at a concentrated point during the year. Additionally, the cap takes on its greatest meaning in the17 States with combined Medicaid/freestanding CHIP programs and relatively low Medicaid eligibility levels. Despite the low overall representation of children with high cost health needs in the general population, their numbers in CHIP may be higher in States that conduct outreach through health care providers, where awareness of the importance of enrolling in CHIP is particularly high.

B. State Options to Reduce Cost-Sharing Obligations

For the reasons discussed above, the five percent cap provisions probably affect relatively few children. Depending on how they design their programs, however, States might be able to create cost-sharing protections that aid more families.

Federal law provides States with substantial flexibility to tailor their CHIP programs in ways that would reduce the cost-sharing burden on families, while retaining cost-sharing features. The most obvious option is to not impose more than nominal premiums and copayments and to avoid the use of high deductibles that could present significant barriers to utilization. Similarly, States could refrain from using coinsurance (i.e., a defined percentage of total charges for a service) to determine a patient's contribution to the cost of care. Unlike copayments, coinsurance is less predictable because it is based on the complexity of services received. It is also more taxing financially because it results in higher expenditures for complex and costly services. No State program at the present time appears to use deductibles, but at least one State uses coinsurance.** Some States use premiums alone, others, copayments alone. Only half of the 25 States with freestanding programs currently report the use of both premiums and copayments.[23]

However, because even modest cost-sharing can affect entry into an insurance program or use of care,[24] it is important to review the various means by which State programs may be able to lessen these effects. Moreover, these mechanisms for reducing the burden of cost-sharing for families with high-need children may take on additional importance if States elect to either increase their premiums and copayments or add deductibles. Some of the design options reviewed below might aid even those families whose children's average health needs nonetheless create a burden, because of the disjunction. between the timing of the need and the annual framework against which "excess" expenditures are to be measured under the law.

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[22] id.
[23] Id.
[24] Markus, et al., op. cit.

The statute gives States the flexibility to heighten cost-sharing protections in two basic, but related, ways. The first involves strategies designed to reduce the actual dollar value of the cap, thereby making it easier for a low income family to reach the limit on cost-sharing. The second entails strategies for decreasing the amount of time that it takes families to reach the cap.

1. Reducing the Dollar Value of the Five Percent Cap

Under Federal law, the five percent cap is calculated in relation to family income. Thus, if there is a decline in either the cap's income percentage (set at five percent in the statute) or the family's countable income as measured against the cap, then the dollar value of the cap would correspondingly decline. The lower the cap, the more possible is its attainment by a greater number of families.

a. *Calculating the* cap *on the basis of net rather than gross income*

The statute gives States the discretion to determine the methodology and standards that will be used to evaluate family income. The lower the income level resulting from this determination, the lower the value of a five percent cap.

Take for example a family of four with $32,000 in annual income. In a State that calculates the cap based on gross income (i.e., $32,000), then the family would have out-of-pocket obligations of $1,600. However, if the value of the cap is calculated based on the family's actual take-home pay, minus additional deductions and disregards for child care and work expenses, then the dollar value of the cap would be significantly lower. A family with gross income of $32,000 might have countable income of only $20,000 in a State that uses take-home pay as the basis for income that provides additional deductions for child care and work expenses. This would lower the dollar value of the family's out-of-pocket obligations to $1,000.

b. *Offering an additional income deduction for medical and health costs not covered-under the State CHIP plan*

Federal law expresses the cap in relation to cost-sharing charges "imposed under the State child health plan."[25] Under this provision, only those costs that are incurred for medical and health care covered under the State plan count toward the cap. In States that offer more limited benefits (e.g., no dental care, no physical or speech therapy) or that place limits on certain benefits (e.g., only ten mental health outpatient visits annually), very high out-of-pocket costs, even for very sick children, would not count toward the cap if they are made for out-of-plan expenditures. However, were a State to create an additional deduction for uncovered medical expenditures (similar to the Federal income tax deduction for high medical costs or the deduction for expenditures outside the Medicaid plan that States use in calculating income eligibility for medically needy coverage),[26] then such a deduction would provide significant financial benefits. Moreover, a State could count these expenditures if incurred by a family (see discussion below), even if ultimately a third party (e.g., a State program for children with special health care needs) were to defray some of the cost.

Consider again the example of a family with $32,000 in gross income and $20,000 in countable income. In a State that does not cover dental benefits and covers only limited mental health care, the family might be able to qualify for CHIP with a much lower cost-sharing burden if the State counted against available income the costs that the family incurs for dental care for its two children and for weekly therapy visits for its child with significant mental illness.

c. *Using a lower cap*

The statute prohibits cost-sharing that exceeds five percent of the family's "income for the year involved." In this respect, the law'appears to create a ceiling rather than a floor. Nothing in the law suggests that Congress did not want States to have the discretion to set a lower'cap; indeed, the cost-sharing provisions of the statute are notable for the flexibility they extend to States to tailor cost-sharing in a manner that meets their needs. Thus, were a State

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[25] Section 2103(e) of the Act; 42 U.S.C. §1397cc(e)
[26] 42 C.F.R. $435.811

to set its cost-sharing cap at a lower level (e.g., two percent), then the dollar value of the family's outlay before the cap is triggered would be substantially lower. At two percent, a family with countable income of $20,000 annually would need to incur only $400 before the cap is met. As in the above example, setting the cap at a lower threshold may be particularly important in States with CHIP programs that cover only limited services, thereby leaving families with significant out-of-plan expenditures.

2. Accelerating the Point in the Year When the Cap is Met

a. *Permitting families to count incurred* and projected expenditures *toward services covered under the plan rather than only actual expenditures*

The statute provides that "the total annual aggregate cost-sharing" for a family may not exceed five percent of such family's income for the year. The phrase "total annual aggregate cost-sharing" is broad and appears to give States the flexibility in calculating the cap to count expenditures that families incur (i.e., assume legal obligation for) even if not paid at the point-of-service.[27] Allowing the family to declare incurred but unpaid cost-sharing against the cap would allow the cap to be triggered at an earlier point in the year while permitting the family to repay incurred expenditures over time. Going sack to the earlier example of the family whose obligation is $1,600 for the year, if the family has a child with cerebral palsy who needs a costly wheel chair that is covered at only a 50 percent rate under the plan, then by using an "incurment" standard, the State would effectively ensure that the family will be deemed to have satisfied its cost-sharing obligation in that month alone, while having the remainder of the year to repay the cost.

Similarly, if the State allows a family to project costs for the year, then a family whose child is receiving expensive dental care covered at only a 50 percent rate could project the cost of coverage over the entire year and count its out-of-pocket payments for the course of treatment at the beginning of the year.

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[27] The medically needy component of the Medicaid program permits families to count incurred expenses in calculating their spenddown liability. 42 C.F.R. §435.811.

b. Permitting families to count retrospective expenditures

The statute requires States to limit the cap to five percent of family income "for the year involved." Nothing in the statute appears to require States to calculate the "year involved" only on a prospective basis. As a result, States appear to have the flexibility to permit families to apply toward the cap incurred bills for services covered under the State child health plan that were generated prior to the date of application. Using a retroactive budgeting period, a family with high medical bills at the time of application could apply previously incurred bills toward its cost-sharing cap for the year, thereby reaching its annual limit at an earlier point in the enrollment process."

Taking the family of four used in the examples above, were the family to apply in January and have $5,000 in outstanding bills for the child's dento-facial reconstruction already in hand, the State plan could permit the family to declare this bill as generated under the plan during the "year involved" by recognizing retroactive costs.

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[28] Three months' retroactive eligibility is mandatory under Medicaid. Section 1902(a)(34) of the Act; 42 U.S.C. §1396a(a)(34).

3. Current State CHIP Cost-Sharing Practices

In order to gauge the possible effects of current State CHIP programs on families with incomes above 150 percent of the Federal poverty level with different types of children, we developed five composite families, whose service utilization patterns are based on data from nationally representative surveys.[29] These data show that, on average, children make three ambulatory care visits annually, and physicians prescribe one medication during those visits. They also show that children with chronic conditions average 16 visits per year, and, for the purpose of this analysis, we assume that physicians prescribed one medication during those visits. We also developed a profile for an actual family, obtaining information on use and billing directly from the parent. For the purpose of this discussion, each family is composed of a parent and one child, and has an annual income of $20,073 (the equivalent of 185 percent of the Federal poverty level for a family of two in 1998), which does not fluctuate during the year. The five percent cap places the family's annual cost-sharing obligation at $1,004. Box A below briefly describes each family.

BOX A

Composite family #I: Child with occasional cold or ear infection

In this family, the child is basically healthy, but is prone, like many children, to occasional colds and ear infections. During the year, in addition to her regular checkups, she has two physician'visits for colds. In addition, she has an ear infection accompanied by a very high fever, which takes her to the emergency room on a weekend evening. Each time, she receives a prescription.

Composite family #2: Child with cerebral palsy

In this family, the child has severe cerebral palsy, which requires ongoing services, including extensive physical and speech therapy and durable medical equipment, including a wheel chair. In addition to two physician visits for colds and an emergency room visit for an ear infection, this child sees a physician 16 times over the course of the year for monitoring related to his condition. Sixteen different prescriptions must be filled, and the child is hospitalized once during the year for a complication arising from his condition.

[29] The average use per child was derived from the National Health Interview Survey, National Medical Expenditure Survey, National Ambulatory Medical Care Survey, and National Hospital Ambulatory Medical Care Survey. Information on fees and charges was obtained from various other sources, which are not nationally representative.

Composite *family #3*: Child with severe diabetes
In this family, the child suffers from a severe case of diabetes, which requires ongoing care and results in one hospitalization. In addition to two physician visits for colds and an emergency room visit for an ear infection, this child sees a physician 16 times over the course of the year. The child is given 16 separate prescriptions and is hospitalized once for surgery of a complication associated with the disease.

Composite family #4: Child with catastrophic injury
In this family, the child is seriously injured when she fails off her bike, which result&in an inpatient admission for an intercranial hemorrhage, and extensive dental care for damage to the teeth and mouth.

Composite family #5: Child with severe depression and alcohol dependency
In this family, the child is severely depressed, and abuses alcohol to escape his depression,. necessitating at least one inpatient stay at a mental health facility followed by 32 outpatient therapy sessions (16 for mental health and 16 for substance abuse). At each mental health visit, the child receives a new prescription.

Actual family: Child with congenital heart disease
In this family, the child was born with a congenital heart defect. During the first year of her life, she receives three cardiology exams in addition to her regularly scheduled well-baby care visits. In her second year of life (the coverage year in question), she sees the physician twice in two months for two,. ear infections, resulting in two prescriptions. In addition, her cardiologist concludes that she should. receive surgery for the heart condition. An additional visit is made to obtain a second opinion. Prior to surgery, the child undergoes a pre-op physical exam, which includes laboratory and radiology services. The child's successful surgery requires a five-day hospitalization followed by pain medication upon discharge, and a post-operative follow-up visit for an examination and wound check. A month later, in an event unrelated to her operation, the child contracts pneumonia; and: her mother takes her to the emergency room on a Sunday evening. She leaves with a prescription, and goes to the doctor a week later for follow-up.

We then compared the effect of three types of schedules currently found in CHIP plans-premiums only, cost-sharing only, and both premiums and cost-sharing-on our families' out-of-pocket expenditures. Within each of the schedules, we selected two to three plans to provide a variety of benefit package and cost-sharing schedule design. Since expenditures tend to be low under CHIP plans by design, we also contrasted them with expenses families would incur as a result of more extensive cost-sharing imposed under the Maryland State Employee and the Federal Employee Blue Cross/Blue Shield Preferred Provider Option. For purposes of this hypothetical, we assume that State CHIP plans (and the State and Federal employee plans) cover the items and services needed by the children in our examples. In fact, certain services,

particularly those for the child with cerebral palsy, might be completely uncovered under a State's CHIP plan, in which case the family's expenditures for these services would not count toward the cost-sharing cap for the reasons discussed in the previous section.[30] Box B below summarizes selected States' CHIP plan cost-sharing features.

Table 1 (see p. 24) shows the results of applying States' cost-sharing schedules displayed in Table la (see p. 28) and Federal and State employee cost-sharing schedules displayed in Table lb (see p. 35) to the individual families described in Box A. In no State does the family exceed its five percent cap. The only States in which exceeding the cap is possible are Massachusetts, when a family has access to employer coverage and therefore must abide by the cost-sharing requirements imposed under that coverage, and Utah, which uses coinsurance. Excess cost-sharing would occur in the case of the child with the catastrophic injury in Massachusetts and the child with the congenital heart disease in Utah, but in these cases Massachusetts's five percent cap and Utah's $800 limit on cost-sharing act as a brake. By comparison, all families would incur aggregate expenses much above the five percent cap, were they enrolled in the Maryland State Employee Blue Cross Blue Shield PPO option or in the FEHBP Blue Cross Blue Shield standard PPO option.

Similarly, in no State that imposes cost-sharing on families with incomes between 100 and 150 percent of the Federal poverty level would families in that income bracket reach the cap. For example, let's apply the cost-sharing schedule of the Utah plan (i.e., $5 for use of the emergency room for emergent care, $10 for use of the emergency room for nonemergent care, $5 for office visits, and $2 for prescription drugs, with a $500 or five percent cap, whichever is lower) to our composite and actual families with a lower income of $14,431 (the equivalent of 133 percent of the Federal poverty level). These families would spend between .1 and 1 percent of their income on copayments, well below the $500 (3.5 percent of income) or five percent ($721.55) cap.

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[30] Private insurers commonly exclude as medically unnecessary or outside the scope of the contract otherwise covered items and services needed by children with congenital conditions from which a recovery cannot be expected. See Bedrick v Travelers Insurance Co. 93 F. 2d 149 (4th Cir., 1996). Such condition-based exclusions and limitations are unlawful under Medicaid and thus presumably would not be found in a State that enrolled CHIP children in an expanded Medicaid plan or that used coverage rules identical to Medicaid in its freestanding **CHIP** program.

BOX B

Premiums, no cost-sharing: Maine, Michigan (Massachusetts)*

Several States (e.g., Maine and Michigan) limit cost-sharing for families with incomes above 150 percent of the Federal poverty level to premiums only. For example, Maine, under Cub Care, the State's separate CHIP program, offers a Medicaid "look-alike" benefit package to children between I and I8 years old with family incomes between 150 and 185 percent of the Federal poverty level. The premium is set so as not to exceed I .6 percent of family income.[31] Another example is Michigan, which offers benefits similar to those of the State Employee Plan with mental health panty for a $5 monthly premium.

No premiums, cost-sharing: Arizona, Utah

Arizona and Utah have opted for cost-sharing (but against premiums) for families with incomes above 150 percent of the Federal poverty level, although the actual levels of cost-sharing vary. While Arizona's only cost-sharing requirement is a $5 fee for emergency room use, Utah, on the other hand, has an elaborate coinsurance and copayment schedule, which also caps total out-of-pocket payments at $800 per family per year.[32] Both States also impose cost-sharing on families with incomes below 150 percent of the Federal poverty level.

Premiums and cost-sharing: Alabama, Colorado, Delaware (Massachusetts)*

Families with incomes above 150 percent of the Federal poverty level in States such as Alabama, Colorado, and Delaware are required to pay both premiums and copayments. For example, the Delaware Healthy Children's Program covers children under age I9 in families with incomes up to 200 percent of the Federal poverty level. Families must pay a premium; however, once enrolled, families pay copayments only for emergency room services. Dental services are excluded from the Delaware package. The Alabama plan requires a $50 annual premium for families with incomes above the 150 percent level capped at $150 per family (or, if paid in installments, $6 per child for ten months for a total of $60 per child annually capped at $180 per family), uses some cost-sharing for services, and caps the cost-sharing obligation at $500 annually.[33] Colorado charges an adjusted premium for children enrolled in its CHIP program with cost-sharing for enrolled families. The State does not include a dollar cap, as is the case in Alabama and Utah.[34]

• Massachusetts offers two alternatives: if the family has access to employer-based coverage, then cost-sharing imposed under such coverage applies (except for well-baby and well-child care); if the family does not have access to employer-based coverage, then the family is exempt from cost-sharing. Premiums apply in both cases.

[31] How are States implementing children's health insurance plans?, op. cit.
[32] Id.
[33] Id.
[34] Id.

Comparatively, as Table 1 shows, our Utahn families with a higher income would spend between .3 and 9.7 percent of their income on out-of-pocket costs, not only because cost-sharing in that income bracket applies to a higher number of services (e.g., mental health and substance abuse services), but also because it takes the form of coinsurance, which results in higher expenditures for complex and costly services (e.g., cardiovascular surgery).

C. Implications of State Efforts to Reduce Cost-sharing Burdens

The discussion in the previous subsection suggests that at the present time, families may not face excess burdens in the 17 States whose CHIP plans can be expected to enroll children who are subject to the cap. Nonetheless, States may conclude that increasing premiums and cost-sharing or offering premium assistance to families with access to employer-based coverage, which is notable for having higher cost-sharing arrangements, may be desirable. The options for limiting cost-sharing exposure for families that are reviewed in Section B would help shield families, even families whose children are average health care users, from high costs.

However, these strategies, if pursued, have important implications for the design of freestanding State CHIP plans. At the present time, enrollment in freestanding programs is relatively low, a result that is not unexpected at the beginning of a new program. However, relatively generous policies that reduce or eliminate families' cost-sharing burdens could increase utilization and encourage greater enrollment by families whose children have chronic health care needs. Under these circumstances, the actuarial assumptions on which the State's premiums are based could be significantly affected. in States in which coverage for CHIP children is purchased through a larger pool (e.g., the State employee plan or the Medicaid managed care program), the additional assistance for low income families with sick children might have only a very slight effect on the overall premium. However, the effectcould be more pronounced in States that buy coverage for CHIP children on a freestanding basis.

Thus, were a State with a freestanding CHIP program of limited size to elect to take advantage of one or more options for reducing the cost-sharing obligations of lower income families, it would have to consider the actuarial implications of these design modifications. Were these implications not taken into account, a State might experience market pull-out by plans or attempts to severely limit utilization through other means in order to offset the utilization enhancing effects of removing cost-sharing barriers.

TABLE 1

HOW MUCH DOES A **FAMILY** OF TWO AT 185 PERCENT OF THE FEDERAL POVERTY LEVEL SPEND YEARLY ON PREMIUMS AND COST-SHARING UNDER VARIOUS CHIP PLANS, A STATE EMPLOYEE PLAN, AND A FEDERAL EMPLOYEE HEALTH BENEFIT PLAN?

(As a percentage of annual income, i.e., $20,073, and, in parentheses, as a ratio to the five percent cap, i e. $1,004)

Type of schedule	Type of plan		Child with occasional cold or ear infection (composite family #1)	Child with cerebral palsy (composite family #2)	Child with severe diabetes (composite family #3)	Child with catastrophic injury (composite family #4)	Child with serious mental illness (composite family #5)	Child with congenital heart disease (actual family)
No premiums/ No cost-sharing	Sample CHIP plans	VA, OR	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
No premiums/ Cost-sharing	Sample CHIP plans	AZ	.02% (.004)	.02% (.004)	.02% (.004)	.02% (.004)	.02% (.004)	.02% (.004)
		UT [Cap= 5% or $800 (3.9%), whichever is lower]	.3% (.06)	2.8% (.55)	2.8% (.55)	1.9% (.37)	4.7% (.94)	9.7% (1.94)
Premiums/ No cost-sharing	Sample CHIP plans	ME	.9% (.17)	.9% (.17)	.9% (.17)	.9% (.17)	.9% (.17)	.9% (.17)
		MI	.3% (.05)	.3% (.05)	.3% (.05)	.3% (.05)	.3% (.05)	.3% (.05)

Source. Center for Health Services Research and Policy, 1999.

TABLE 1

HOW MUCH DOES A FAMILY OF TWO AT 185 PERCENT OF THE FEDERAL POVERTY LEVEL SPEND YEARLY ON PREMIUMS AND COST-SHARING UNDER VARIOUS CHIP PLANS, A STATE EMPLOYEE PLAN, AND A FEDERAL EMPLOYEE HEALTH BENEFIT PLAN?

(As a percentage of annual income, I.e., $20,073, and, in parentheses, as a ratio to the five percent cap, i e $1,004)

Type of schedule	Type of plan	Child with occasional cold or ear infection (composite family #1)	Child with cerebral palsy (composite family #2)	Child with severe diabetes (composite family #3)	Child with catastrophic injury (composite family #4)	Child with serious mental illness (composite family #5)	Child with congenital heart diesease (actual family)
Premiums/ Cost-sharing	Sample CHIP plans						
	AL [Cap= $500 (2.4%)]	.3% (.06)	1 1% (.21)	1.1% (.21)	.5% (.09)	4% (.08)	6% (.11)
	CO	1 3% (.26)	2 2% (.43)	2 2% (.43)	3 8% (.27, excluding dental costs) (.76, if dental costs counted toward CM)	1 6% (.31)	1 5% (.30)
	DE	1 5% (.30)	1 5% (.30)	1 5% (.30)	3 9% (.30 excluding dental costs) (.76, if dental costs counted toward CM)	1 5% (.30)	1 5% (.30)

Source: Center for Health Services Research and Policy, 1999

TABLE 1

HOW MUCH DOES A FAMILY OF TWO AT 185 PERCENT OF THE FEDERAL POVERTY LEVEL SPEND YEARLY ON PREMIUMS AND COST-SHARING UNDER VARIOUS CHIP PLANS, A STATE EMPLOYEE PLAN, AND A FEDERAL EMPLOYEE HEALTH BENEFIT PLAN?

(As a percentage of annual income, i.e , $20,073, and, in parentheses, as a ratio to the five percent cap, i e $1,004)

Type of schedule	Type of plan		Child with occasional cold (ear infection (composite family #1)	Child with cerebral palsy (compofiite family #2)	Child with severe diabetes (composite family #3)	Child with catastrophic injury (composite family #4)	Child with serious mental illness (composite family #5)	Child with congenital heart diesease (actual family)
Premiums/ No cost-sharing or Premiums/ Cost-sharing	Sample CHIP plans	MA No access to employer coverage => no cost-sharing	6% (11)	6 % (11)	6 % (11)	6 % (11)	6 % (11)	6 % (11)
		MA Access to employer coverage (e.g., GWUHP standard HMO option) => cost-sharing applies [Cap=5%]	1 1% (22)	4 1% (81)	4 1% (81)	5 4% (1 07)	4 7% (93)	2 6% (51)

Source. Center for Health Services Research and Policy, 1999

TABLE 1

HOW MUCH DOES A FAMILY OF TWO AT 185 PERCENT OF THE FEDERAL POVERTY LEVEL SPEND YEARLY ON PREMIUMS AND COST-SHARING UNDER VARIOUS CHIP PLANS, A STATE EMPLOYEE PLAN, AND A FEDERAL EMPLOYEE HEALTH BENEFIT PLAN?

(As a percentage of annual income, i.e., $20,073, and, in parentheses, as a ratio to the five percent cap, i.e. $1,004)

Type of schedule	Type of plan		Child with occasional cold or ear Infection (composite family #1)	Child with cerebral palsy (composite family #2)	Child with severe diabetes (composite family #3)	Child wlth catastrophic injury (composlta family #4)	Child with serious mental illness (composite family #5)	Child with congenital heart disease (actual family)
Premiums/ Cost-sharing	State employee plan	Maryland BCBS PPO option	5.7% (1.09. excludmg Rx costs) (1 74. if Rx costs counted toward CM)	8 0% (1 45, excludmg Rx costs) (1 75. if Rx costs counted toward CM)	8 8% (1 45. excludmg Rx costs) (7 75. if Rx costs counted toward CM)	0.4% (1 13, excludmg dental and Rx costs) (1 68, if dental and Rx costs counted toward CM)	11 9% (2 08, excludmg Rx costs) (2 38. if Rx costs counted toward CM)	6 4% (1 24. excludmg Rx costs) (1 28, if Rx costs counted toward CM)
	Federal employee health benefit plan	BCBS standard PPO option [Cap=$2,000 (9.9%)]	8 9% (1 77)	12 3% (2 46)	12 3% (2 46)	119% (2 39)	22 8% (4 55)	15 20% (3 03)

Source: Center for Health Services Research and Policy, 1999

TABLE Ia

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED CHIP PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost		Applicable premiums and cost-sharing under selected CHIP plans[1]								
		Per unit ($)	Total ($)	VA OR	AZ	UT	ME MI	AL	CO	DE	MA: Access to employer coverage[2]	MA: No access to employer coverage
				Premiums								
				No No	No	No	$15 x 12 $5 x 12	$50/year	$20 x 12	$25 x 12	$10 x 12	$10 xl2
				Cost-sharing								
Child with occasional cold or ear infection (composite #1)	Routine care:											
	2 MD visits (colds)	54, 36"	**90**	**0**	**0**	$10 x 2	**0**	$5 x 2	$5 x 2	**0**	$10 x 2	**0**
	1 ER visit (otitis)	88"	88	0	**$5**	$30	**0**	**$5**	$6	**$10**	**$50**	**0**
	3 Rx drugs	16[c]	48	**0**	**0**	$4 x 33	0	$1 x 3[4]	$3 x 3[4]	**0**	$35 + $5	**0**

Source. Center for Health Services Research and Policy, 1999.

TABLE Ia

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED CHIP PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost		Applicable premiums and cost-sharing under selected CHIP plans[1]								
		Per unit ($)	Total ($)	VA OR	AZ	UT	ME MI	AL	CO	DE	MA Access to employer coverage'	MA No access to employer coverage
				Premiums								
				No No	No	No.	$15 x 12 $5 x 12	$50/year	$20 x 12	$25 x 12	$10 x 12	$10 x 12
				Cost-sharing								
Child with cerebral palsy (composite #2)	Routine care:											
	2 MD visits (colds)	54, 36[a]	90	0	0	$10 x 2	0	$5 x 2	$5 x 2	0	$10 x 2	0
	1 ER visit (otitis)	88[b]	88	0	$65	$30	0	$5	$6	$10	$50	0
	3 Rx drugs	16[c]	48	0	0	$4 x 3[3]	0	$1 x 3[4]	$3 x 3[4]	0	$35 + $5	0
	Care for condition:											
	16 MD visits	54, 36x15[a]	594	0	0	$10 x 16	0	$5 x 16	$5 x 16	0	$20 x 16	0
	16 Rx drugs	16"	256	0	0	50%($256-25%)	0	$1 x 16[4]	$3 x 16[4]	0	$5 x 16	0
	1 5-day hosp. stay,	581/day	2,905	0	0	10%($2,905-25%)	0	$5	0	0	$150	0
	plus 1 surgery	1,800[a]	1,800	0	0	0	0	0	0	0	0	0
	1 pre-op MD visit	120"	120	0	0	$10	0	$5	$5	0	$20	0
	1 follow-up MD visit	41[a]	41	0	0	$10	0	$5	$5	0	$20	0

Source: Center for Health Services Research and Policy, 1999

TABLE Ia

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED CHIP PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost: Per unit ($)	Average annual cost: Total ($)	Applicable premiums and cost-sharing under selected CHIP plans[1]: VA OR	AZ	UT	MF MI	AI	CO	DE	MA: Access to employer coverage[2]	MA: No access to employer coverage
				Premiums								
				No No	No	No	$615x 12 $5x 12	$50/year	$20 x 12	$25 x 12	$10 x 12	$10 x 12
				Cost-sharing								
Child with severe diabetes (composite #3)	Routine care:											
	2 MD visits (colds)	54, 36[a]	90	0	0	$10 x 2	0	$5 x 2	$5 x 2	0	$10 x 2	0
	1 ER visit (otitis)	88"	88	0	$5	$30	0	$5	$6	$10	$50	0
	3 Rx drugs	16"	48	0	0	$4 x 33	0	$1 x 3[4]	$3 x 3[4]	0	$35 + $5	0
	Care for condition:											
	16 MD visits	54, 36x15[a]	594	0	0	$10 x 16	0	$5 x 16	$5 x 16	0	$20 x 16	0
	16 Rx drugs	16[c]	256	0	0	50%($256-25%)	0	$1 x 16[4]	$3 x 16[4]	0	$5 x 16	0
	1 5-day hosp. stay, plus 1 surgery	581/day[d]	2,905	0	0	10%($2,905-25%)	0	$5	0	0	$150	0
		1,800'	1,800	0	0	0	0	0	0	0	0	0
	1 pre-op MD visit	120[a]	120	0	0	$10	0	$5	$5	0	$20	0
	1 follow-up MD visit	41[a]	41	0	0	$10	0	$5	$5	0	$20	0

Source: Center for Health Services Research and Policy, 1999

TABLE Ia

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED CHIP PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost Per unit ($)	Total ($)	Applicable premiums and cost-sharing under selected CHIP plans[1]								
				VA OR	AZ	UT	ME MI	AL	CO	DE	MA Access to employer coverage[2]	MA No access to employer coverage
				Premiums								
				No No	No	No	$15 x 12 $5x12	$50/year	$20 x 12	$25 x 12	$10 x 12	$10 x 12
				Cost-sharing								
Child with catastrophic injury (composite #4)	Routine care:											
	2 MD visits (colds)	54, 36"	90	0	0	$10 x 2	0	$5 x 2	$5 x 2	0	$10 x 2	0
	1 ER visit (otitis)	88[b]	88	0	$5	$30	0	$5	$6	$10	$50	0
	3 Rx drugs	16[c]	48	0	0	$4 x 3[3]	0	$1 x 3[4]	$3 x 3[4]	0	$35 + $5	0
	Care for condition:											
	1 5-day hosp. stay,	581/day[d]	2,905	0	0	10%($2,905-25%)	0	$5	0	0	$150	0
	plus 1 surgery	3,276[a]	3,276	0	0	0	0	0	0	0	0	0
	1 pre-op MD visit	120"	120	0	0	$10	0	$5	$5	0	$20	0
	1 follow-up MD visit	41[a]	41	0	0	$10	0	$5	$5	0	$20	0
	1 Rx drug	16"	16	0	0	$4[3]	0	$1[4]	$3[4]	0	$5	0
	2 dental visits	14"	28	0	0	0	0	$5 x 2	$28	$28	$5 x 2	0
	2 crowns	230'	460	0	0	20%($460-25%)	0	0	$460	$460	$320 x 2	0

Source Center for Health Services Research and Policy, 1999

TABLE 1 a

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED CHIP PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost Per unit ($)	Total ($)	Applicable premiums and cost-sharing under selected CHIP plans[1]								
				VA OR	AZ	UT	ME MI	AL	CO	DE	MA Access to employer coverage[2]	MA No access to employer coverage
				Premiums								
				No No	No	No	$15 x 12 $5 x 12	$50/year	$20 x 12	$25 x 12	$10 x 12	$10 x 12
				cost-sharing								
Child with serious mental illness (composite #5)	Routine care:											
	2 MD visits (colds)	54, 36[a]	90	0	0	$10 x 2	0	$5 x 2	$5 x 2	0	$10 x 2	0
	1 ER visit (otitis)	88[b]	88	0	$5	$30	0	$5	$6	$10	$50	0
	3 Rx drugs	16"	48	0	0	$4 x 3[3]	0	$1 x 3[4]	$3 x 3[4]	0	$35 + $5	0
	Care for condition:											
	16 outpt. MH visits	131, 101x15[a]	1,646	0	0	50%($1,646-25%)	0	0	0	0	$20 x 16	0
	16 outpt. SA visits	131, 101.2	1,646	0	0	0	0	0	0	0	$10 x 16	0
	16 Rx drugs	16[c]	256	0	0	50%($256-25%)	0	$1 x 16[4]	$3 x 16[4]	0	$5 x 16	0
	1 4-day MH stay	581/day[d]	2,324	0	0	10%($2,324-25%)	0	0	0	0	$150	0

Source. Center for Health Services Research and Policy, 1999.

TABLE 1 a

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED CHIP PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost Per unit ($)	Total ($)	Applicable premiums and cost-sharing under selected CHIP plans[1]								
				VA OR	AZ	UT	ME MI	AL	CO	DE	MA Access to employer coverage[2]	MA No access to employer coverage
				Premiums								
				No No	No	No	$15 x 12 $5 x 12	$50/year	$20 x 12	$25 x 12	$10 x 12	$10 x 12
				Cost-sharing								
Child with congenital heart defect (actual case)	Routine care:											
	2 MD visits*	54, 36[a]	90	0	0	$10 x 2	0	$5 x 2	$5 x 2	0	$10 x 2	0
	2 Rx drugs*	3.95[g]	7.90	0	0	$4 x 2[3]	0	$1 x 2[4]	$3 x 2[4]	0	$7.90	0
	1 ER visit**	88[b]	88	0	$5	$30	0	$5	$6	$10	$50	0
	1 Rx drug**	25.16[g]	25.16	0	0	$4 x 1[3]	0	$1[4]	$3[4]	0	$25.16	0
	1 MD visit**	36[a]	36	0	0	$10	0	$5	$5	0	$10	0
	* (otitis media)											
	** (pneumonia)											
	Care for condition:											
	2 MD visits (cardiol.)	110, 50"	160	0	0	$10 x 2	0	$5 x 2	$5 x 2	0	$20 x 2	0
	1 MD visit (ped.)	36"	36	0	0	$10	0	$5	$5	0	$10	0
	2 MD visits (surg.)	120"	240	0	0	$10 x 2	0	$5 x 2	$5 x 2	0	$20 x 2	0
	1 5-day hosp. stay,	24,047.49	24,047.49	0	0	10%($24,047.49-25%)	0	$5	0	0	$150	0
	plus 1 surgery	17,785	17,785	0	0	0	0	0	0	0	0	0
	1 Rx drug	4.68[g]	4.68	0	0	$4[3]	0	$1[4]	$3[4]	0	$1 94 + $5	0
	1 pre-op MD visit	120[a]	120	0	0	$10	0	$5	$5	0	$20	0
	1 follow-up MD visit	41"	41	0	0	$10	0	$5	$5	0	$20	0

Source, Center for Health Services Research and Policy, 1999

TABLE la
References

1. Information comes from various sources, including. Health Care Financing Administration. (1998) Fact sheets At http://www.hcfa.gov/init/chpa-map.htm; National Governors' Association. (1998) Implementation of the State Children's Health Insurance Proaram Title XXI At http://www.nga.org/MCH/ImplementationMatrix.pdf; National Association of State Medicaid Directors (1998) Detailed. state-bv-state descriptions of CHIP plans At http://medicaid.apwa.org/chippage.htm; Families U.S A (1998) Premiums and cost-sharina proposed bv States under Title XXI, the new Children's Health Insurance Proaram At http://www familiesusa.org/premium htm; Riley, T., and Pernice, C. (1998) How are States implementing Children's Health Insurance Plans? Portland, ME. National Academy for State Health Policy; CHPR telephone conversations with State officials, September-October 1998.

2. Uses the GWU Health Plan's Standard HMO Option as an example of employer coverage to illustrate the type of cost-sharing that could be required under such coverage. This policy includes a $35 per family deductible for pharmaceutical services and an annual cost-sharing cap, which varies by region and excludes durable medical equipment and substance abuse inpatient expenses (however, for the purpose of this exercise, expenditures for premiums and cost-sharing for services covered under the plan are counted toward the cumulative maximum, which is capped at five percent of income).

3. Assumes the use of prescription drugs on approved list (a coinsurance rate of 50 percent of allowed amount applies to unapproved drugs).

4. Assumes the use of generic prescription drugs (brand names are $3 in Alabama and $5 in Colorado).

a. Kirchner, M. (1990) Where do your fees fit in? Medical Economics, pp. 76-105, October 1.
b. Federal Register. (1998) Vol. 63, No. 211, pp. 58596-58897, November 2 (Total physician payment for selected procedures under Medicare)
c. Hong, S.H., and Shepherd, M.D. (1996) Outpatient prescription drug use by children enrolled in five drug benefit plans. Clinical Therapeutics, Vol. 18, No.3, pp. 528-545.
d. Newacheck, P.W., and Taylor, W.R. Childhood chronic illness: Prevalence, severity, and Impact. American Journal of Public Health, Vol 82, No. 3, pp. 364-371.
e. Complete schedule of dental allowances, Standard Option Blue Cross and Blue Shield Service Benefit Plan, Federal Employees Health Benefits Program, 1999.
f. 1999 Summary of Maryland State Employees Health Benefits.
g. Parent-reported information (including bills)

TABLE 1 b

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED STATE EMPLOYEE AND FEDERAL EMPLOYEE PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost		Applicable premiums and cost-sharing under selected state employee and federal employee plans	
		Per unit ($)	Total ($)	Maryland State Employee Plan: BCBS PPO Option[1]	Federal Employee Health Benefit Plan: BCBS standard PPO Option[2]
				Premiums	
				$85.53 x 12 for 2 people	$135.03 x 12 for self and child
				Cost-sharing	
Child with occasional cold or ear infection (composite #1)	Routine care: 2 M.D. visits (colds) 1 ER visit (otitis media) 3 Rx drugs	 54, 36" 88[b] 16"	 90 88 48	 $15x2 50%($88) $48	 $12 x2 $88 $48

Source: Center for Health Services Research and Policy, 1999.

TABLE 1 b

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED STATE EMPLOYEE AND FEDERAL EMPLOYEE PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost		Applicable premiums and cost-sharing under selected state employee and federal employee plans	
		Per unit ($)	Total ($)	Maryland State Employee Plan: BCBS PPO Option[1]	Federal Employee Health Benefit Plan BCBS standard PPO Option'
				Premiums	
				$85.53 x 12 for 2: people,	$135.03 x 12 for self and child
				Cost-sharing	
Child with cerebral palsy (composite #2)	Routine care:				
	2 M.D. visits (colds)	54, 36"	90	$15 x 2	$12 x 2
	1 ER visit (otitis media)	88[b]	88	50%($88)	$88
	3 Rx drugs	16[c]	48	48	$48
	Care for condition:				
	16 M.D. visits	54, 36x15[a]	594	$20 x 16	$12 x 16
	16 Rx drugs	16"	256	$256	$52 + 20%($204)
	1 five-day hospital stay,	581/day	2,905	0	0
	plus 1 surgery	1,800"	1,800	0	$312 + 5%($1,488)
	1 pre-op M.D. visit	120"	120	$20	$12
	1 follow-up M.D. visit	41"	41	$20	$12
					Note: To simplify calculations, $400 deductible applied to ER and surgery.

Source: Center for Health Services Research and Policy, 1999

TABLE 1 b

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED STATE EMPLOYEE AND FEDERAL EMPLOYEE PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost		Applicable premiums and cost-sharing under selected state employee and federal employee plans	
		Per unit ($)	Total ($)	Maryland State Employee Plan: BCBS PPO Option[1]	Federal Employee Health Benefit Plan: BCBS standard PPO Option[1]
				Premiums	
				$85.53 x 12 for 2 people	$135.03 x 12 for self and child
				Cost-sharing	
Child with severe diabetes (composite #3)	Routine care:				
	2 M.D. visits (colds)	54, 36[a]	90	$15 x 2	$12 x 2
	1 ER visit (otitis media)	88[b]	88	50%($88)	$88
	3 Rx drugs	16"	48	48	$48
	Care for condition:				
	16 M.D. visits	54, 36.15[a]	594	$20 x 16	$12 x 16
	16 Rx drugs	16[c]	256	$256	$52 + 20%($204)
	1 five-day hospital stay, plus 1 surgery	581/day[d]	2,905	0	0
		1,800"	1,800	0	$312 + 5%($1,488)
	1 pre-op M.D. visit	120"	120	$20	$12
	1 follow-up M.D. visit	41[a]	41	$20	$12
					Note: To simplify calculations, $400 deductible applied to ER and surgery.

Source: Center for Health Services Research and Policy, 1999

TABLE 1 b

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL. UNDER SELECTED STATE EMPLOYEE AND FEDERAL EMPLOYEE PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost		Applicable premiums and cost-sharing under selected state employee and federal employee plans	
		Per unit ($)	Total ($)	Maryland State Employee Plan: BCBS PPO Option[1]	Federal Employee Health Benefit Plan: BCBS standard PPO Option[2]
				Premiums	
				$85.53 x 12 for 2 people	$135.03 x 12 for self and child
				Cost-sharing	
Child with catastrophic injury (composite #4)	Routine care:				
	2 M.D. visits (colds)	54, 36"	90	$15x2	$12 x 2
	1 ER visit (otitis media)	88')	88	50%($88)	$88
	3 Rx drugs	16[c]	48	48	$48
	Care for condition:				
	1 five-day hospital stay,	581 [d]	2,905	0	0
	plus 1 surgery	3,276"	3,276	0	$312 + 5%($2,964)
	1 pre-op M.D. visit	120"	120	$20	$12
	1 follow-up M.D. visit	41[a]	41	$20	$12
	1 Rx drug	16"	16	$16	$16
	2 follow-up dental visits	14"	28	$28	25%($28)
	2 crowns	230'	460	$460	25%($460)
					Note: To simplify calculations, $400 deductible applied to ER and surgery

Source: Center for Health Services Research and Policy, 1999

TABLE 1b

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED STATE EMPLOYEE AND FEDERAL EMPLOYEE PLANS?

Profile	Annual average use (excludes well child care)	Average annual cost		Applicable premiums and cost-sharing under selected state employee and federal employee plans	
		Per unit ($)	Total ($)	Maryland State Employee Plan: BCBS PPO Option[1]	Federal Employee Health Benefit Plan: BCBS standard PPO Option?
				Premiums	
				$85.53 x 12 for 2 people	$135.03 x 12 for self and child
				Cost-sharing	
Child with serious mental illness (composite #5)	Routine care:				
	2 M.D. visits (colds)	54, 36"	90	$15 x 2	$12 x 2
	1 ER visit (otitis media)	88[b]	88	50%($88)	$88
	3 Rx drugs	16"	48	$48	$48
	Care for condition:				
	16 outpatient MH visits	131, 101x15[a]	1,646	20%($535) + 35%($1,111)	$312 + 60%($1,334)
	16 outpatient SA visits	131, 101x15[a]	1,646	20%($535) + 35%($1,111)	60%($1,646)
	16 Rx drugs	16'	256	$256	$52 + 20%($204)
	1 four-day MH stay	581/day	2,324	0	$150 x 4
					Note: To simplify calculations, $400 deductible applied to ER and MH visits

Source. Center for Health Services Research and Policy, 1999

TABLE 1 b

WHAT PREMIUMS AND COST-SHARING ARE APPLICABLE TO PROTOTYPE FAMILIES WITH INCOMES ABOVE 150 PERCENT OF THE FEDERAL POVERTY LEVEL UNDER SELECTED STATE EMPLOYEE AND FEDERAL EMPLOYEE PLANS?

Profile	Annual average use (excludes well-child care)	Average annual cost		Applicable premiums and cost-sharing under selected state employee and federal employee plans	
		Per unit ($)	Total ($)	Maryland State Employee Plan: BCBS PPO Option[1]	Federal Employee Health Benefit Plan: BCBS standard PPO Option[2]
				Premiums	
				$85.53 x 12 for 2 people	$135.03 x 12 for self and child
				Cost-sharing	
Child with congenital heart defect (actual case)	Routine care:				
	2 M.D. visits (otitis)	54, 36"	90	$15 x 2	$12 x 2
	2 Rx drugs (otitis)	3.959	7.90	$7.90	$7.90
	1 ER visit (pneumonia)	88[b]	88	50%($88)	$88
	1 Rx drug (pneumonia)	25.16[g]	25.16	$25.16	$25.16
	1 M.D. visit (pneumonia)	36"	36	$15	$12
	Care for condition:				
	2 M.D. visits (cardiology)	110, 50"	160	$20 x 2	$12 x 2
	1 M.D. visit (pediatry)	36[a]	36	$15	$12
	2 M.D. visits (surgery)	120[a]	240	$20 x 2	$12 x 2
	1 five-day hospital stay,	24,047.49	24,047.49	0	0
	plus 1 surgery	17,785	17,785	0	$312 + 5%($17,473)
	1 Rx drug	4.68[g]	4.68	$4.68	$4.68
	1 pre-op M.D. visit	120[a]	120	$20	$12
	1 follow-up M.D. visit	41[a]	41	$20	$12
					Note: To simplify calculations, $400 deductible applied to ER and surgery

Source Center for Health Services Research and Policy, 1999

TABLE 1 b
References

1. Source: 1999 Summary of Maryland State Employees Health Benefits

2. Source: Blue Cross and Blue Shield Service Benefit Plan, Federal Employees Health Benefits Program, 1999. Assumes use of preferred providers only. This policy also includes a $400 and $100 per family deductible for medical and pharmaceutical services, respectively, and an annual cost-sharing cap of $2,000 per family that excludes mental health and substance abuse as well as dental expenses (however, in order to replicate most states' policy, out-of-pocket expenditures resulting from premiums and cost-sharing for all services covered under the plan are counted toward the cumulative maximum) The coinsurance percentage is calculated on the billed or allowable charge, whichever is less.

a. Kirchner, M. (1990) Where do your fees fit in? Medical Economics, pp. 76-l 05, October 1.

b. Federal Register. (1998) Vol. 63, No. 211, pp. 5859658897, November 2 (Total physician payment for selected procedures under Medicare).

c Hong, S.H., and Shepherd, M.D. (1996) Outpatient prescriptron drug use by children enrolled in five drug benefit plans Clinical Therapeutics, Vol. 18, No.3, pp. 528-545.

d. Newacheck, P.W., and Taylor, W.R. Childhood chronic illness: Prevalence, seventy, and Impact. American Journal of Public Health, Vol 82, No. 3, pp. 364-371.

e. Complete schedule of dental allowances, Standard Option Blue Cross and Blue Shield Service Benefit Plan, Federal Employees Health Benefits Program, 1999.

f. 1999 Summary of Maryland State Employees Health Benefits.

g. Parent-reported information (including bills).

Part Three. MECHANISMS TO MORE EFFECTIVELY TRACK FAMILY EXPENDITURES TOWARD THE FIVE PERCENT CAP

When we asked State CHIP officials about how their State tracked out-of-pocket expenditures to ensure that families do not pay in excess of five percent of their income, we found that many States did not expect families to reach the cap because of the very low level at which cost-sharing was set. (See Table B, pp. 42-43.) We also found that States adopted one of two strategies, both of which are an adaptation of the "shoebox" approach also commonly used by private insurers:

- The State Medicaid agency communicates to *each family* the amount of the five percent cap in dollars. The family then keeps track of its expenditures. When it reaches the cap, the family sends the paperwork to the *State,* which either issues a notification letter or sticker to be placed on the membership card indicating that cost-sharing may no longer be imposed. At the next physician visit, the family shows the letter or the sticker to the provider to avoid payment.

- The State Medicaid agency communicates to *each participating p/an* the amount of each member's five percent cap in dollars. The family then keeps track of its expenditures. When it reaches the cap, the family sends the paperwork to the health p/an, which issues a notification letter indicating that cost-sharing may no longer be imposed. At the next physician visit, the family shows the letter to the provider to avoid payment.

While the "shoebox" approach appears to be the favored option at present time, it places the primary burden for tracking expenditures on the family, for whom it might be a difficult task because of other priorities or worries taking precedence. In examining other approaches to tracking family cost-sharing expenditures that count toward the five percent cap, we developed three main options that States might wish to consider: a "swipe card" approach, a "credit card" approach, and a "case manager" approach.

TABLE B: How do States with separate CHIP programs track the five percent cumulative maximum?

	Tracking System
AL	Families keep receipts of expenses. Once the $500 cap has been reached, families must have the necessary documentation to stop cost-sharing as well as reclaim any overpaid expenses.
AZ	Health plans will include a statement in the Member Handbook explaining to families that they can call AHCCCS when copayments exceed the five percent of income limit, and stop paying the copayments. State officials do not expect these limits to be reached (e.g., it would take someone at 150 percent of the federal poverty level 162 non-emergency visits per year to the emergency room to reach the limit).
CA	Families track and account for expenditures, and seek reimbursement from the State if the five percent maximum is exceeded.
CO	Families track and account for expenditures, and seek reimbursement from the State if the five percent maximum is exceeded. Once the cap is reached, a sticker is put on the membership card to indicate that the family cannot be charged any longer for cost-sharing.
CT	Plans monitor and enforce the five percent maximum, and notify enrollees and providers when the cap is reached.
DE	Delaware officials do not expect families to reach the five percent cost-sharing cap. They do not envision a proactive monitoring system. They plan to act as problems arise. Delaware does not have a Medicaid cost-sharing system at all.
FL	Families track and account for expenditures, and notify the State when the five percent maximum is reached. Families will then receive a letter from the State that exempts them from cost-sharing.
GA	Georgia officials do not expect families to reach the cost-sharing cap. They do not envision a proactive monitoring system. They plan to act as problems arise.
KS	Kansas officials do not expect to reach the five percent limit because of the limited cost-sharing measures.
KY	The State will determine the five percent cap for families with incomes above 150 percent of the federal poverty level. The managed care entities participating in the program will track each family's out-of-pocket expenses, which include premiums and copayments, and establish a provider notification procedure when a family has reached its annual out-of-pocket limit.
ME	Maine officials do not expect families to reach the cost-sharing cap. They do not envision a proactive monitoring system, planning to act as problems arise. They only expect a cap problem, if they have to increase premium amounts.
MA	Annual premiums do not exceed five percent of family income for direct coverage. For premium assistance programs, the State will notify the family of its five percent cap. The family is responsible for tracking expenditures and submitting bills for payment. Once a famiy has reached the cap, it must submit proof to the State. The family will then be billed by providers ; and submit the bill directly to the State. The State will pay the family within two weeks
MI	Michigan officials do not expect families to reach the cost-sharing cap. They do not envision a proactive monitoring system, and plan to act when problems arise.
MS	Mississippi will not impose cost-sharing. However, the State has a procedure in place for families that have access to employer-based coverage to prevent them from paying cost-sharing imposed under such coverage, and will accept claims from providers for co-payments, deductibles, and premiums imposed-under such coverage.
MT	Each time a claim is paid, the insurer will send to the familv an explanation of benefits that specifies the amount'of copayments that have been incurred during the year. Once a family reaches the limit, it can use the explanation of benefits to show providers that it is exempt from copayments. If a family exceeds the limit, it may contact the State for a refund.

	Tracking System
NV	Nevada officials do not expect to reach the five percent limit because of the limited cost-sharing measures. The State will waive cost-sharing fees for families who cannot afford them
NH	A mechanism will be implemented to ensure that cost-sharing for a family will not exceed five percent of the family income for a year. The family will be educated on the amount of its limit how to track cost-sharing, and how to contact the State once it equals or exceeds the limit. The family will receive a letter from the State notifying the family that cost-sharing will cease for the remainder of the current 12 month eligibility period
NJ	Families will be given written materials that explain the issue of the cap. They must track cost-sharing amounts paid. Once the cap is reached, families must notify the State. The State will provide the family with a letter that informs providers that the family is exempt from copayments.
NY	Families must notify insurers when the five percent cap has been reached. Once it has been determined through documentation, no further cost-sharing is required. The Department of Health has reviewed the cost-sharing requirements for each family size and income level to ensure that in no instance will the cost-sharing requirement exceed five percent of a family's annual income for the relevant year. The method for ensuring that the aggregate cost-sharing for a family does not exceed five percent of such famrly's annual income is based on a comparison of the maximum gross household income, by percent of federal poverty level, to the maximum contribution a family may be asked to contribute to participate in the program.
NC	North Carolina's CHIP health plan will be offered through the North Carolina Teachers' and State Employees' Comprehensive Major Medical Plan (TSECMMP), and run by Blue Cross/Blue Shield. The Division of Medical Assistance through the Eligibility Information System will notify TSECMMP of the cost-sharing limit. A computer system will keep track of claims and will generate a letter when the family reaches its cost-sharing limits. The family can use the notification to show providers that they should stop Imposing any cost-sharing. The plan states: "The type and amount of ca-payment is set at levels that are extremely unlikely to exceed the upper limit ... [but] as a precaution ... a report will be generated annually that lists income levels for individuals for whom co-payment amount exceeds 5% of 100% of annual federal poverty guidelines for an individual. This assures that the lowest possible annual income for a Title XXI eligible is the threshold." North Carolina has no Medicaid cost-sharing program.
OR	Oregon's plan does not include any cost-sharing elements, so State officials are not concerned with exceeding the five percent cost-sharing limit.
PA	Pennsylvania officials are not concerned with families reaching the five percent limit because the State plan does not include any cost-sharing elements.
UT	The State will provide a quarterly report to families on out-of-pocket expenses incurred. Providers will be notified when a family has reached its out-of-pocket maximum. If a family incurs expenses that exceed the out-of-pocket maximum, the State will reimburse the family.
VT	Under the Vermont plan, the managed care plans will track copayment amounts for medical services and the Medicaid MMIS will track these amounts for dental services. When the bill is paid to the provider, the family will receive a notice that includes the amount of the copayment that was applied to the counter, If the cap has been reached. the notice will indicate that no payment is due.
VA	Virginia will not impose cost-sharing. The State plans to amend its CHIP proposal to include cost-sharing for enrollees between 150-185 percent of the federal poverty level, and will deal with tracking issues then.

Source: CHPR telephone conversations with State CHIP officials, September-October 1998; HCFA fact sheets, http://www.hcfa.gov/init, as of February 1999.

A. "Swipe Card" Approach

The first approach States might want to consider is a "swipe card" approach. Where swipe card technology is in use, a participating provider obtains, through a "swiping" device provided to the provider by the plan, on-site verification of the amount owed under the enrollee's plan, as well as confirmation regarding whether or not the family has satisfied its exposure for the year.[35]

This option was favored by representatives of several health plans that offer products, which include cumulative maximum protections against excessive cost-sharing, with whom we discussed the options available to track family cost-sharing expenditures that count toward the five percent cap.[36] The individuals interviewed made a series of important observations.

First, each pointed out that the plan could track only those expenditures that were made for services covered under its contract. They correctly observed that no company would be able or willing to attempt to track services for extra-contractual services and benefits. This point has a logical consistency with the structure of the statute's cost-sharing protections which, as noted in the previous part, are limited to items and services that are covered under the State CHIP plan. It might be that, as in Medicaid, some States may opt to cover more services under their CHIP plans than they include in their contracts with participating insurance companies. This tendency to cover more in the CHIP plan than in the insurance contracts might be particularly true in the case of services for children with chronic care needs. Given the unwillingness of plans to track extra-contractual services, under these circumstances, a State would have to track two categories of expenditures: those for services in its plan, and those for services in its contracts.

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[35] The percentage of health plans and providers with this technology is unknown. Aetna U.S. HealthCare and Cigna, for example, advertise the use of such technology. According to Blue Cross and Blue Shield Association representatives, "some" BCBS plans use smart cards, but this information is largely anecdotal. Finally, a dozen states (e.g., Maryland) use a similar technology, known as Electronic Benefits Transfer, in their welfare programs for cash and food stamp benefits.

[36] Neither we nor officials in HCFA with whom we spoke were aware of any State that had elected to use a cumulative maximum amount in its Medicaid cost-sharing program. We therefore could not Identify any State Medicaid prototypes.

Second, plan spokespersons observed that, while the technology for tracking cumulative maximum cost-sharing does exist in the form of swipe cards that could be presented at participating network providers, a swipe card system could be used under CHIP only if a State translated into actual dollar figures the cost-sharing cap applicable to families (as Utah, Kentucky, and Alabama appear to do). Plans were (not surprisingly) unwilling to consider administering a system under which each family would have a different cost-sharing obligation depending on its annual income. However, were States to follow the Utah, Kentucky, and Alabama dollar limit models for cost-sharing upper limits, then existing swipe card technology would appear to be workable. In purchasing plan coverage, States could include as a contract specification a requirement that participating plans have the technology in place to allow them to track and apply a cumulative maximum dollar limitation. States that provide direct coverage under CHIP and do not buy insurance could of course purchase such technology for their own programs.

B. "Credit Card" Approach

A variant on the swipe card approach is the nonautomated "credit card" approach, which, unlike swipe card technology, does not necessarily rely on electronic transmission of information. The State would issue a credit card to each family, who would present it to the provider at the point-of-service. The provider would call a telephone number to seek authorization of payment from the State. The State would, directly or through participating health plans, pay the provider for services furnished and obtain reimbursement of copayments directly from the family.

Such an approach has two main advantages. First, it eliminates the administrative burden of collecting cost-sharing obligations at the point-of-service. Second, families would be able to pay back what they owe to the State over time, thereby lessening the financial impact they might feel from cost-sharing imposed at the time of service.

This approach also has two main disadvantages. While it eliminates the need for point-of-service collection, it generates other administrative barriers, such as the creation of an

authorization process. In addition, the expected deterrent effect of point-of-service collection of cost-sharing payments on use of services-one of cost-sharing's rationales-is completely lost.

C. "Case Manager" Approach

In addition to the swipe and credit card approaches, States might want to consider a "case manager" approach to help families track the five percent cumulative maximum. In the pre-enrollment phase, children who risk high cost-sharing could be identified at the time of enrollment through the use of a health status questionnaire (a practice used by a number of State Medicaid programs in their managed care systems). With this information, States could assign this small number of families a case manager to assist the family track both its in-plan and out-of-plan expenditures.

EXAMPLES OF QUESTIONS
STATES COULD ASK AT ENROLLMENT

Does your child have a health problem that requires a lot of medical care?
❑ Yes a No

Does your child have a health problem that requires a lot of drugs?
a Yes a No

Has your child been hospitalized in the last year?
❑ Yes a No
If yes, what was the reason for the hospitalization?_____

How many times has your child seen a doctor in the last year?
❑ 0 a 1-3 ❑ 4-5 ❑ 6-10 ❑ 11-16 ❑ > 16 times

In the last year, did you spend more than $_____ (insert equivalent to the five percent of that family's annual income in dollars) for your child's health care?
Cl Yes ❑ No
If yes, how much? $_____

Similarly, in the post-enrollment phase, a case manager could be assigned to a child whose condition suddenly generates high expenditures following provider notification of such cases to the State Medicaid agency.

Conclusion and Recommendations

This paper has explored various issues in the implementation of CHIP annual aggregate cost-sharing protections. We conclude that the magnitude of the problem may be small, because so few children incur high health care costs and because of the manner in which the protection is framed in the statute (i.e., excessive costs are measured against annual income). We also conclude that only in those States in which a significant proportion of eligible children enroll in freestanding CHIP programs is the issue of the five percent cap truly significant, since in many States the majority of even near-poor children may qualify for Medicaid, where no cost-sharing is permitted.

We also conclude that, looking at the current situation in those States whose CHIP program designs do raise excess cost-sharing concerns, we nonetheless conclude that in no State would a family be exposed to excess cost-sharing for *in-plan* services, because the State's cost-sharing requirements are limited.

Finally, though the majority of families will not reach the five percent cap, States have an obligation under the law to track out-of-pocket expenditures against the cap. Our discussions with plans indicate that the technology does exist to permit States to require participating plans to be able to track contract expenditures as a condition of participation. Swipe cards are currently in use for private products that include annual dollar cumulative maximum amounts. By translating its percent-of-income cap into a flat dollar cap, as do the States of Utah, Kentucky, and Alabama, a State could make it feasible for a plan to use existing technology to track member cost-sharing. The use of a flat dollar limit would not appear to violate the statute.

At the same time, however, we have identified a series of issues related to cost-sharing exposure for families that should be a policy focus for HRSA, HCFA, and State CHIP programs. First, the statute defines what constitutes an excess aggregate expenditure at a high level. The definition of what constitutes excess cost-sharing (i.e., cost-sharing that exceeds five percent of annual income) is high both in absolute terms and in relation to how families actually spend health care dollars (i.e., in lumps). While under the five percent cap, a cumulative premium for

all children of $50 per month would be considered affordable for lower income families. one should also be aware that laying out $50 per month on a gross salary of $32,000 with actual take home pay far lower than that poses real difficulties for these families. Thus, while the definition of what constitutes "excess" under the statute is high, as a practical matter it would not take much to deter a low income family from enrollment. States that elevate their premiums and enrollment fees to this maximum figure risk failure on the part of families to enroll until a child is ill and in need of extensive care.

Second, the definition of what constitutes excess cost-sharing relates only to in-plan services. In States with more narrow CHIP plans, this definition means that States could fail to take into account expenditures for out-of-plan care, which should be deducted from family income. We recommend that HCFA and HRSA more extensively clarify this issue for States and spell out their options in greater detail.

Third, the cost-sharing protection leaves States with considerable leeway to design the protections to give families stronger protections. Basing the calculation of the cap on net income and allowing deductions for child care, work-related costs, and out-of-plan health care expenditures would appear to be extremely important issues for States to consider. Yet States may not be able to adopt these further protections if they establish stand-alone insurance pools for CHIP insured children, because of the adverse actuarial consequences to their plans of liberalizing protections against cost-sharing. In our opinion, a pool consisting of only a few thousand children is not actuarially sound under any circumstance, unless it is accompanied by high levels of risk sharing between the plan and the State. The use of small pools would make it nearly impossible for a State to consider any of the options outlined in this analysis. Indeed, a small pool could encourage a State to attempt to deter all enrollment by sick children, fearing pull-out by participating plans. We therefore recommend further study of this pooling issue by HCFA and HRSA in order to ensure that freestanding CHIP programs do not end up with built-in enrollment and utilization deterrents for sick children.