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Medicaid Policies and Eligibility for WIC

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**MEDICAID POLICIES AND
ELIGIBILITY FOR WIC**

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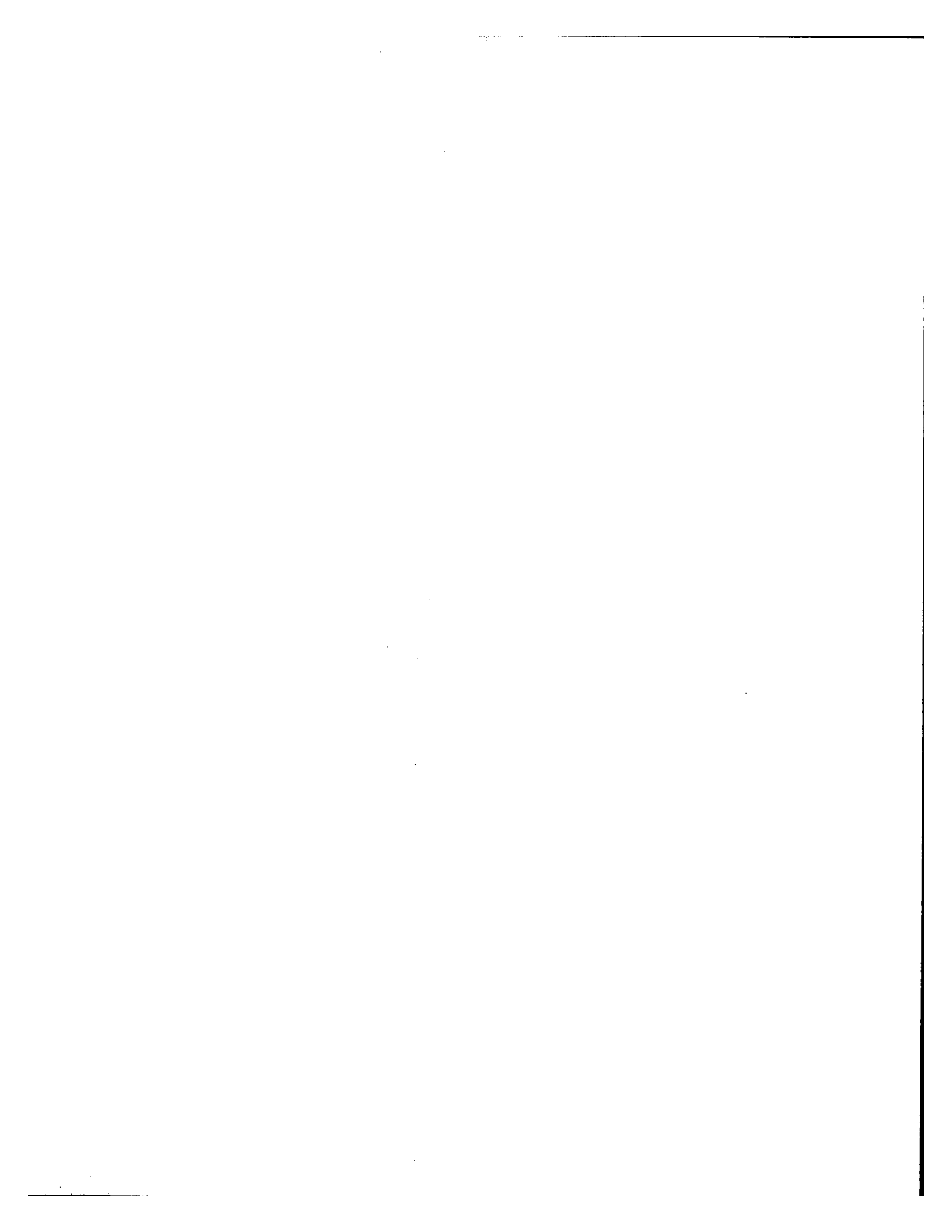
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EXECUTIVE SUMMARY

The Food and Nutrition Service (FNS), which administers the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), asked Mathematica Policy Research to examine more closely Medicaid's role in adjunct eligibility (that is, automatic income eligibility) for WIC. Individuals who participate in Medicaid are adjunct eligible for WIC and do not have to show further proof of income to qualify. FNS wanted to explore whether Medicaid may have expansive effects on the WIC program by allowing persons who have incomes above 185 percent of the federal poverty line (the income eligibility standard for WIC) to qualify for WIC through Medicaid. This study was motivated, in part, by apparent discrepancies between FNS's estimates of WIC eligibles based on data from the Current Population Survey (CPS) and the number of WIC participants according to administrative data. In some states, WIC participants exceed the estimated eligibles, resulting in an implausible WIC participation rate of more than 100 percent.

The objectives of this study were:

- To assess Medicaid's role in expanding the WIC program by reviewing Medicaid policies that make it possible for persons with incomes above 185 percent of poverty to qualify for Medicaid, and thus WIC.
- To describe the types of Medicaid administrative data that are available to examine Medicaid's role in WIC eligibility.
- To assess the extent to which Medicaid administrative data may be able to improve CPS-based estimates of infants eligible for WIC.

MEDICAID POLICIES AND WIC ELIGIBILITY

Several eligibility rules and practices are used by states that may enable persons with incomes above 185 percent of poverty to enroll in Medicaid and thus be eligible for WIC. State Medicaid programs may use a more flexible definition of the family unit to establish eligibility or may employ relatively longer eligibility certification periods for pregnant or postpartum women and infants. Medicaid eligibility redetermination practices may also differ

considerably from those used by the WIC program. Finally, state medically needy programs and recent poverty-related expansions to income thresholds above 185 percent of poverty in some states may be significant factors as well.

**DISCREPANCIES IN
ESTIMATES OF WIC
ELIGIBLES: OTHER
EXPLANATIONS**

Several factors that relate to the Current Population Survey (CPS) data used for estimates of WIC eligibles may also help explain discrepancies in estimates of WIC eligibles. First, CPS estimates of WIC eligibles based on annual income alone may lead to discrepancies with reported WIC program participants because WIC participants are certified for periods of up to 6 to 12 months. As a result, the WIC program accumulates new participants as they become eligible, but drops persons who become income ineligible only after a delay of up to 12 months. Second, the CPS, like most surveys, has some degree of nonresponse and undercoverage of the population. This could affect estimates of WIC eligibles if nonrespondents or those missed by the survey are more likely to be eligible for WIC. Third, income reported in a survey such as the CPS may differ from the way that it is reported to an eligibility caseworker when applying for benefits. Finally, differences in how a WIC caseworker and the CPS define a family unit for eligibility may also explain discrepancies in estimates of WIC eligibles.

**MEDICAID
ADMINISTRATIVE
DATA**

There is no single source of data on Medicaid enrollees that is comparable to estimates of WIC eligibles. However, two sources of Medicaid administrative data, when analyzed together, can be used to make comparisons with estimates of WIC eligibles. Those two sources are the HCFA 2082 report and State Medicaid Research Files (SMRF). The 2082 is a hard-copy report submitted by states showing yearly aggregate data on Medicaid enrollees, recipients, service utilization, and payments for the federal fiscal year. The data are timely, easily obtainable, and include all 50 states and the District of Columbia. The SMRF files are person-based data on Medicaid enrollees derived from electronic files submitted to HCFA by many states in lieu of a hard copy 2082 report. SMRF files, which are currently available for about 30 states, include information on eligibility, utilization, expenditures, and demographics for each person ever enrolled during a calendar year.

**AN EXPLORATORY
COMPARISON OF
MEDICAID
ENROLLEES AND
ESTIMATES OF WIC
ELIGIBLES**

SMRF files for 6 states were used to estimate lags in the Medicaid enrollment of infants and to compute average monthly Medicaid enrollment numbers for infants. On the basis of these SMRF data, steps were then developed to adjust the HCFA 2082 data, which are more timely than SMRF and available for all states, to average monthly estimates that are comparable to estimates of WIC eligibles. After adjustments, the 1995 2082 data showed that over half the states had more infants enrolled in Medicaid than were estimated to be eligible for WIC using CPS data. For 9 states (Kentucky, Maryland, Massachusetts, Minnesota, Mississippi, New Jersey, Vermont, West Virginia and Wisconsin) the number of Medicaid infants exceeded the estimates of WIC eligibles by 20 percent or more. Many of these states have relatively generous Medicaid eligibility policies which might explain why Medicaid enrollment was substantially greater. However, these results should be interpreted cautiously because the adjustment factors for the 2082 data were based on a small group of states that were not necessarily representative of all states.

CONCLUSIONS

Study results confirm that Medicaid eligibility policies make it possible for persons with income greater than 185 percent of poverty to qualify for WIC through adjunct eligibility. Further, adjusted 1995 Medicaid administrative data indicate that a majority of states report more infants enrolled in the Medicaid program than were estimated to be eligible for WIC based on CPS data. These results suggest that Medicaid administrative data may be useful to FNS in improving the estimates of WIC eligibles. However, MPR recommends that the adjustment factors for the 2082 data should be re-estimated using a broader group of states than were used for this study.

The number of Medicaid infants could be useful as a lower-bound estimate of WIC eligibles in states where the number of Medicaid enrollees exceeds the CPS-based estimates of WIC eligibles. Revised state estimates could also be useful to adjust the CPS-based national estimate of WIC eligibles.

With the passage of the State Children's Health Insurance Program (CHIP), state Medicaid programs have even more incentives to expand public health coverage for children. Several states are now extending Medicaid to children in families with income beyond 185 percent of poverty. This will make it even more important in the future for FNS to take Medicaid adjunct eligibility into account in its estimates of WIC eligibles. Further, as more states begin to use income thresholds of 250 to 300 percent of poverty for Medicaid,

issues are raised about WIC adjunct eligibility policies should necessarily follow suit.

I. INTRODUCTION

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides supplemental food, nutrition education, and referrals to health care to eligible pregnant and postpartum women, infants, and children. To be eligible for WIC, individuals must be categorically eligible, which means that they must be pregnant women, breastfeeding women up to 12 months postpartum, nonbreastfeeding women up to 6 months postpartum, infants up to 12 months of age, or children up to their fifth birthday. Each categorically eligible individual also must be income eligible (defined as having family income below 185 percent of the poverty level) and at nutritional risk.¹ Those who participate in the Temporary Assistance for Needy Families Program (TANF), the Food Stamp Program (FSP), or Medicaid are adjunct eligible (that is, automatically income eligible) and do not have to show further proof of income.

The Food and Nutrition Service (FNS) of the U.S. Department of Agriculture (USDA), which administers WIC, asked Mathematica Policy Research to examine more closely Medicaid's role in adjunct eligibility for WIC. Adjunct eligibility through the AFDC and Food Stamp programs is not an issue, because these programs have maximum income standards lower than those used for WIC. However, Medicaid policies differ more significantly from WIC and may have expansive effects on the WIC program, allowing persons whose incomes exceed 185 percent of the federal poverty line to qualify for the program through Medicaid. This study was motivated, in part, by apparent discrepancies between FNS's estimates of WIC eligibles and the number of WIC participants according to administrative data. In some states, WIC participants exceed the estimated eligibles, resulting in an implausible WIC participation rate of more than 100 percent. Adjunct eligibility through Medicaid may account for this discrepancy.

¹A competent health professional must assess nutritional risk. The assessment must include measures of height, weight, blood-iron status, and dietary status. Common nutritional risks include overweight, underweight, anemia, or inadequate or inappropriate dietary intake, as well as a wide range of risks specific to pregnancy (such as history of pregnancy loss or low-birthweight births).

The objectives of this study were:

- To assess Medicaid's potential role in expanding the WIC program by reviewing Medicaid policies that make it possible for persons with incomes above 185 percent of poverty to qualify for Medicaid, and thus WIC.
- To describe the types of Medicaid administrative data that are available to examine Medicaid's role in WIC eligibility.
- To assess the extent to which Medicaid administrative data may be able to improve CPS-based estimates of infants eligible for WIC by comparing the estimated number of infants eligible for WIC with the number of infants enrolled in Medicaid according to administrative data from the State Medicaid Research Files (SMRF) and the Health Care Financing Administration's (HCFA) 2082 report.

Chapter II describes the Medicaid eligibility policies that allow persons with incomes above 185 percent of poverty to qualify for Medicaid. Chapter II also includes a discussion of issues related to the Current Population Survey (CPS) data used for FNS's estimates that, in conjunction with Medicaid policies, might help to explain why WIC participation rates exceed 100 percent in some states. Chapter III presents an overview of the two types of Medicaid administrative data that are available to examine the effect of Medicaid on WIC eligibility: the SMRF data and HCFA 2082 data. Chapter IV then presents the results of an exploratory analysis of Medicaid administrative data on infants. The analysis focuses on infants because discrepancies in estimates of WIC eligibles seems to affect infants disproportionately and because estimates of women eligible for WIC are based on the number of eligible infants.

II. WIC ELIGIBILITY AND MEDICAID

Although most Medicaid enrollees have incomes well below 185 percent of poverty, Medicaid policies in some states make it possible for individuals in families with incomes above 185 percent of poverty to qualify for Medicaid. Because of adjunct eligibility, these persons also qualify for WIC. Therefore, eligibility estimates for WIC based on survey income information alone may underestimate the true number of persons that are eligible.

In a recent report for FNS, Gordon et al. (1997) found that many reported WIC participants in the Survey of Income and Program Participation (SIPP) appeared to be ineligible for the program on the basis of their income, but they were enrolled in Medicaid. The researchers found that of seemingly income-*ineligible* WIC participants (5 percent of all WIC participants), 44 percent participated in Medicaid for 1 or more months during the year. Gordon et al. point out that these findings should be used with caution, however, because WIC participation is known to be severely underreported in the SIPP. Thus, this result alone cannot be used as evidence of Medicaid's role in causing seemingly ineligible persons to be eligible for WIC.

This chapter begins with an overview of the methods used by FNS to estimate the number of persons eligible for WIC and a discussion of the frequent discrepancies in the estimates of eligibles in comparison with WIC administrative data on participants--discrepancies that motivated much of this research. Next, the Medicaid eligibility policies that may permit persons with incomes above 185 percent of poverty to qualify for coverage are presented. The chapter concludes with a brief discussion of other factors that might also explain the discrepancies in estimates of WIC eligibles.

ESTIMATES OF WIC ELIGIBLES

Each year, FNS estimates the number of WIC eligibles in order to determine the program budget request and to allocate program funds among the states. Funds are allocated to the states based on two factors: (1) their prior year funding level, plus some adjustment for inflation; and (2) a growth calculation that attempts to direct funds to states on the basis of need for the program. Need is determined using the "fair share" concept, whereby a state's fair share of available funds is its share of the estimated national population of persons

categorically eligible and income-eligible for the program. For example, a state with one percent of the eligible persons has a fair share of one percent of total available funds. Remaining funds are allocated only to below-fair-share states.¹

Allocating funds for the WIC program, therefore, requires estimating the number of WIC eligibles in each state. The primary data source for these estimates is the March CPS.² Because the CPS sample sizes in all but the largest states are too small for precise state-level estimates, the USDA's official number of eligibles per state is calculated using a Bayesian shrinkage estimator that optimally averages the CPS direct sample estimates of WIC eligibles and the predictions of WIC eligibles obtained from a regression model.³ In comparison to a simple CPS estimate of eligibles in a given state, the shrinkage technique provides a substantially more precise estimate by "borrowing strength" from CPS data from other states, CPS data from previous years, and census and program administrative data. In the 1992 estimates of WIC eligibles, the shrinkage confidence interval was, on average, 61 percent narrower than the corresponding direct sample confidence interval--about the same gain in precision that would be obtained from increasing the sample size of the CPS from fewer than 60,000 households to nearly 400,000 households. Estimates of WIC eligibles for 1995 are presented in Table II.1. As shown in the last column of this table, the overall WIC participation rate in 1995 was 109 percent.

**DISCREPANCIES IN
WIC PARTICIPANTS
RELATIVE TO
ELIGIBLES**

The discrepancy in WIC eligibles does not necessarily affect the allocation of WIC funds to states because each state's fair share is not dependent on the overall estimate of eligibles, but rather on its relative share of that estimate. Moreover, the funding formula does not distribute funds exclusively on the basis of the estimate of eligibles. Although discrepancies are of concern and merit

¹This description of the WIC funding formula is drawn from Schirm and Long (1995).

²Eligibility is defined in terms of categorical eligibility, income eligibility, and nutritional risk status. However, nutritional eligibility is considered only for national estimates of WIC eligibles. The individual states estimates consider only categorical and income eligibility.

³Examples of predictor variables in the regression model are receipt of public assistance, receipt of food stamps, and receipt of free or reduced-price school lunch.

TABLE II.1

WIC ELIGIBLE INFANTS AND PARTICIPATING INFANTS IN 1995, BY STATE

State	WIC Eligible Infants*			WIC Participating Infants** (b)	Participation Rate (b)/(a)x100
	Number (a)	Approx. 90% Confidence Interval			
		Lower Bound	Upper Bound		
All States	1,668,766	-	-	1,816,872	109
Alabama	29,640	26,806	32,474	35,439	120
Alaska	4,589	3,911	5,267	4,516	98
Arizona	36,380	33,462	39,298	34,013	93
Arkansas	18,189	16,356	20,022	23,937	132
California	269,401	251,074	287,728	266,928	99
Colorado	18,576	16,463	20,689	15,362	83
Connecticut	11,693	9,160	14,226	13,026	111
Delaware	3,517	3,061	3,973	4,307	122
District of Columbia	4,925	4,513	5,337	5,397	110
Florida	93,667	87,611	99,723	88,993	95
Georgia	49,047	43,754	54,340	57,257	117
Hawaii	8,031	7,035	9,027	6,985	87
Idaho	8,386	7,377	9,395	7,071	84
Illinois	76,924	70,518	83,330	73,229	95
Indiana	30,996	27,023	34,969	36,662	118
Iowa	13,506	12,167	14,845	13,812	102
Kansas	15,377	13,885	16,869	13,463	88
Kentucky	24,853	22,979	26,727	29,198	117
Louisiana	35,696	31,435	39,957	40,460	113
Maine	4,798	4,238	5,358	5,762	120
Maryland	20,878	18,229	23,527	25,372	122
Massachusetts	22,891	19,185	26,597	27,237	119
Michigan	56,301	50,093	62,509	51,526	92
Minnesota	20,211	17,021	23,401	21,100	104
Mississippi	23,354	20,712	25,996	30,342	130
Missouri	31,110	27,715	34,505	32,516	105
Montana	5,393	4,815	5,971	4,149	77
Nebraska	8,609	7,471	9,747	9,012	105
Nevada	8,791	7,571	10,011	8,257	94
New Hampshire	3,202	2,451	3,953	4,641	145
New Jersey	24,158	22,126	26,190	34,989	145
New Mexico	16,705	15,416	17,994	12,321	74
New York	123,146	114,971	131,321	115,726	94
North Carolina	45,040	40,741	49,339	50,147	111
North Dakota	3,485	3,096	3,874	3,630	104
Ohio	57,640	52,821	62,459	76,674	133
Oklahoma	24,185	21,997	26,373	25,869	107
Oregon	18,025	16,145	19,905	15,816	88
Pennsylvania	56,175	50,773	61,577	57,338	102
Rhode Island	4,598	3,876	5,320	5,178	113
South Carolina	26,288	24,107	28,469	33,096	126
South Dakota	4,952	4,430	5,474	5,211	105
Tennessee	33,502	29,885	37,119	52,402	156
Texas	152,705	143,649	161,761	162,494	106
Utah	15,351	13,625	17,077	12,939	84
Vermont	2,760	2,400	3,120	2,951	107
Virginia	35,484	31,563	39,405	32,663	92
Washington	28,227	25,139	31,315	31,384	111
West Virginia	11,067	10,157	11,977	12,557	113
Wisconsin	23,279	19,952	26,606	24,155	104
Wyoming	3,063	2,808	3,318	2,414	79

*CPS estimates based on annual income.

**Calendar year 1995 average monthly estimates generated from WIC National Data Bank Version 5 Preload System, July 9, 1998.

investigation, they do not necessarily mean that the current estimating methodology or the funding formula is flawed from a public policy and program operations perspective. It may be possible, however, to improve estimates of WIC eligibles by taking into account Medicaid policies that permit persons with incomes over 185 percent of poverty to enroll in Medicaid, and thus in WIC. Those policies are described next.

MEDICAID POLICIES AND WIC ELIGIBILITY

Medicaid is a complex program--states have numerous options with regard to eligibility groups they cover, and the financial thresholds for eligibility vary from state to state.⁴ Further, no single up-to-date source is available that describes all the Medicaid policies in each state. Nevertheless, based on various sources, several eligibility rules and practices can be identified that may enable persons with incomes above 185 percent of poverty to enroll.⁵ These areas of policy and practice include the flexible definition of the family unit for eligibility; relatively long eligibility certification periods for pregnant or postpartum women and infants; eligibility redetermination practices; recent poverty-related eligibility expansions; Medicaid waiver programs; medically needy programs; presumptive eligibility for pregnant women; transitional coverage for working poor families; and guaranteed enrollment periods. Each of these policies is discussed in more detail below.

- *Flexible Definition of Family Unit for Eligibility.* Many states allow caseworkers to exercise latitude in defining the family unit for Medicaid income eligibility determinations in order to maximize the possibility of eligibility. Therefore, some individuals in families with

⁴Medicaid is a joint federal and state program. The federal government sets broad program guidelines and provides matching funds for the program, while the states administer the program and have fairly wide discretion in setting eligibility policies. Medicaid, therefore, essentially comprises 51 separate programs (one for each state and the District of Columbia).

⁵Most of information presented here on state Medicaid policies comes from the *Medicaid Source Book* (U.S. House of Representatives, 1993) and various editions of *MCH Update*, which present the results of periodic national surveys of state Medicaid coverage of pregnant women and children conducted by the National Governors' Association.

incomes above the Medicaid eligibility thresholds based on the CPS definition of family (which treats related subfamilies living together as one unit) could be eligible if only the resources of their subfamily are counted by the caseworker. The amount of latitude caseworkers employ probably varies across states and possibly even among counties within a state.

- ***Period of Medicaid Certification for Pregnant/Postpartum Women and Infants.*** Federal eligibility criteria mandate that pregnant/postpartum women and infants who initially qualify for Medicaid must be permitted to remain in the program even if their incomes rise above the eligibility threshold. The rules regarding eligibility redetermination are complex. In practice, though, the rules are usually interpreted so that an eligible pregnant woman is deemed eligible throughout her pregnancy and postpartum period regardless of any changes in family income.⁶ An infant is deemed eligible for one year following birth, regardless of any changes in family income. These policies could be a significant factor in explaining why some persons with higher incomes are enrolled in Medicaid and thus in WIC.
- ***Eligibility Redetermination.*** Medicaid enrollees are required to report changes in income to the Medicaid program so that eligibility can be redetermined. However, researchers believe that many changes in income go unreported. Therefore, Medicaid enrollees are in effect guaranteed enrollment until a routine eligibility redetermination is required, which is typically done on an annual basis. Like the guaranteed certification for pregnant/postpartum women and infants, this could also be a significant factor in explaining why some persons with higher incomes are enrolled in Medicaid and thus in WIC. The extent to which this factor affects eligibility probably varies by state.

⁶The postpartum period is defined as 60 days after giving birth plus the remaining days in the month in which the 60th day falls.

- ***Poverty-Related Eligibility Expansions and Medicaid Waiver Programs.*** The Medicaid program requires states to cover pregnant women, infants, and children up to age 6 with family incomes below 133 percent of poverty. States also have the option to set an income standard up to 185 percent of poverty for pregnant women and infants. In addition, under the section 1902(r)(2) provision of the Medicaid law, states can structure their resource and income disregard policies to qualify pregnant women and infants in families with incomes above 185 percent of poverty—that is above the WIC eligibility level. States may also receive section 1115 waivers from HCFA that permit them more flexibility in designing their Medicaid programs, including qualifying pregnant women and infants in families with incomes above 185 percent of poverty. According to National Governor's Association data, seven states currently qualify infants in families with incomes above 185 percent of poverty: California, Minnesota, Vermont, and Washington under the 1902(r)(2) provision; and Hawaii, Rhode Island, and Tennessee under section 1115 waivers (Table II.2).
- ***Medically Needy Programs.*** Thirty-seven states have medically needy programs that cover persons who are in one of the groups covered by Medicaid (that is, families with dependent children, pregnant women, categorically eligible children, the aged, the blind, and the disabled) but who do not meet the income or resources standards for categorically needy coverage (Table II.2). These individuals are eligible for medically needy coverage if their income and resources, after deduction of incurred medical expenses, fall below the state's medically needy standards. The process of deducting incurred medical expenses to reduce income to the medically needy standard is known as "spenddown." Through spenddown, it is possible for individuals in families at any income level to qualify for Medicaid. Unfortunately, no data are available on the income levels of medically needy enrollees.

TABLE II.2

MEDICAID ELIGIBILITY CRITERIA, BY STATE

State	Expanded Medicaid Coverage of Infants as of 1996 ^a		Medically Needy Program ^a	Presumptive Eligibility for Pregnant Women ^b
	Income Threshold (% of poverty)	> WIC Income Threshold		
Alabama	133			
Alaska	133			
Arizona	140			
Arkansas	133		✓	✓
California	200	✓	✓	✓
Colorado	133			✓
Connecticut	185		✓	✓
Delaware	185			
District of Columbia	185		✓	✓
Florida	185		✓	✓
Georgia	185		✓	✓
Hawaii	300	✓	✓	✓
Idaho	133			✓
Illinois	133		✓	✓
Indiana	150			
Iowa	185		✓	✓
Kansas	150		✓	
Kentucky	185		✓	
Louisiana	133			✓
Maine	185		✓	✓
Maryland	185		✓	✓
Massachusetts	185		✓	✓
Michigan	185		✓	
Minnesota	275	✓	✓	
Mississippi	185			
Missouri	185			✓
Montana	133		✓	✓
Nebraska	150		✓	✓
Nevada	133			
New Hampshire	185		✓	✓
New Jersey	185		✓	✓
New Mexico	185			✓
New York	185		✓	✓
North Carolina	185		✓	✓
North Dakota	133		✓	
Ohio	133			✓
Oklahoma	150		✓	✓

Table II.2 (continued)

Oregon	133		✓	
Pennsylvania	185		✓	✓
Rhode Island	250	✓	✓	
South Carolina	185			
South Dakota	133			
Tennessee	185+	✓	✓	✓
Texas	185		✓	✓
Utah	133		✓	✓
Vermont	225	✓	✓	
Virginia	133		✓	
Washington	200	✓	✓	
West Virginia	150		✓	
Wisconsin	185		✓	✓
Wyoming	133			✓
Totals		7	35	31

SOURCE: ^a "MCH Update: State Medicaid Coverage of Pregnant Women and Children-Summer 1996." National Governors' Association, September 1996.

^b "MCH Update: State Medicaid Coverage of Pregnant Women and Children-Winter 1996." National Governors' Association, March 1996.

- ***Presumptive Eligibility for Pregnant Women.*** State Medicaid programs have the option of allowing medical providers to make an interim determination, on the basis of preliminary information, that a pregnant woman seeking treatment appears to be financially eligible for Medicaid benefits. This is known as “presumptive eligibility.” The pregnant woman must then make a formal application for Medicaid by the last day of the month following the month in which the determination of presumptive eligibility was made. If the woman fails to apply for Medicaid, her presumptive eligibility ends the last day of the month after the month she is determined presumptively eligible. If she applies for Medicaid, her presumptive eligibility continues until the day on which the state makes the eligibility determination. Even if the state should determine that the woman is not eligible, Medicaid will pay for any services provided during the period of presumptive eligibility. As of 1992, a total of 26 states had elected the presumptive eligibility option (Table II.2).
- ***Transitional Coverage for Working Poor Families.*** States are required to provide up to 12 months of extended Medicaid coverage to each family that received AFDC in at least 3 of the 6 months preceding the month the family lost such assistance due to either increased hours of employment, increased income, or the loss of one of the time-limited earned-income disregards.
- ***Guaranteed Initial Enrollment Periods.*** States with managed care programs may guarantee initial Medicaid enrollment for up to 6 months, regardless of changes in income. In addition, the Balanced Budget Act of 1997 contains an option for all states to guarantee 12 months of coverage to children enrolled in Medicaid, regardless of changes in family income. As pointed out above, though, many states already have a de facto 1-year guaranteed enrollment period simply because they usually redetermine eligibility on an annual basis.

The above Medicaid policies make it possible for women, infants, and children in families above 185 percent of poverty to qualify for Medicaid. The flexible definition of the family unit for eligibility, the guaranteed certification period for pregnant/postpartum women and infants, and the eligibility redetermination policies are likely to be the most significant factors in explaining why families with income above 185 percent of poverty may be enrolled in Medicaid. Medically needy programs and recent poverty-related expansions above 185 percent of poverty may also be significant factors.⁷

**DISCREPANCIES IN
ESTIMATES OF
WIC ELIGIBLES:
OTHER
EXPLANATIONS**

Medicaid adjunct eligibility is only one of several factors that may explain discrepancies in the estimates of WIC eligibles. In this section, four other factors are discussed that relate to the CPS data used for the estimates. First, CPS-based estimates of WIC eligibles based on annual income alone may lead to discrepancies with reported WIC program participants because participants are certified for periods of 6 to 12 months. Second, the CPS data may be affected by nonresponse bias and undercoverage of the population. Third, income in the CPS data may be reported differently from the way it is typically reported to caseworkers. Finally, WIC income eligibility is calculated based on the CPS definition of family, which includes all related subfamilies, whereas eligibility for WIC may sometimes be determined using subfamilies.

⁷The poverty-related expansions above 185 percent, though, pertain only to 7 states. The Medicaid poverty level threshold for infants for each state and the corresponding estimated WIC participation rate is presented in Table II.3 (sorted by the poverty level threshold and then the participation rate). States with Medicaid poverty level thresholds below 185 percent of poverty are less likely to have the implausible participation rates of over 100 percent (8 of 22 states; 38 percent) than states with poverty level thresholds of 185 percent or higher (23 of 29 states; 70 percent). However, except for Tennessee, which has the highest WIC participation rate of all (154 percent), states with poverty level thresholds of greater than 185 percent of poverty do not generally have participation rates any higher than that of states with poverty level thresholds of exactly 185 percent of poverty.

TABLE II.3

MEDICAID POVERTY LEVEL THRESHOLDS FOR INFANTS
AND WIC INFANT PARTICIPATION RATES, BY STATE

State	Income Threshold for Medicaid Infants (% of Poverty)	WIC Participation Rate, 1995
All Jurisdictions		109
Montana	133	77
Wyoming	133	79
Colorado	133	83
Utah	133	84
Idaho	133	84
Oregon	133	88
Virginia	133	92
Nevada	133	94
Illinois	133	95
Alaska	133	98
North Dakota	133	104
South Dakota	133	105
Louisiana	133	113
Alabama	133	120
Arkansas	133	132
Ohio	133	133
Arizona	140	93
Kansas	150	88
Nebraska	150	105
Oklahoma	150	107
West Virginia	150	113
Indiana	150	118
New Mexico	185	74
Michigan	185	92
New York	185	94
Florida	185	95
Pennsylvania	185	102
Iowa	185	102
Wisconsin	185	104
Missouri	185	105
Texas	185	106
District of Columbia	185	110
North Carolina	185	111
Connecticut	185	111
Georgia	185	117
Kentucky	185	117
Massachusetts	185	119
Maine	185	120
Maryland	185	122
Delaware	185	122
South Carolina	185	126
Mississippi	185	130
New Jersey	185	145
New Hampshire	185	145
Tennessee	185 +	156
California	200	99
Washington	200	111
Vermont	225	107
Rhode Island	250	113
Minnesota	275	104
Hawaii	300	87

**WIC Certification
Period of 6 to 12 Months**

The CPS-based estimates of WIC eligibles includes only those eligible on the basis of their annual income because the CPS data only report annual income. However, eligibility for WIC is generally determined using monthly income with a certification period of 6 to 12 months.⁸ The 6 to 12 month certification period can lead to discrepancies between estimates of WIC eligibles and WIC program participants because, in any month, WIC program participants include those with incomes below the eligibility threshold in that month, along with those who were certified during the prior 6 to 12 months but whose incomes are not below the threshold in that month.⁹ Therefore, during the year the program accumulates new mothers and children as they become eligible, but it drops persons who become income ineligible only after a delay of up to 12 months. Therefore, estimates of those income eligible for WIC in any month of the reference calendar year may mirror program practice more closely than other measures. This could be a significant factor in the discrepancy of eligibles because about 25 to 30 percent more infants and children live in families that experience at least one month of WIC income eligibility over the course of a year than live in such families in an average month or on the basis of annual income. Indeed, research by Gordon et al. (1997) suggests that a substantial number of WIC participants appear *not* eligible for the program based on their annual incomes (but probably were eligible in the month they were certified).¹⁰

**Nonresponse Bias
and Undercoverage
of the Population**

The CPS is the source of the Federal government's official estimates of poverty in the U.S. and is generally regarded as the best available annual data source on the economic and demographic characteristics of households in the U.S. The data are used regularly by policymakers and researchers for planning and evaluating many government programs.

⁸Infants are certified up to their first birthday and children are certified for periods of up to six months.

⁹Gordon et al. (1997) found that the discrepancies in estimates of WIC eligibles are probably not attributable to the CPS reporting annual income instead of monthly income, which is generally used as the basis for WIC eligibility. Using SIPP data, they found that estimates of eligibility based on annual income were not significantly different from average monthly estimates.

¹⁰Using the SIPP data, Gordon et al. found that 8 percent of *all WIC participants* are not eligible based on their annual incomes but are eligible during at least one month of the year.

However, like most national survey data, the CPS has some degree of nonresponse and undercoverage of the population. Nonresponse occurs when respondents are unable or unwilling to respond to survey questions; the nonresponse rate for the CPS is usually about 10 to 15 percent. Undercoverage of the population results from missed housing units and missed persons within sampled households; the undercoverage rate for the CPS is estimated by the Census bureau to be about 8 percent.¹¹ The Bureau notes that adjustments to the CPS weights reduce the problems of nonresponse and undercoverage somewhat, but not totally.¹² As a result, the CPS data may be biased to the extent that nonrespondents and those missed by the survey differ systematically from those that respond to the survey. Unfortunately, measuring such bias is difficult, and thus the magnitude of its effect on the on the CPS is unknown. These problems could lead to underestimates of WIC eligibles if nonrespondents and those missed by the survey are more likely to be WIC eligibles.

Income Reporting Differences

Estimates of WIC eligibles based on the CPS may be affected by differences in income reporting in the CPS data in comparison to the way that income is reported to a WIC eligibility caseworker. Radbill (1996) makes the following points about this issue:

- WIC applicants may underreport their incomes to caseworkers to ensure eligibility for the program. Indeed, a number of states either require no income documentation in establishing WIC eligibility or allow local discretion in establishing documentation rules.¹³

¹¹The Census Bureau notes that undercoverage varies with age, sex, and race. Generally, undercoverage is larger for males than for females and larger for Blacks and other races combined than for Whites. Census Bureau Web Site. "Source and Accuracy of the Data for the March 1997 Current Population Survey Microdata File." [www.bls.census.gov/cps/ads/1997/ssrcacc.htm]. July 1998.

¹²For a further discussion of this subject, see Shapiro et al. (1993) and Lloyd (1998). Lloyd discusses this problem in terms of the SIPP; however, his conclusions are applicable to the CPS as well.

¹³In 1994, the states that required no income documentation were Massachusetts, Delaware, Arkansas, Oklahoma, Nebraska, Alaska, Nevada, Washington, and most Indian Tribal Organizations. The states that allowed local discretion in determining documentation rules
(continued...)

- Income may be misreported in the CPS. There are two reasons why this might happen. First, respondents may simply misreport their income, either intentionally or unintentionally. Second, the Census Bureau may impute income incorrectly to respondents who refuse to answer some (or all) of the income questions in the survey. It is not known whether misreporting and incorrect imputations tend to lead to over- or under-estimates of income in the CPS.
- CPS estimates may be counting income from different sources than those used by program caseworkers.

Family Unit Differences

Differences in how a WIC caseworker defines the family unit for eligibility and how the family unit is defined in the CPS may also explain discrepancies in estimates of WIC eligibles. Income eligibility for WIC is based on family poverty level, which will vary depending on which members of the household are included in the family unit. Past research on simulating eligibility in the Food Stamp Program (FSP) demonstrates that splitting households into smaller units generally makes eligibility for the FSP more likely.

The CPS definition of family comprises the primary family *and* all related subfamilies. This means, for instance, that a teenage mother residing with her adult parents will be counted together with her parents when determining income for WIC eligibility. Income of other related persons, such as adult siblings and elderly grandparents, would also be included in the family for calculating WIC eligibility. This methodology is in accordance with the WIC program's definition of family, which is those who live together and share resources, and which is usually interpreted to mean families plus related subfamilies (but may vary by locality). In some instances, though, it is likely that caseworkers may not consider the resources of related subfamilies when determining eligibility. Such instances are not taken into account in the estimate of WIC eligibles.

¹³(...continued)

were Rhode Island, New Jersey, Florida, Mississippi, North Carolina, Michigan, Louisiana, Colorado, Missouri, Montana, Arizona, California, and Oregon.

III. OVERVIEW OF MEDICAID ADMINISTRATIVE DATA

There is no comprehensive national Medicaid data source. Instead, program statistics are available through data submitted to HCFA by states. This chapter describes two principal types of Medicaid administrative data that are available to examine the issue of Medicaid's role in WIC eligibility--HCFA 2082 data and the SMRF data. These data are used for the exploratory analysis of the effect of Medicaid on WIC eligibility in Chapter IV. An overview of the HCFA 2082 and SMRF data is presented in Table III.1.

THE 2082

The 2082 data (named after the HCFA form on which the data are submitted) is a hard-copy report showing yearly aggregate Medicaid enrollment and claims by state and eligibility group.¹ Originally, all states submitted hard copies of the 2082; now, more than 30 states submit their 2082 data electronically through the voluntary Medicaid Statistical Information System (MSIS) project. The 2082 data are timely (the data for a given year are usually available within 12 months after the end of the year), are easily obtainable, and include all 50 states and the District of Columbia. HCFA does only limited quality checks on the data--quality assurance for the 2082 is ultimately the responsibility of the states.

The 2082 is actually a series of tables for each state that report aggregate data on Medicaid enrollees, recipients, service utilization and payments for the federal fiscal year.² The tables show such information as the distribution of enrollees and recipients by age, sex, and race. A list of the tables that make up the 2082 is provided in

¹The official name of the 2082 is the *Statistical Report on Medicaid Care: Eligibility, Recipients, Payments and Sources*.

²When using these tables, it is important to understand the distinction between the terms "eligibles" and "recipients" on the 2082. Eligibles are all those who were ever enrolled in Medicaid during the year (commonly referred to as "enrollees"), regardless of whether they used a service. Recipients, in contrast, are the subset of eligibles who had services *paid for* during the year.

TABLE III.1

MEDICAID ADMINISTRATIVE DATA SOURCES

Data	Format	Record Type	States Included	Years Available	Timeliness	Other Information
2082	Hard copy	Aggregate at state, regional, and national level	All 50 states and DC	All years	Available within 1 year	Based on federal fiscal year.
SMRF	Electronic	Person-based	Currently 27 states (varies by year — see Table III.3 for listing)	1992 to 1995 (depending on state); earlier years of data for some states through Tape-to-Tape project	Available in 2-3 years	Based on calendar year. Identifies pregnant women and contains a set of uniform eligibility codes. More data quality checks than MSIS and documents states' data problems.

Appendix A. An example of 2082 data can be found in Table III.2, which shows the distribution of Medicaid enrollees by state and age.³

The 2082 contains no information on pregnancy status, family income, or assets. In addition, the 2082 provides only limited information on how enrollees qualified for Medicaid. HCFA uses only two data elements to classify the eligibility status of enrollees--maintenance assistance status (MAS) and basis of eligibility (BOE). The MAS refers to whether the enrollee qualified for Medicaid under the AFDC or Supplemental Security Income (SSI) cash programs, a medically needy program, or some other route; the BOE refers to whether the enrollee qualified as (1) aged, (2) blind, (3) disabled, (4) a child, or (5) an adult caretaker or pregnant woman.

The specific MAS categories are as follows:

1. Categorically needy, receiving cash assistance
2. Categorically needy, not receiving cash assistance
3. Medically needy
4. Other coverage groups prior to 1988
5. Other coverage groups 1988 and later

A major drawback to the current MAS categories is that they are too broad for analyzing certain Medicaid populations. For instance, the poverty-related expansion groups, which are of interest to this WIC study, cannot be uniquely identified using MAS codes because these groups can fall under MAS categories 4 and 5. However, HCFA is changing the MAS classification, beginning with the fiscal year 1997 2082 data, so that enrollees in the poverty-related expansion groups will be identifiable in future years.

USING 2082 DATA TO IMPROVE ESTIMATES OF WIC ELIGIBLES

Estimates of WIC eligibles may be improved by using the Medicaid 2082 data to determine the number of infants enrolled in Medicaid in each state for the following reasons. As stated earlier, because of adjunct eligibility, all Medicaid enrollees are automatically income-eligible for WIC. Therefore, the number of Medicaid enrollees in each

³Although this is not actually a 2082 table, it was created by HCFA from 2082 data.

TABLE B-2
STATE SUMMARY TABLE OF MEDICAD ENROLLEES BY AGE
FISCAL YEAR 1995

REGION AND STATE	TOTAL ENROLLEES	AGES										AGES \$5 AND OVER	UNKNOWN
		UNDER 1	1 TO 5	6 TO 14	15 TO 20	FROM AGES 21 TO 44	45 TO 64	65 TO 74	FROM AGES 75 TO 84	85 AND OVER			
ALL JURISDICTIONS	41,387,766	2,278,492	8,275,137	8,827,453	4,013,574	10,155,691	3,987,642	1,939,940	1,575,406	1,066,148	97,333		
BOSTON: REGION I	1,757,010	91,678	331,559	350,633	149,663	446,458	149,119	86,236	83,940	67,260	27		
CONNECTICUT	392,289	20,963	68,776	82,101	28,895	99,881	28,965	17,605	18,365	16,990	0		
MAINE	196,362	5,678	28,851	41,709	20,825	54,151	18,969	10,168	9,100	7,268	17		
MASSACHUSETTS	606,429	49,669	168,857	144,291	56,512	201,237	74,402	42,691	40,424	28,536	0		
NEW HAMPSHIRE	105,014	4,024	20,947	25,779	9,402	26,003	6,849	3,689	4,133	4,476	10		
RHODE ISLAND	151,870	7,850	26,243	30,247	12,841	38,699	12,302	7,664	7,959	7,315	0		
VERMONT	105,096	3,494	18,391	26,599	11,490	26,487	7,654	4,439	3,957	2,875	0		
NEW YORK: REGION II	4,225,095	238,458	755,899	819,347	432,153	1,010,667	325,818	239,907	185,353	134,869	92,644		
NEW YORK	879,226	32,478	172,266	179,923	85,491	223,432	61,209	49,064	42,396	33,202	11		
NEW YORK	3,227,995	205,960	583,773	639,424	336,662	787,235	364,615	190,843	142,957	101,667	74,259		
Puerto Rico	18,374	0	0	0	0	0	0	0	0	0	0		
Virgin Islands	3,760,595	196,372	712,234	816,803	379,725	940,501	310,618	172,453	134,983	96,789	18,374		
PHILADELPHIA: REGION III	86,332	3,794	20,974	22,298	9,406	19,298	4,481	2,940	2,379	1,868	0		
DELAWARE	116,570	26	23,773	26,976	11,466	31,793	10,813	5,540	3,908	2,555	0		
DISTRICT OF COLUMBIA	608,929	48,924	170,237	127,029	53,399	153,698	45,634	26,207	20,319	13,929	0		
MARYLAND	1,773,621	60,863	309,783	379,522	191,604	478,615	161,532	71,792	63,314	50,892	1		
PENNSYLVANIA	725,345	49,737	154,772	165,715	88,038	143,287	49,172	42,911	32,659	19,254	0		
WEST VIRGINIA	449,898	33,028	83,003	95,263	46,098	113,810	38,866	17,065	12,466	9,425	14		
ATLANTA: REGION IV	8,410,344	483,704	1,629,600	1,723,283	791,566	1,988,006	725,736	449,770	377,650	299,682	1,347		
ALABAMA	621,625	142,944	124,155	124,155	50,571	116,672	51,271	34,092	35,377	25,239	1,053		
FLORIDA	2,159,321	146,203	450,714	481,890	190,211	464,987	136,961	117,879	90,216	60,250	0		
GEORGIA	1,234,556	59,689	268,538	288,723	131,084	289,166	79,790	54,484	50,646	32,024	2		
KENTUCKY	697,804	34,867	139,689	139,114	61,116	173,005	70,978	37,371	30,364	19,877	13		
MISSISSIPPI	564,341	39,981	118,201	118,201	52,325	110,020	45,997	34,494	32,009	21,541	127		
NORTH CAROLINA	1,124,946	79,137	220,778	219,282	106,097	253,171	90,155	63,167	59,760	34,039	0		
SOUTH CAROLINA	340,682	43,828	107,046	107,046	47,399	113,043	43,468	32,112	28,217	16,115	152		
TENNESSEE	1,463,069	172,689	326,689	326,689	147,851	467,942	206,826	147,851	151,061	90,617	0		
CHICAGO: REGION V	6,770,948	370,948	1,401,025	1,483,566	647,412	1,757,811	647,412	468,420	468,420	314,424	41		
ILLINOIS	1,923,298	120,165	418,110	412,422	174,007	499,891	197,906	69,828	52,545	38,384	0		
INDIANA	640,509	32,506	151,360	141,091	55,004	149,152	42,119	24,733	22,897	21,009	8		
MICHIGAN	1,416,005	58,022	287,346	321,416	142,299	389,294	100,103	47,542	38,350	30,991	12		
MINNESOTA	543,551	30,413	103,255	122,032	56,708	138,830	30,776	17,853	21,165	22,219	0		
OHIO	1,607,557	100,781	311,327	345,615	161,542	420,622	163,601	58,235	51,193	42,148	0		
WISCONSIN	640,028	30,802	129,827	140,310	57,802	159,392	41,215	28,274	24,457	27,908	21		
DALLAS: REGION VI	4,851,777	401,946	1,106,844	1,074,344	420,635	979,655	293,313	340,347	196,847	135,244	42		
ARKANSAS	371,047	15,837	72,629	71,128	33,981	73,046	31,878	24,637	25,348	18,328	5		
LOUISIANA	801,966	61,969	161,776	174,619	75,310	167,121	61,298	40,847	35,756	23,171	29		
NEW MEXICO	331,808	13,932	41,886	45,668	33,079	73,438	18,024	11,900	8,502	5,389	0		
OKLAHOMA	345,572	86,391	95,616	46,440	102,045	31,330	18,024	22,080	21,578	16,498	8		
TEXAS	2,888,398	273,616	703,712	646,313	231,765	1,020,005	323,783	140,883	105,663	71,658	0		
KANSAS CITY: REGION VII	1,582,096	170,851	324,334	339,851	161,053	373,103	103,208	63,290	64,736	61,290	187		
IOWA	331,714	13,983	49,445	64,114	34,248	67,174	17,783	12,160	14,079	14,694	172		
KANSAS	13,005	59,445	64,114	27,817	91,208	67,174	17,783	10,348	10,479	11,038	13		
MISSOURI	790,362	31,861	165,993	185,977	80,656	177,022	53,011	34,145	32,985	27,780	2		
NEBRASKA	178,624	11,202	37,094	42,363	18,112	37,699	10,589	6,640	7,235	7,738	0		
DENVER: REGION VIII	887,129	51,340	200,877	194,393	81,274	212,486	53,714	32,065	30,433	27,818	2,764		
COLORADO	368,545	19,118	83,463	79,645	32,453	89,469	24,134	16,179	13,112	10,990	0		
MONTANA	104,064	4,557	21,759	24,280	9,274	26,808	7,382	3,103	3,654	3,176	0		
NORTH DAKOTA	69,108	2,675	12,545	6,602	16,451	4,679	3,007	1,698	1,465	4,402	3		
SOUTH DAKOTA	83,239	6,669	18,946	19,094	6,777	16,098	5,047	4,392	3,629	3,982	0		
UTAH	204,619	15,105	49,771	44,184	21,533	50,493	9,713	4,392	3,631	3,066	2,761		
WYOMING	57,554	3,416	14,293	12,525	4,833	13,167	2,859	1,920	2,262	2,259	0		
SAN FRANCISCO: REGION IX	7,595,118	314,806	1,542,376	1,687,332	798,235	1,957,108	514,940	385,172	246,849	128,378	32		
ARIZONA	679,919	62,198	169,944	171,235	57,380	148,265	11,321	17,885	11,600	8,865	0		
CALIFORNIA	6,774,415	244,220	1,336,679	1,485,352	729,853	1,775,628	494,734	361,226	229,774	116,919	18		
HAWAII	0	0	0	0	0	0	0	0	0	0	0		
NEVADA	140,784	8,388	35,725	10,992	33,217	4,475	6,063	4,475	2,602	2,602	14		
SEATTLE: REGION X	1,547,654	56,468	271,273	316,976	161,898	489,896	103,866	48,031	40,169	31,867	234		
ALASKA	85,313	6,130	17,853	15,783	7,971	23,712	4,608	3,041	1,659	576	0		
IDAHO	130,942	4,400	35,343	26,972	11,386	7,153	3,842	3,842	3,132	3,132	0		
OREGON	483,222	7,334	49,953	75,618	52,446	200,583	61,631	15,545	13,701	11,220	221		
WASHINGTON	846,177	34,604	168,140	197,603	90,095	284,855	37,444	23,503	20,981	16,939	13		

OCTOBER 4, 1996

SOURCE: HCFA, IDMS, OSM, DIVISION OF PROGRAM SYSTEMS.

state is a lower-bound estimate of the number of WIC eligibles. Moreover, the number of Medicaid enrollees may be a good indicator of WIC eligibility in the regression equations used for the shrinkage estimates of WIC eligibles described in the previous chapter.

Of the three WIC eligibility groups, HCFA 2082 data can be used only to obtain counts of infants enrolled in Medicaid because women and children age 1 to 4 are not specifically identified (the closest child age cohort is age 1 to 5). This is not a serious limitation, however, because infant data are used to calculate estimates of eligible women and because the discrepancies in estimates are greatest among infants. However, there are some issues with 2082 data on infants that, taken together, suggest that even the infant data are not completely comparable to WIC administrative data:

- The HCFA 2082 data and WIC administrative data count infants differently, yielding numbers that are not fully comparable. The HCFA 2082 data show the number of infants born during the federal fiscal year who were ever enrolled during the year, whereas estimates of WIC eligibles approximate those eligible in an average month.
- Some states count infants differently from other states in the 2082 data. For states that do not participate in HCFA's MSIS system, HCFA 2082 instructions indicate that enrollees should be classified by their age as of March 31--the midpoint of the fiscal year. There are no instructions, though, for classifying infants born between March 31 and the end of the fiscal year. If they are also classified as infants, which is the most likely scenario, then the 2082 is in effect counting as infants all those born during a 1½-year period--that is, those under age 1 as of March 31 and those born during the 6-month period from March 31 to September 30. In contrast, MSIS states, for which the 2082 tables are created by HCFA, count as infants all those born during the year who were ever enrolled in Medicaid. As a result, the proportion of infants reported in MSIS states should be about one-third lower, on average, than the proportion of infants reported in non-MSIS states.
- Infants may be undercounted in the 2082 data because some states take a few months to process the enrollment of infants following birth. In many states, infants do not appear on

Medicaid files until their second or third month of life.⁴ As a result, infants born during the last few months of the fiscal year who are covered by Medicaid may not be counted as enrolled in the 2082 data for that year. This can occur in both MSIS and non-MSIS states.

- A few states have some obvious problems with their 2082 data related to infants. For example, the District of Columbia reports only 26 infants, and Hawaii does not report the ages of any of its enrollees.

These problems make it difficult to form valid comparisons of the number of WIC infants and Medicaid infants using HCFA 2082 data for non-MSIS states. It is difficult to tell from the 2082 and WIC administrative data whether state-to-state differences represent true differences in the states, or simply differences in the way that states report their data.

STATE MEDICAID RESEARCH FILES (SMRF)

SMRF are person-based Medicaid enrollment and claims files that are designed for research. The files are created from the MSIS files that states submit in lieu of a 2082 report, but they contain some additional variables, go through additional quality checks, and are based on the calendar year rather than the fiscal year.

The files include a person-summary file and four types of claims files. The person-summary file, which is the most likely to be used for WIC eligibility analyses, contains summary information on eligibility, utilization, and expenditures for each person ever enrolled during the calendar year. The person-summary file also contains basic demographic data. Of particular interest for WIC research, the demographic data identify pregnant women (based on inpatient claims for delivery) and contain a set of uniform eligibility codes that classify Medicaid enrollees into the key eligibility groups of interest for most types of research. However, like the 2082 data, SMRF data contain no information on family income or assets. SMRF files are checked for quality, and a detailed set of tables indicating states' data problems is produced. The data quality documentation allows researchers to tell whether a file can be used for a particular research purpose.

⁴Prior to enrollment, any Medicaid charges for an infant can be made to the mother's Medicaid account. Thus, infants are covered under Medicaid from birth but are not always shown as Medicaid enrollees from the time of birth.

The main strengths of SMRF data are that they present detailed person-level data (including pregnancy status and uniform eligibility codes) that have been checked for quality. Although the SMRF files are the best available source of data on Medicaid enrollment and utilization, they do have some limitations. The first limitation is that only about 30 states have SMRF files, and only for the past few years for most states.^{5 6} Table III.3 shows the states and years for which SMRF files are available. The second limitation is that the quality of SMRF files is ultimately dependent on the quality of states' MSIS files. These files, although improving each year, have had some problems in the past. Finally, the third limitation is that SMRF files are not as timely as 2082 data--there is currently a 2- to 3-year lag in the release of SMRF files.

USING SMRF FILES TO IMPROVE ESTIMATES OF WIC ELIGIBLES

Like the 2082 data, the SMRF person-summary files can be used to improve estimates of WIC eligibles. The SMRF data, however, are generally better suited to this task than the 2082 because the SMRF data can be used to calculate the average monthly Medicaid enrollment of infants as well as children ages 1 to 4 in SMRF states. Average monthly numbers are more comparable to WIC administrative data and estimates of WIC eligibles than the annual ever enrolled numbers shown in the 2082 data. SMRF data also include a delivery indicator that identifies pregnant women on the basis of claims data. However, there are concerns about the quality of the data identifying pregnant women in some states. As mentioned earlier, though, analyses in this report will focus on infants only.

The SMRF data can be used to adjust for several problems with the 2082 data. The monthly enrollment data available through SMRF allow the determination of which states have delays in processing the initial enrollment of infants. This is done by comparing the birth month with the month of initial Medicaid enrollment and then, when appropriate, using this information to make adjustments to the calculation of average monthly enrollment figures. In addition, based on the relationship between those ever enrolled and average monthly enrollment in states with SMRF files, an adjustment factor can be

⁵SMRF files should eventually be available for all states because the Balanced Budget Act of 1997 mandates that all states participate in MSIS by fiscal year 1999.

⁶SMRF-like files created for an earlier project known as Tape-to-Tape are available for 1980 to 1991 for California, Georgia, Michigan, and Tennessee.

TABLE III.3

MSIS PARTICIPATION AND SMRF FILE STATUS, BY STATE

State	MSIS Status	Start-Up Year	SMRF Availability*
Alabama	Yes	1986	1987, 1993-1995
Alaska	Testing	1989	-
Arizona	Testing	-	-
Arkansas	Yes	1986	1992-1995
California	Yes	1987	1980-1995
Colorado	Yes	1994	1994-1995
Connecticut	No	-	-
Delaware	Yes	1986	1992-1995
District of Columbia	No	-	-
Florida	Testing	1994	1994-1995
Georgia	Yes	1988	1980-1992, 1994-1995
Hawaii	Yes	1987	1992-1993
Idaho	Testing	1995	1995
Illinois	No	-	-
Indiana	Yes	1988	1992-1995
Iowa	Yes	1986	1992-1994
Kansas	Yes	1986	1987, 1993-1995
Kentucky	Yes	1986	1987, 1992-1995
Louisiana	No	-	-
Maine	Yes	1987	1992-1995
Maryland	No	-	-
Massachusetts	No	-	-
Michigan	Yes	1995	1980-1995
Minnesota	Yes	1986	1994-1995
Mississippi	Yes	1992	1994-1995
Missouri	Yes	1986	1992-1995
Montana	Yes	1986	1992-1995
Nebraska	No	-	-
Nevada	Yes	1991	-
New Hampshire	Yes	1987	1994-1995
New Jersey	Yes	1986	1993-1995
New Mexico	Testing	-	-
New York	No	-	-
North Carolina	No	-	-
North Dakota	Yes	1986	1992-1995
Ohio	No	-	-

TABLE III.3 (continued)

State	MSIS Status	Start-Up Year	SMRF Availability ^a
Oklahoma	No	-	-
Oregon	No	-	-
Pennsylvania	Yes	1990	1992-1995
Rhode Island	Testing	-	1995
South Carolina	No	-	-
South Dakota	No	-	-
Tennessee	Testing	-	1980-1993
Texas	No	-	-
Utah	Yes	1986	1987, 1992-1995
Vermont	Yes	1986	1992, 1994-1995
Virginia	No	-	-
Washington	Yes	1987	1987, 1992-1995
West Virginia	No	-	-
Wisconsin	Yes	1988	1992-1995
Wyoming	Yes	1990	1992, 1994-1995
Total States	34	-	30

^a SMRF files for before 1992 were created by the Tape-to-Tape project.

derived to estimate the average monthly enrollment for infants from reported enrollment in the 2082.

Without linking records at the person-level, SMRF and WIC administrative data enrollment numbers will not identify the degree of overlap between the programs. However, these data can be used to show whether and by how much the average monthly number of Medicaid enrollees exceeds the average monthly number of WIC eligibles. In short, because of adjunct eligibility, the number of Medicaid enrollees can be viewed as a lower-bound estimate of the number of WIC eligibles in the state.

IV. AN EXPLORATORY COMPARISON OF MEDICAID ENROLLEES AND ESTIMATES OF WIC ELIGIBLES

A key objective of this study was to examine whether Medicaid administrative data might be useful in improving CPS-based estimates of WIC eligibles. In particular, if the number of Medicaid enrollees in a state typically exceeds the estimated number of WIC eligibles, then Medicaid enrollee counts could be useful in adjusting the estimate of WIC eligibles. In this chapter, 1995 SMRF files for six states are used to compare the number of infants enrolled in Medicaid to estimates of WIC eligibles to explore whether Medicaid data do indeed provide a higher estimate of WIC eligible infants than current CPS estimates. SMRF files were chosen for this analysis instead of HCFA 2082 data because the counts of Medicaid enrollees in the 2082, which show those ever enrolled during the year, are not comparable to the CPS-based estimates of WIC eligibles, which show those eligible in an average month. On the basis of the SMRF analysis, though, steps were developed to adjust HCFA 2082 data, which are more timely than SMRF data and available for all states, to average monthly estimates that are comparable to estimates of WIC eligibles. Medicaid enrollee counts from adjusted 2082 data for all states are then compared to estimates of WIC eligibles to draw conclusions about the overall usefulness of Medicaid data for WIC.

This analysis focuses on infants because discrepancies between estimates of WIC eligibles and participants seem to affect infants disproportionately. However, this analysis will also be applicable to women because estimates of women eligible for WIC are derived from the number of eligible infants.

SMRF STATE SELECTION CRITERIA

Project cost and time constraints permitted analysis of 1995 SMRF data for 6 of the approximately 27 states with 1995 SMRF files available. Data for 1995 were used because they are the most current data available. States were selected for this analysis so that a wide range of Medicaid eligibility policies and demographic characteristics are represented.

The following criteria were used:

- Size of the infant population enrolled in Medicaid
- Level of state's poverty-related income threshold for infants relative to the WIC poverty level threshold of 185 percent. (Note that states often employ the same poverty level threshold for pregnant/postpartum women and infants, but a different, usually lower, threshold for children.)
- Extent of Medicaid coverage for pregnant women and children (in particular, the presence of a Medicaid medically needy program)
- The preliminary ratio of infants ever enrolled in Medicaid according to unadjusted 2082 data to the CPS estimates of infants eligible for WIC¹
- Geographic diversity
- Substantial urban or rural populations
- Substantial undocumented noncitizen population²

Beginning with size, preference was given to states with at least 15,000 infants enrolled in Medicaid according to unadjusted 2082 data. States were selected to reflect a range of Medicaid income thresholds for infants (above, at the same level, and below the WIC 185 percent threshold). At least one state had restrictive coverage policies (no medically needy program). The selected states include both those with more and fewer Medicaid infants than WIC eligible infants according to unadjusted 2082 data. The selected states reflect geographic diversity (the South, the Northeast, the Midwest and the West) and have both urban and rural populations. States with large undocumented noncitizen populations were also included.

¹Only a preliminary estimate of this ratio was available initially because Medicaid 2082 administrative data for infants and WIC estimates are not fully comparable without adjustments.

²Undocumented noncitizens are generally eligible only for Medicaid emergency services.

Table IV.1 includes information related to these criteria for the states with a 1995 SMRF file (sorted by the size of the Medicaid infant population in each state according to unadjusted 2082 data). This information formed the basis for selecting six states for this study: California, Florida, Michigan, Alabama, New Jersey, and Arkansas. The attributes of the selected states are described below and in Table IV.2:

- **California.** California has, by far, the most infants enrolled in Medicaid nationwide. In addition, California has relatively generous Medicaid eligibility policies (the poverty level threshold for infants is 200 percent and the state has a medically needy program), and California's population is mostly urban. California also has a very large noncitizen population. In fact, in 1991, 45 percent of the infants whose births were covered by Medicaid had a noncitizen mother (Ellwood and Kenney, 1995).
- **Florida.** Like California, Florida has many infants enrolled in Medicaid, a primarily urban population, many noncitizens, and relatively generous Medicaid eligibility policies (the poverty level threshold for infants is 185 percent and the state has a medically needy program). Florida had the highest ratio of Medicaid infants to WIC-eligible infants (156 percent), using the unadjusted 2082 data..
- **Michigan.** Michigan has eligibility policies similar to those of California and Florida, but it has a mix of urban and rural populations and is located in the Midwest.
- **New Jersey.** New Jersey has essentially the same eligibility policies as Michigan, but it is located in the Northeast and has a slightly higher concentration of urban residents. New Jersey had a higher ratio of Medicaid infants to WIC-eligible infants than Michigan (134 percent versus 103 percent, respectively), based on unadjusted 2082 data.
- **Alabama.** Alabama is a key state to examine because it has a large Medicaid infant population, but fairly restrictive Medicaid eligibility policies (the poverty level threshold for infants is 133 percent and the state does not have a medically needy program). Alabama also has a large rural population--40 percent of the population resides in rural areas.

TABLE IV.1

MEDICAID ELIGIBILITY CHARACTERISTICS OF STATES WITH A 1995 SMRF FILE,
SORTED BY SIZE OF MEDICAID INFANT POPULATION

State	Number of WIC-Eligible Infants, 1995	Infants Ever Enrolled in Medicaid in 1995 According to Unadjusted HCFA 2082 Data		Expanded Medicaid Coverage of Infants as of 1996 ^a		Medically Needy Program ^a	Urban/Rural Ratio ^b
		Number	% of WIC-Eligible Infants	Level (% of poverty)	> WIC Elig. Standard		
California	269,401	244,220	91	200	✓	✓	93/7
Florida	93,667	146,203	156	185		✓	85/15
Pennsylvania	56,175	60,863	108	185		✓	69/31
Georgia	49,047	59,689	122	185		✓	63/37
Michigan	56,301	58,022	103	185		✓	71/29
Alabama	29,640	36,086	122	133			60/40
Kentucky	24,853	34,867	140	185		✓	52/48
Washington	28,227	34,604	123	200	✓	✓	76/24
Missouri	31,110	32,861	106	185			69/31
Indiana	30,996	32,506	105	150			65/35
New Jersey	24,158	32,478	134	185		✓	89/11
Wisconsin	23,279	30,802	132	185		✓	66/34
Minnesota	20,211	30,413	150	275	✓	✓	70/30
Mississippi	23,354	29,981	128	185			47/53
Colorado	18,576	19,118	103	133			82/18
Arkansas	18,189	15,837	87	133		✓	54/46
Utah	15,351	15,105	98	133		✓	87/13
Kansas	15,377	13,005	85	150		✓	69/31
Idaho	8,386	8,400	100	133			57/43
Rhode Island	4,598	7,850	171	250	✓	✓	86/14
Maine	4,798	5,678	118	185		✓	45/55
Montana	5,393	4,357	81	133		✓	53/47
New Hamp.	3,202	4,024	126	185		✓	51/49
Delaware	3,517	3,794	108	185			73/27
Vermont	2,760	3,494	127	225	✓	✓	32/68
Wyoming	3,063	3,416	112	133			65/45
N. Dakota	3,485	2,675	77	133		✓	53/47

^a "MCH Update: State Medicaid Coverage of Pregnant Women and Children — Summer 1996." National Governors' Association, September 1996.

^b Based on 1990 Census.

NOTES: Of the 32 states with SMRF files in 1995, only 27 are listed above. The remaining 5 states had data quality problems that made them unsuitable for analysis.

TABLE IV.2

CHARACTERISTICS OF STATES SELECTED FOR ANALYSIS

State	Infants Ever Enrolled in Medicaid in FY 1995 According to Unadjusted HCFA 2082 Data		Poverty-Level Cutoff	Medically Needy Program	Region	Other Attributes
	Number	% of WIC-Eligible Infants				
California	244,220	91	200	✓	West	Mostly urban, many noncitizens
Florida	146,203	156	185	✓	Southeast	Mostly urban, many noncitizens
Michigan	58,022	103	185	✓	Midwest	Mix of urban and rural populations
Alabama	36,086	122	133		South	Mix of urban and rural populations
New Jersey	32,478	134	185	✓	Northeast	Mostly urban state
Arkansas	15,837	87	133	✓	South	Mix of urban and rural populations

- *Arkansas.* Arkansas has demographic characteristics similar to those of Alabama but somewhat different Medicaid eligibility policies. Like Alabama, the poverty level threshold for infants is 133 percent, but Arkansas has a medically needy program. Arkansas had the lowest ratio of Medicaid infants to WIC-eligible infants (87 percent), using unadjusted 2082 data.

**NUMBER OF
INFANTS
ENROLLED IN
MEDICAID
ACCORDING TO
SMRF DATA**

The average monthly number of infants enrolled in Medicaid in each of the six study states according to 1995 SMRF data is presented in Table IV.3. The number of infants enrolled in each state was adjusted upward somewhat because detailed analyses of SMRF data showed that states have delays in the processing of Medicaid enrollment following birth.³ After adjustments, the number of infant Medicaid enrollees exceeded CPS estimates of WIC eligibles in three of the six states examined: Alabama, Michigan, and New Jersey. In these states, the number of Medicaid enrollees exceeded the CPS estimate of WIC eligibles by 13 percent, 2 percent, and 49 percent, respectively. (In Alabama, though, the number of Medicaid infants was below the average monthly number of WIC participants.) In the other three states, the number of Medicaid enrollees was lower than the CPS estimates of WIC-eligible infants--California by 13 percent, Arkansas by 12 percent, and Florida by 2 percent.⁴

To some extent, these results were expected because the six states were selected to include both states with higher and lower numbers of Medicaid infants (according to unadjusted 2082 data) relative to WIC-eligible infants. Nevertheless, these results demonstrate

³As mentioned earlier, prior to enrollment, any Medicaid charges for an infant are made to the mother's Medicaid account. Thus, infants are covered under Medicaid from birth, but they are not always shown as Medicaid enrollees from the time of birth. The adjustment factor for each state is shown in a footnote to Table IV.3; the derivation of the adjustment factors is described in Appendix B.

⁴It should be noted that the 1995 SMRF data for Florida indicate a much lower number of Medicaid infants ever enrolled than the state's unadjusted 2082 data for 1995. In 1995, Florida was not yet fully approved for the MSIS system. As a result, the state submitted its own 2082 report in 1995 using an 18 month period for counting infants, similar to the approach used by other non-MSIS states. As expected, SMRF data showed about 30 percent fewer infants ever enrolled in 1995 than the number of infants ever enrolled according to the 2082 data.

TABLE IV.3

DISTRIBUTION BY STATE OF INFANTS PARTICIPATING IN WIC,
ESTIMATED TO BE ELIGIBLE FOR WIC, AND ENROLLED
IN MEDICAID
(Average Monthly Number--1995)

	WIC Participants	WIC Eligibles	Medicaid Enrollees (Adjusted)	Medicaid Enrollees as Percent of WIC Eligibles
Alabama	35,439	29,640	33,609	113
Arkansas	23,937	18,189	16,041	88
California	266,928	269,401	233,040	87
Florida	88,993	93,667	91,460	98
Michigan	51,526	56,301	57,506	102
New Jersey	34,989	24,158	36,080	149

SOURCES: WIC data are from FNS estimates using CPS data; Medicaid data are from 1995 SMRF files.

NOTE: States with Medicaid enrollees in boldface exceed CPS-based estimates of WIC eligibles. Average monthly enrollment for infants based on January through September 1995. The following adjustment factors were applied to counts of Medicaid enrollees to account for the delay in program enrollment of newborns:

Alabama: 2.1%
Arkansas: 5.6%
California: 5.6%
Florida: 1.9%
Michigan: 1.4%
New Jersey: 2.1%

that in some states, the number of Medicaid infants for a given year is greater than the CPS-based estimates of WIC eligible infants. However, this pattern does not hold true in all states, suggesting that Medicaid eligibility policies do not explain all the discrepancies between estimates of WIC eligibles and actual participation.⁵

Although the SMRF files are a rich source of information on Medicaid enrollees, it would be preferable to use data that are more timely and are available for all 50 states. In the next section, SMRF data for the six study states are used to develop a set of adjustments to 2082 data that make the 2082 data more comparable to the estimates of WIC eligibles.

**THE NUMBER
OF INFANTS
ENROLLED IN
MEDICAID USING
ADJUSTED 2082
DATA**

Medicaid 2082 data count infants using a methodology that is different from the way infants are counted in WIC administrative data and estimates of WIC eligibles. WIC administrative data and estimates of WIC eligibles count the average monthly number of infants, whereas the 2082 data count either the number of infants born during a 1-year period in approved MSIS states or, in non-MSIS states, the number of infants born during an 18-month period who were ever enrolled in Medicaid. Findings from analysis of the SMRF data, though, make it possible to adjust the 2082 data for all states to obtain an estimate of the average monthly number of infants enrolled in Medicaid in each month. This adjustment takes two or three steps, depending on whether the state being analyzed is an MSIS or a non-MSIS state. The adjustments involve the following steps:

- (1) Adjust downward the counts of infants in non-MSIS states to be equivalent to the counts in MSIS states.
- (2) Adjust downward the number of infants in all states so that the data represent average monthly enrollment.

⁵This same analysis on children age 1 through 4 suggests that using Medicaid administrative data for children would add little to estimates of WIC eligibles. For all the states except New Jersey, the number of CPS eligibles exceeds the number of Medicaid enrollees by 26 to 89 percent. In New Jersey, however, the number of Medicaid enrollees is about 10 percent higher than the number of CPS eligibles and about 50 percent higher than the number of WIC participants.

- (3) Adjust upward the number of infants in each state to account for delays in reported enrollment of newborns.

The results of these steps are shown for all states in Table IV.4. The first step is to adjust *downward* the 2082 counts of infants in non-MSIS states by one-third. This is done because non-MSIS states count infants ever enrolled in Medicaid who were born during an 18-month period. This problem does not occur with MSIS states, which count only infants born during a 1-year period who were ever enrolled in Medicaid. The effect of the step 1 adjustment on the HCFA 2082 data is shown in the second column of Table IV.4 (the first column shows the number of infants in each state as reported in the unadjusted 2082).⁶

The second step is to adjust *downward* the number of infants in all states so that the data represent the average monthly number of infants enrolled during the year, as in the WIC eligibles estimates, rather than those ever eligible during the year. The adjustment is downward because the number of infants enrolled in an average month is somewhat lower than the number born during the year who were ever enrolled in Medicaid. (There are delays in the initial processing of enrollment of infants, and some infants do not remain enrolled for the entire year.) As shown in Table IV.5, according to SMRF data the average monthly enrollment of infants is from 5 to 12 percent less than the annual enrollment in the six states examined for this study.⁷ The median difference between the average monthly number and the

⁶For the purposes of this report, non-MSIS states are defined as those that did not have their 2082 reports created by HCFA using the MSIS data. In 1995, seven states had MSIS systems that were not yet approved by HCFA and thus were required to submit a hard-copy 2082 report. As a result, the number of infants in these states need to be adjusted in step 1 to be equivalent to approved MSIS states.

⁷Average monthly enrollment was calculated by tabulating the number of persons under age 1 in each month of the year, and then averaging the monthly estimates over all 12 months. The number of infants ever enrolled was calculated by tabulating the number of persons under age 1 in the last month of the year who were ever enrolled during the year. Overall, the difference between average monthly enrollment and the number ever enrolled for infants is generally smaller than for older persons because infants are usually certified for a full year. For children ages 1 through 4, average monthly enrollment is from 19 to 34 percent less than the number ever enrolled.

TABLE IV.4

1995 HCFA 2082 DATA ADJUSTMENTS FOR INFANTS TO OBTAIN COUNTS COMPARABLE TO
WIC ADMINISTRATIVE DATA AND ESTIMATES OF WIC ELIGIBLES

State	Unadjusted HCFA 2082	Non-MSIS States Adjusted Downward 33% for Infant Accounting Differences (Step 1)	All States Adjusted Downward 6.9 % for Average Monthly Estimate (Step 2)	All States Adjusted Upward 2.1% for Delay in Processing of Infants (Step 3)
All States	2,278,492	1,795,750	1,671,843	1,706,952
Alabama *	36,086	36,086	33,596	34,302
Alaska	6,130	4,087	3,805	3,885
Arizona	62,198	41,465	38,604	39,415
Arkansas *	15,837	15,837	14,744	15,054
California *	244,220	244,220	227,369	232,144
Colorado *	19,118	19,118	17,799	18,173
Connecticut	20,963	13,975	13,011	13,284
Delaware *	3,794	3,794	3,532	3,606
District of Columbia	26	17	16	16
Florida	146,203	97,469	90,743	92,649
Georgia *	59,689	59,689	55,570	56,737
Hawaii	0	0	0	0
Idaho	8,400	5,600	5,214	5,323
Illinois	120,165	80,110	74,582	76,149
Indiana *	32,506	32,506	30,263	30,899
Iowa *	13,983	13,983	13,018	13,292
Kansas *	13,005	13,005	12,108	12,362
Kentucky *	34,867	34,867	32,461	33,143
Louisiana	61,969	41,313	38,462	39,270
Maine *	5,678	5,678	5,286	5,397
Maryland	48,924	32,616	30,365	31,003
Massachusetts	49,669	33,113	30,828	31,475
Michigan *	58,022	58,022	54,018	55,153
Minnesota *	30,413	30,413	28,315	28,909
Mississippi *	29,981	29,981	27,912	28,498
Missouri *	32,861	32,861	30,594	31,236
Montana *	4,357	4,357	4,056	4,142
Nebraska	11,202	7,468	6,953	7,099
Nevada *	8,388	8,388	7,809	7,973
New Hampshire *	4,024	4,024	3,746	3,825
New Jersey *	32,478	32,478	30,237	30,872
New Mexico	13,952	9,301	8,660	8,841
New York	205,960	137,307	127,833	130,517
North Carolina	79,137	52,758	49,118	50,149
North Dakota *	2,675	2,675	2,490	2,543
Ohio	100,781	67,187	62,551	63,865
Oklahoma	36,572	24,381	22,699	23,176
Oregon	7,334	4,889	4,552	4,648
Pennsylvania *	60,863	60,863	56,663	57,853
Rhode Island	7,850	5,233	4,872	4,975
South Carolina	43,828	29,219	27,203	27,774
South Dakota	6,669	4,446	4,139	4,226
Tennessee	53,913	35,942	33,462	34,165
Texas	273,616	182,411	169,824	173,391
Utah *	15,105	15,105	14,063	14,358
Vermont *	3,494	3,494	3,253	3,321
Virginia	49,737	33,158	30,870	31,518
Washington *	34,604	34,604	32,216	32,893
West Virginia	33,028	22,019	20,499	20,930
Wisconsin *	30,802	30,802	28,677	29,279
Wyoming *	3,416	3,416	3,180	3,247

SOURCE: 1995 HCFA 2082 report.

*These are MSIS states whose 2082 report was generated by HCFA. Alaska, Arizona, Florida, Idaho, New Mexico, Rhode Island, and Tennessee also submitted MSIS data to HCFA in 1995. However, these states were still required to submit a hard-copy 2082 report in 1995 because their MSIS systems had not yet been approved by HCFA. As a result, the number of infants in these states need to be adjusted in step 1 to be equivalent to approved MSIS states.

TABLE IV.5

DISTRIBUTION OF INFANTS ENROLLED IN MEDICAID BY STATE:
ANNUAL VERSUS AVERAGE MONTHLY ENROLLMENT

State	Ever Enrolled	Infants	
		Avg. Monthly Enrollment (Unadj.)*	Pct. Diff.
Alabama	37,165	32,930	-11.4
Arkansas	16,050	15,191	-5.4
California	238,260	220,698	-7.4
Florida	102,201	89,741	-12.2
Michigan	60,537	56,727	-6.3
New Jersey	37,326	35,340	-5.3
Total	491,539	450,626	-8.3

SOURCE: 1995 SMRF data.

NOTES: Infant average monthly enrollment based on January through September 1995.

*The number of Medicaid enrollees in this table is somewhat lower than those in Table III.4 because these numbers have not been adjusted to account for the delay in enrollment of newborns.

number ever enrolled in these states was 6.9 percent. Therefore, for the step 2 adjustment to the 2082 data, the number of infants in each state after the step 1 adjustment was reduced by 6.9 percent. The result of this adjustment is shown in the third column of Table IV.4.

The third and most tenuous step is to adjust *upward* the number of infants in each state to account for the fact that Medicaid administrative data underestimate somewhat the number of infants enrolled in Medicaid because of delays in the processing of Medicaid enrollment following birth. These adjustment factors, which are based on the percentage of newborns enrolled in Medicaid after the birth month, varied from 1.4 to 5.6 percent for the six states in this analysis. The wide range of adjustment factors makes it difficult to estimate the amount by which counts of infants in a typical state should be adjusted without first analyzing SMRF data for more states. For this analysis, all states are adjusted upward by 2.1 percent, which is the median adjustment factor of the 6 states examined. The result of this final adjustment (applied to the number of infants according to the 2082 after the step 2 adjustment) is shown in the final column of Table IV.4. In all, after adjusting non-MSIS states for their overcount of infants (step 1), HCFA 2082 data for each state are reduced by a 4.8 percent (6.9 percent adjustment from step 2 minus the 2.1 percent adjustment in step 3) to yield estimates of the average monthly number of infants enrolled in Medicaid.

Table IV.6 shows the number of Medicaid infants enrolled in an average month in 1995 by state based on 2082 data, along with the CPS-based estimates of WIC eligibles and the average monthly number of WIC participants according to WIC administrative data. These 2082 data have been adjusted using the factors derived from the analysis of SMRF data for six states. The number of Medicaid infants exceeds estimates of WIC eligibles in 28 states (shown in bold in Table IV.6). In 19 of the 28 states, Medicaid infant enrollment was greater by at least 10 percent. The difference was at least 20 percent for 9 states (Kentucky, Maryland, Massachusetts, Minnesota, Mississippi, New Jersey, Vermont, West Virginia and Wisconsin). Many of these states have relatively generous Medicaid eligibility policies which might explain why Medicaid enrollment is substantially greater than the estimates of WIC eligibles.

These results suggest that, for a majority of states, Medicaid data can improve estimates of WIC eligibles. In addition, that the number of Medicaid enrollees exceeds estimates of WIC eligibles in so many states suggests that Medicaid eligibility policies may indeed play a part in the discrepancies between estimates of WIC eligibles and actual participation.

TABLE IV.6

DISTRIBUTION BY STATE OF INFANTS ENROLLED IN MEDICAID (ADJUSTED 2082 DATA).
ESTIMATES OF WIC ELIGIBLES, AND INFANTS PARTICIPATING IN WIC

State	Number of Infants Estimated Eligible for WIC, 1995	Medicaid Infants Ever Enrolled in Medicaid in 1995 According to <i>Adjusted 2082 Data</i>		WIC Participants, 1995
		Number	% of WIC- Eligible Infants	
All States	1,668,766	1,706,952	102	1,759,919
Alabama *	29,640	34,302	116	35,439
Alaska	4,589	3,885	85	4,516
Arizona	36,380	39,415	108	34,013
Arkansas *	18,189	15,054	83	23,937
California *	269,401	232,144	86	266,928
Colorado *	18,576	18,173	98	15,362
Connecticut	11,693	13,284	114	13,026
Delaware *	3,517	3,606	103	4,307
District of Columbia	4,925	16	0	6,397
Florida	93,667	92,649	99	88,993
Georgia *	49,047	56,737	116	57,257
Hawaii	8,051	0	0	6,985
Idaho	8,356	5,323	63	7,071
Illinois	76,924	76,149	99	73,229
Indiana *	30,996	30,899	100	36,662
Iowa *	13,506	13,292	98	13,812
Kansas *	15,377	12,362	80	13,463
Kentucky *	24,853	33,143	133	29,198
Louisiana	35,696	39,270	110	40,460
Maine *	4,798	5,397	112	5,762
Maryland	20,878	31,003	148	25,372
Massachusetts	22,891	31,475	138	27,237
Michigan *	56,301	55,153	98	51,526
Minnesota *	20,211	28,909	143	21,100
Mississippi *	23,354	28,498	122	30,342
Missouri *	31,110	31,236	100	32,516
Montana *	5,393	4,142	77	4,149
Nebraska	8,609	7,099	82	9,012
Nevada *	8,791	7,973	91	8,257
New Hampshire *	3,202	3,825	119	4,641
New Jersey *	24,158	30,872	128	34,989
New Mexico	16,705	8,841	53	12,321
New York	123,146	130,517	106	115,726
North Carolina	45,040	50,149	111	50,147
North Dakota *	3,485	2,543	73	3,630
Ohio	57,640	63,865	111	76,674
Oklahoma	24,185	23,176	96	25,869
Oregon	18,025	4,648	26	15,816
Pennsylvania *	56,175	57,853	103	57,338
Rhode Island	4,598	4,975	108	5,178
South Carolina	26,288	27,774	106	33,096
South Dakota	4,952	4,226	85	5,211
Tennessee	33,502	34,165	102	52,402
Texas	152,705	173,391	114	162,494
Utah *	15,351	14,358	94	12,939
Vermont *	2,760	3,321	120	2,951
Virginia	35,484	31,218	89	32,663
Washington *	28,227	32,893	117	31,384
West Virginia	11,067	20,930	189	12,557
Wisconsin *	23,279	29,279	126	24,155
Wyoming *	3,063	3,247	106	2,414

SOURCES: WIC administrative data, FNS estimates of WIC eligibles, HCFA 2082 report.

*These are MSIS states whose 2082 report was generated by HCFA.

States with Medicaid enrollee numbers in boldface exceed CPS-based estimates of WIC eligibles.

CONCLUSIONS

Both SMRF data and HCFA 2082 data are useful in examining the discrepancies in estimates of WIC eligibles for infants and may be used in the future to improve estimates of infants eligible for WIC. Of these two data sources, though, the 2082 data are more likely to be useful because they are more timely, are available for all states, and do not require additional data programming and analysis. However, the 2082 data have one serious limitation: the data for infants show all those born during the year who were ever enrolled rather than average monthly enrollment, which is the basis for the CPS estimates of WIC eligibles.

This analysis suggests that this limitation of the 2082 data can be overcome if the numbers are adjusted based on analysis of SMRF data. The adjustments entail making counts of infants in non-MSIS and MSIS states comparable and then reducing the reported number of infants to account for the net effect of (1) the difference between ever enrolled and average monthly enrollment and (2) the delay in enrollment of infants.

Based on the SMRF data for six states, MPR has identified some preliminary adjustment factors for the 2082 data. However, if FNS decides to use Medicaid data to enhance its estimates of WIC eligibles, these adjustment factors should be re-estimated for a broader group of states. Although the six states examined in this analysis are diverse in terms of population characteristics and Medicaid eligibility policies, the states are not necessarily representative of all states.

Analysis of all states with a SMRF file for 1995 would be the best method to confirm the results of this analysis. Currently, about 27 states have usable SMRF data for 1995. If resource constraints limit the number of files that can be analyzed, focusing on states with large WIC populations or with the largest discrepancies in estimates of WIC eligibles would be most useful. FNS may also want to consider analysis of 1996 SMRF and 2082 data as they become available. Medicaid 2082 data for 1996 have now been released, but it will probably be late 1998 or early 1999 before any 1996 SMRF files are ready.

After additional SMRF files are analyzed, more reliable adjustments could be made to Medicaid 2082 data for all states. The adjusted 2082 data could be used to improve estimates of WIC eligibles in several ways. For example, FNS could use the number of Medicaid infants as a lower-bound estimate of WIC eligibles in states where the number of Medicaid enrollees exceeds the CPS-based estimates of WIC eligibles. This might have implications, however, for how WIC funds are allocated among the states. FNS could also use these revised state estimates to adjust the CPS-based national estimate of

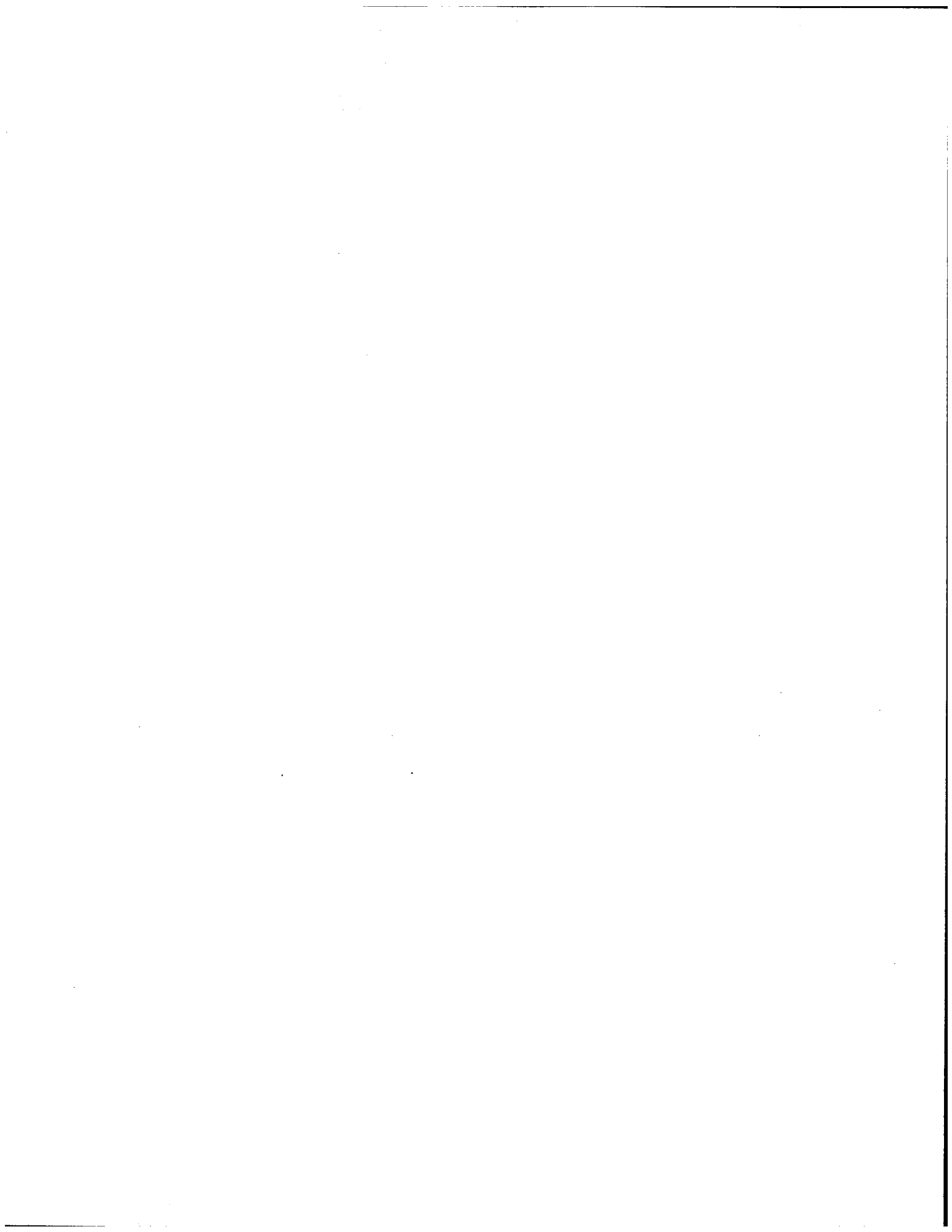
WIC eligibles.⁸ This could have larger funding implications for the WIC program because the national estimate is typically used to develop the annual budget for the WIC program.

Overall, information on Medicaid enrollment is important information for estimating the number of persons eligible for WIC each year because of the close relationship between the WIC and Medicaid programs. This study demonstrates that Medicaid eligibility policies may explain discrepancies between estimates of WIC eligibles and participants and that Medicaid enrollment data is available and may be used to improve estimates of WIC eligibles.

The Medicaid relationship to WIC may become even more important in future years. The recently passed State Children's Health Insurance Program (CHIP) gives states additional incentives to increase Medicaid eligibility thresholds for children beyond 185 percent of poverty.⁹ The CHIP legislation, which was part of the Balanced Budget Act of 1997, provides \$20.3 billion in new federal money to states over the next five years to expand child health coverage. This money is available at enhanced matching rates of 65 to 85 percent in comparison to traditional federal matching rates for Medicaid of 50 to 83 percent. Although CHIP funds are generally to be used to provide coverage only to children with family income below 200 percent of poverty, states are allowed to go 50 percentage points above their existing Medicaid income thresholds. Thus, a state using a 185 percent of poverty threshold for infants could go to 235 percent using CHIP funding. Preliminary information indicates that several states are using their CHIP funds to expand Medicaid coverage for infants beyond the 185 percent threshold (Bruen and Ullman, 1998). As more states extend Medicaid eligibility to children in families with incomes above 185 percent of poverty, issues are raised about WIC adjunct eligibility policies.

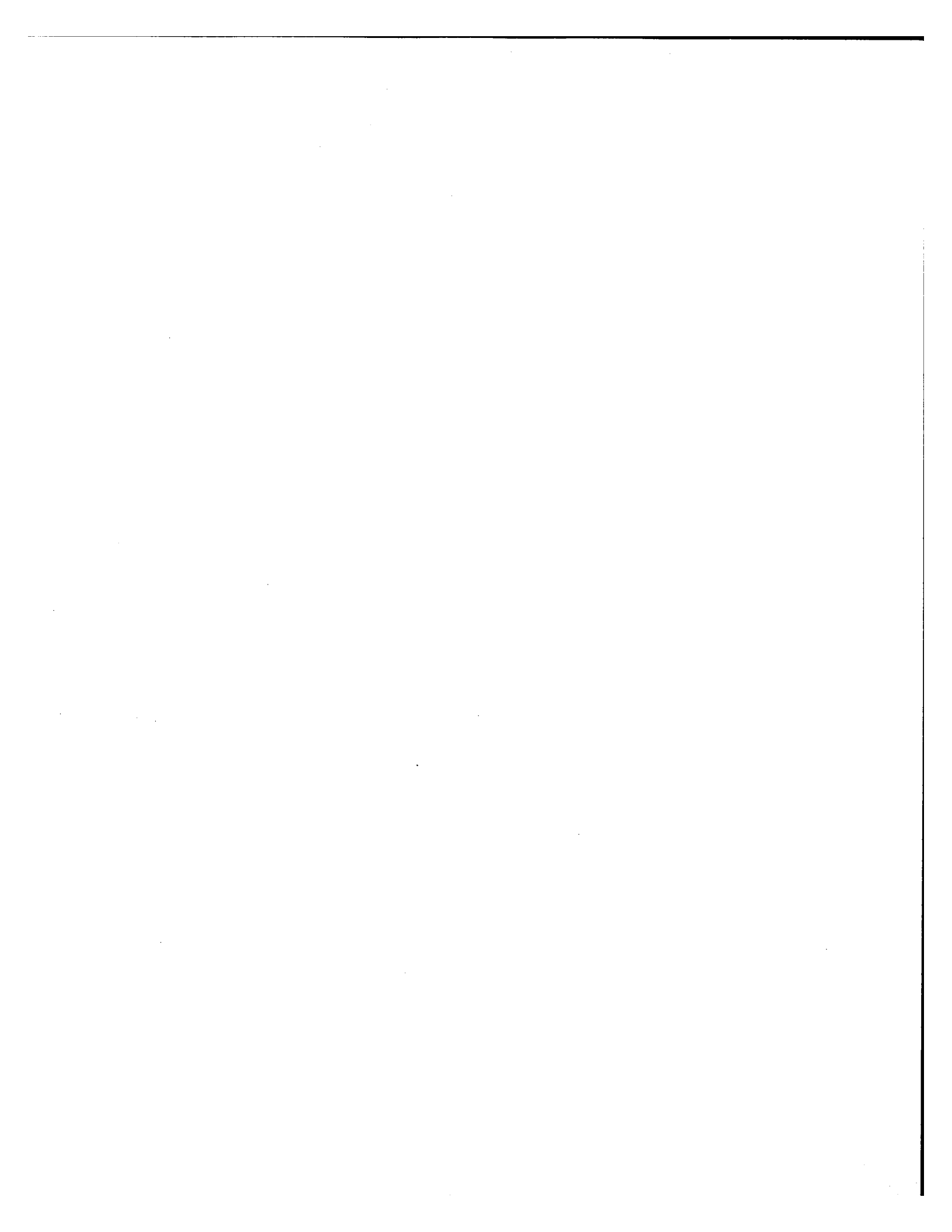
⁸For example, Medicaid enrollment counts could be used as a predictor variable in the regression estimate of WIC eligibles. The estimate would then be optimally combined with direct CPS-based estimates of WIC eligibles using the shrinkage technique currently used to estimate WIC eligibles (Schirm and Long, 1995).

⁹Under CHIP, states can elect to expand coverage under their Medicaid programs, or establish separate state health insurance programs for CHIP children, or both.

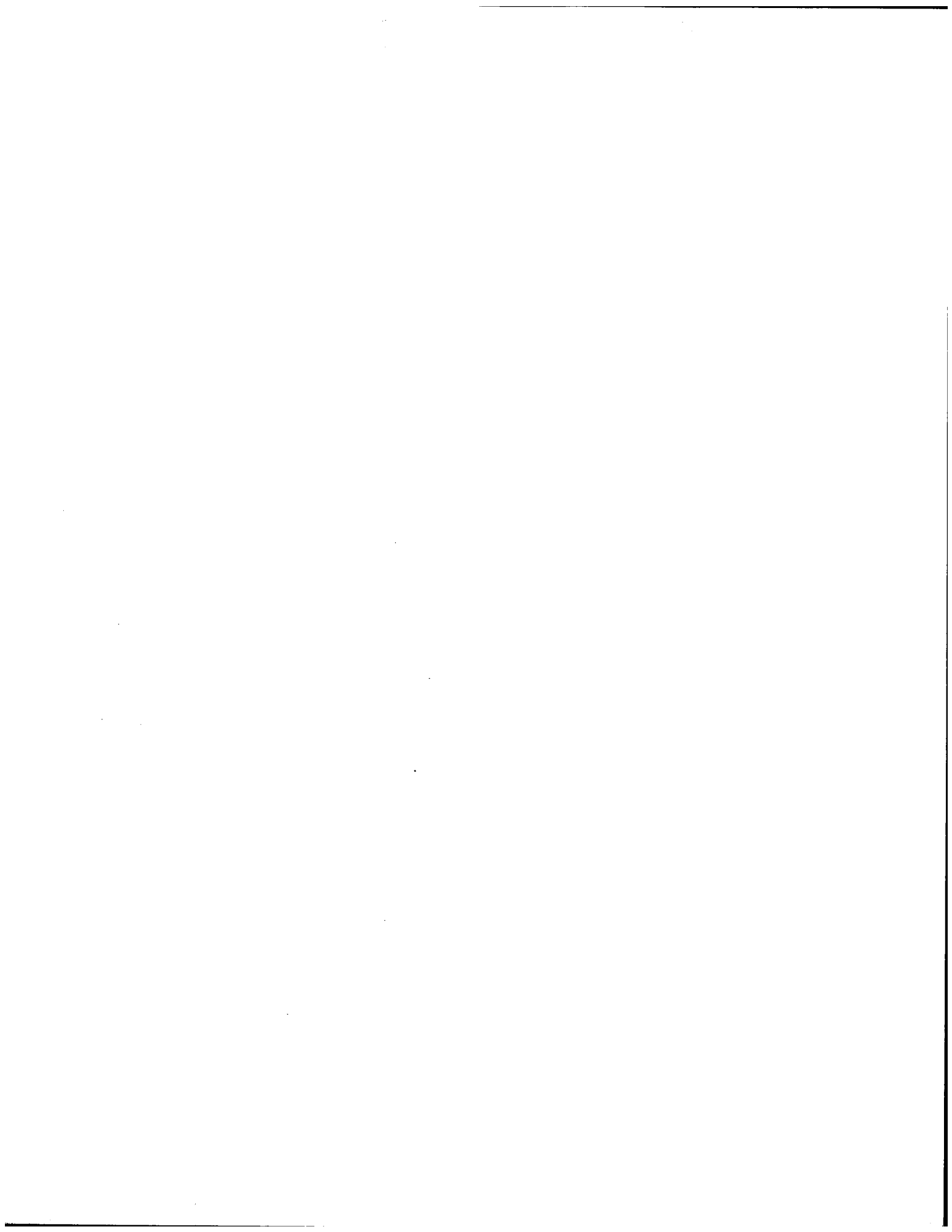


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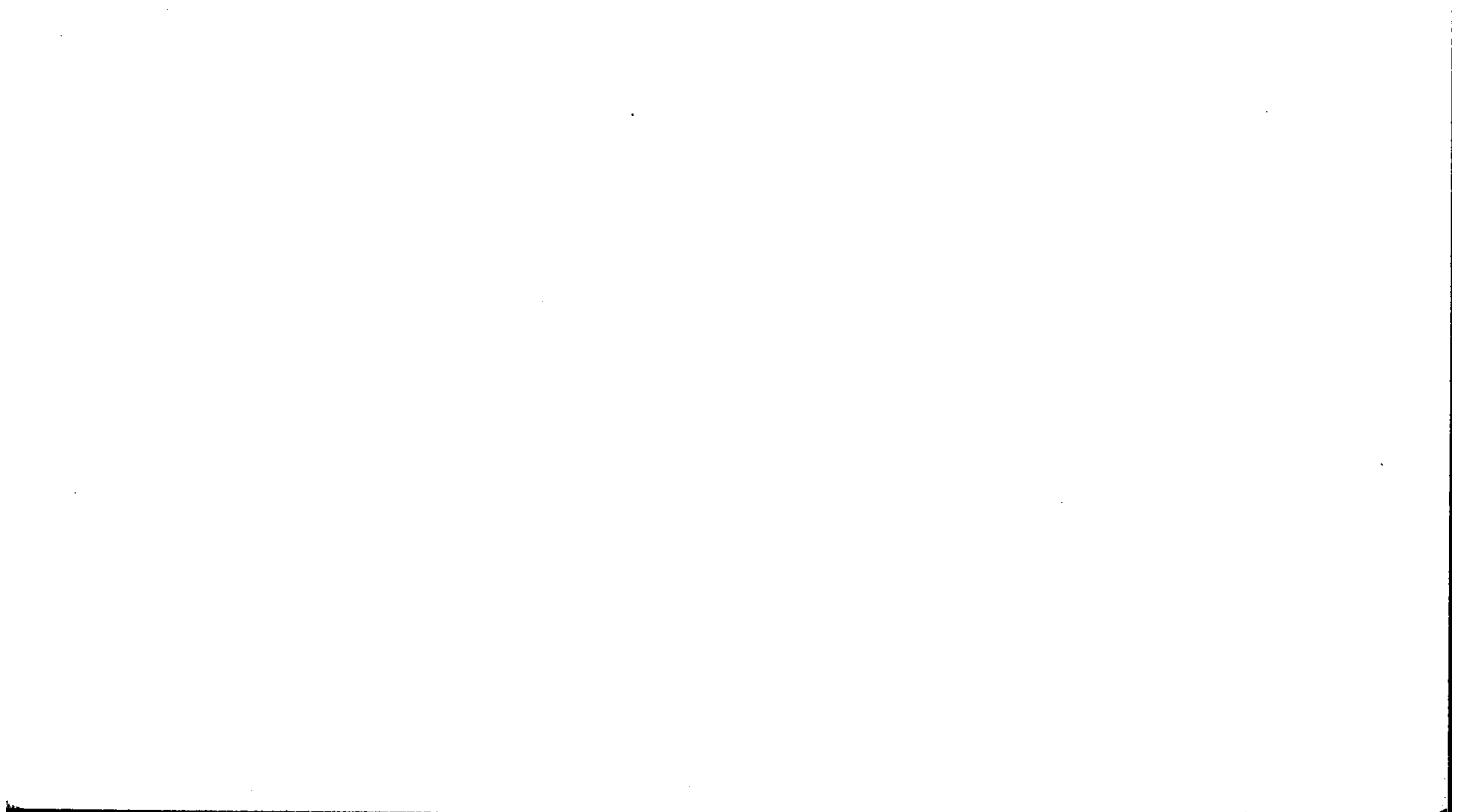
APPENDIX A
CONTENTS OF HCFA FORM 2082 — 1993



CONTENTS OF HCFA FORM 2082 — 1993

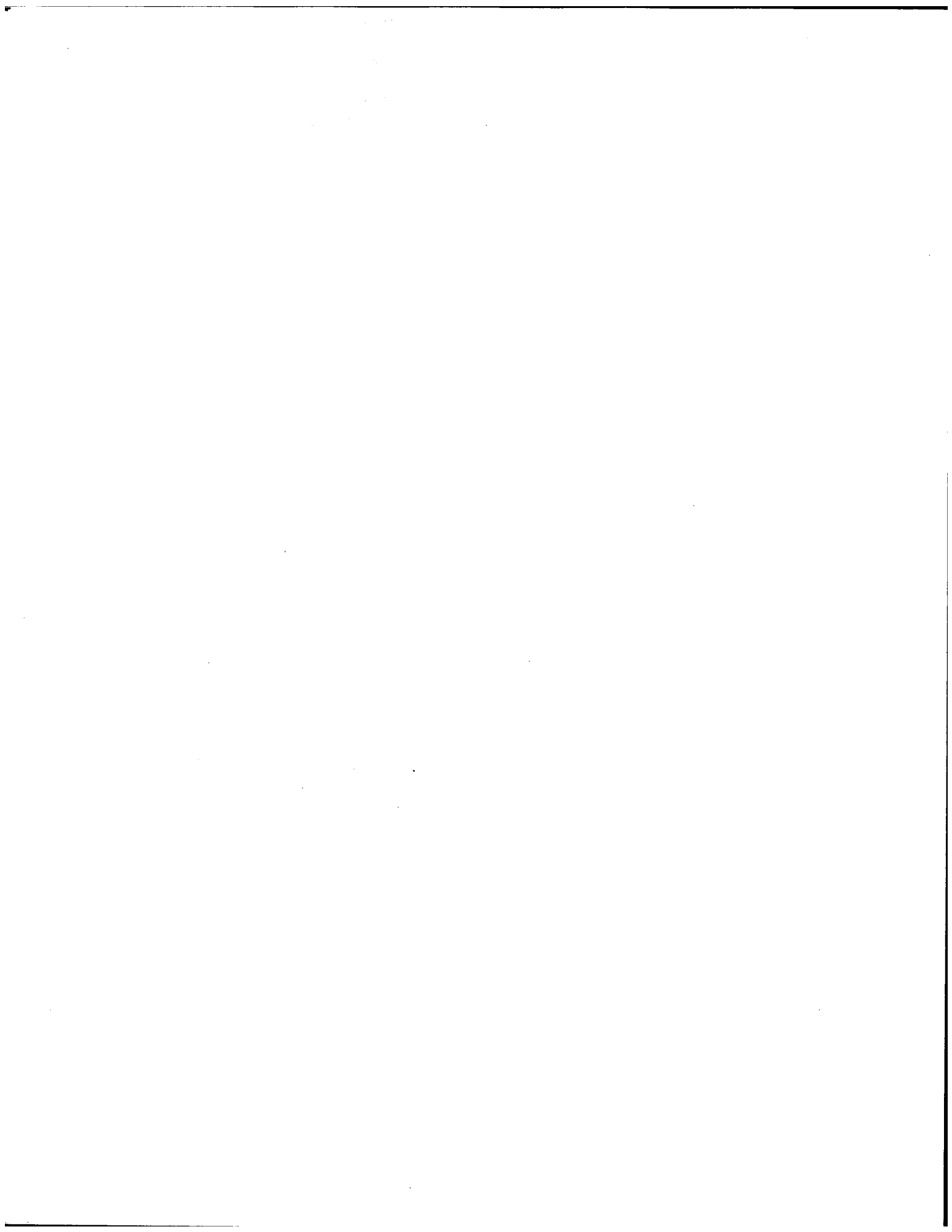
- Legend: Cell entries in **bold** (e.g., **eligibles, recipients**)--by column headings *and* row headings
- Section A: **Recipients**--by type of medical service (TOS) *and* by Maintenance Assistance Status / Basis of Eligibility (MAS/BOE)
- Section B: **Payments**--by TOS *and* by MAS/BOE
- Section C: **Eligibles**--by length of eligibility *and* by MAS/BOE
- Section D: (1) **Eligibles**--by age *and* by race/ethnicity and sex
(2) **Recipients**--by age *and* by race/ethnicity and sex
(3) **Payments**--by age *and* by race/ethnicity and sex

(4) **Eligibles**--by age *and* by MAS/BOE
(5) **Recipients**--by age *and* by MAS/BOE
(6) **Payments**--by age *and* by MAS/BOE
- Section E: **Recipients** of inpatient general hospital services--by discharges, days of care, *and* by MAS/BOE
- Section F: **Recipients** of institutional care--by days of care *and* by MAS/BOE
- Section G: **Recipients**--by age, sex, and race/ethnicity, *and* by TOS
- Section H: **Payments**--by age, sex, and race/ethnicity, *and* by TOS
- Section I: **Recipients** of institutional care--by TOS *and* by MAS/BOE
- Section J: **Payments** for recipients of institutional care--by TOS *and* by MAS/BOE
- Section K: **Eligibles** enrolled in managed care and **premiums** paid--by MAS/BOE
- Section L: **Recipients** and **payments**--by relationships of payment of Title XVIII deductibles and coinsurance, *and* by TOS
- Section M: **Visits** (by selected TOS) and **prescriptions**--by MAS/BOE



APPENDIX B

**DERIVATION OF ADJUSTMENT FACTORS FOR THE DELAY
IN PROCESSING OF MEDICAID ENROLLMENT FOLLOWING BIRTH**



SMRF data underestimate the number of infants enrolled in Medicaid due to delay in the processing of Medicaid enrollment following birth. Prior to enrollment, any Medicaid charges for an infant are made to the mother's Medicaid account. Thus infants are covered under Medicaid from birth, but are not always shown as Medicaid enrollees from the time of birth. To account for this delay, an adjustment factor was calculated for each of the six states examined in this study. The derivation of these adjustment factors is presented here.

A different adjustment factor was derived for each state because of the varying degree to which states were able to enroll infants in the birth month. As shown in Table B.1, for the 6 states whose SMRF data we examined, from 14 to 46 percent of infants were initially enrolled within a month after their birth month. In Arkansas, for example, 54 percent of infants were initially enrolled during their birth month, 24 percent were initially enrolled in the month after their birth month, and another 10 percent were initially enrolled in the second month after their birth. Other states were more successful in immediately enrolling infants. In Michigan, 86 percent of infants were initially enrolled during their birth month.

The adjustment factor was based on the assumption that any infants initially enrolled within three months of their birth were covered by Medicaid since birth. Likewise, infants enrolled more than three months after their birth were assumed to be new enrollees--that is, not covered by Medicaid since birth. The figures in Table B.2 show the amount by which newborns and infants ages 1 and 2 months are adjusted upward in each of the six states examined.¹ In Alabama, for example, we adjusted upward the number of newborns by 14.1 percent to account for the 3,382 infants enrolled in months 1, 2, and 3 after birth.² Similarly, we adjusted upward the number of 1-month-olds by 7.8 percent to account for the infants enrolled in months 2 and 3 after birth. Finally, we adjusted upward the number of 2-month-olds by 3.3 percent to account for the infants enrolled in month 3 after

¹These adjustment factors differ markedly from the percentages in Table B.1 because the denominators over which they are calculated are different. The percentages in Table B.1 are of total infants (28,879), whereas the adjustment factors are based on total newborns (23,910).

²The derivation of the 3,382 infants can be seen from Table B.1, where 1,399 infants were enrolled at age 1 month, 1,109 infants were enrolled at age 2 months, and 874 infants were enrolled at age 3 months ($1,399 + 1,109 + 874 = 3,382$).

birth. Table B.3 shows the total effect on the average monthly number of infants of these adjustments. The adjustments increased the average monthly number of infants by 1.4 to 5.6 percent in the six states examined. We consider our adjustment factor conservative because some infants who were initially enrolled more than 3 months after their birth may also have been covered since birth.

TABLE B.1

DISTRIBUTION OF MEDICAID INFANTS BY STATE AND MONTH FIRST ENROLLED IN MEDICAID (RELATIVE TO BIRTH MONTH)

Month First Eligible	Alabama		Arkansas		California		Florida		Michigan		New Jersey		All States	
	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.
On or Before Birth Month	23,910	82.8	7,319	54.4	108,746	56.2	65,130	83.0	40,388	86.3	23,676	80.1	269,169	68.9
Month First Eligible After Birth Month:														
1st	1,399	4.8	3,256	24.2	35,707	18.5	3,274	4.2	3,057	6.5	1,569	5.3	48,262	12.4
2nd	1,109	3.8	1,324	9.8	19,503	10.1	2,979	3.8	1,044	2.2	1,206	4.1	27,165	7.0
3rd	874	3.0	629	4.7	12,244	6.3	2,202	2.8	634	1.4	903	3.1	17,486	4.5
4th	564	2.0	353	2.6	5,786	3.0	1,545	2.0	478	1.0	651	2.2	9,377	2.4
5th	362	1.3	193	1.4	3,547	1.8	1,063	1.4	357	0.8	449	1.5	5,971	1.5
6th +	651	2.3	386	2.9	7,801	4.0	2,320	3.0	854	1.8	1,099	3.7	13,121	3.4
Subtotal	4,969	17.2	6,141	45.6	84,588	43.8	13,383	17.0	6,424	13.7	5,877	19.9	121,382	31.1
Total	28,879	100.0	13,460	100.0	193,334	100.0	78,513	100.0	46,812	100.0	29,553	100.0	390,551	100.0

SOURCE: 1995 SMRF Files
 NOTE: Based on infants born from January through September 1995.

TABLE B.2
 REPORTED VERSUS ESTIMATED NUMBER OF
 INFANTS AGE 0 TO 2 MONTHS

Age in Months	Reported # of Infants Age 0 to 3 Months (a)	Estimated # of Infants Age 0 to 2 Months (b)	Monthly Adj. Factor (a/b)
Alabama			
Month 0	23,910	27,292	1.141
Month 1	25,309	27,292	1.078
Month 2	26,418	27,292	1.033
Month 3	27,292	-	-
Arkansas			
Month 0	7,319	12,528	1.712
Month 1	10,575	12,528	1.185
Month 2	11,899	12,528	1.053
Month 3	12,528	-	-
California			
Month 0	108,746	176,200	1.620
Month 1	144,453	176,200	1.220
Month 2	163,956	176,200	1.075
Month 3	176,200	-	-
Florida			
Month 0	65,130	73,585	1.130
Month 1	68,404	73,585	1.076
Month 2	71,383	73,585	1.031
Month 3	73,585	-	-
Michigan			
Month 0	40,388	45,123	1.117
Month 1	43,445	45,123	1.039
Month 2	44,489	45,123	1.014
Month 3	45,123	-	-
New Jersey			
Month 0	23,676	27,354	1.155
Month 1	25,245	27,354	1.084
Month 2	26,451	27,354	1.034
Month 3	27,354	-	-

TABLE B.3

ADJUSTED DISTRIBUTION OF AVERAGE MONTHLY NUMBER OF INFANTS BY AGE IN MONTHS

Age (Months)	Alabama		Arkansas		California		Florida		Michigan		New Jersey	
	Reported	Adj. Factor	Reported	Adj. Factor	Reported	Adj. Factor	Reported	Adj. Factor	Reported	Adj. Factor	Reported	Adj. Factor
0	2,650	1.141	804	1.712	12,080	1.620	7,226	1.130	4,487	1.117	2,631	1.155
1	2,734	1.078	1,145	1.185	15,978	1.220	7,295	1.076	4,791	1.039	2,787	1.084
2	2,738	1.033	1,260	1.053	17,907	1.075	7,416	1.031	4,772	1.014	2,867	1.034
3	2,713	-	1,286	-	18,905	-	7,524	-	4,737	-	2,904	-
4	2,727	-	1,311	-	19,373	-	7,645	-	4,729	-	2,945	-
5	2,768	-	1,351	-	19,645	-	7,724	-	4,737	-	2,994	-
6	2,825	-	1,377	-	19,772	-	7,754	-	4,784	-	3,079	-
7	2,805	-	1,377	-	19,573	-	7,645	-	4,751	-	3,060	-
8	2,806	-	1,362	-	19,600	-	7,594	-	4,750	-	3,060	-
9	2,745	-	1,329	-	19,424	-	7,424	-	4,725	-	3,018	-
10	2,719	-	1,308	-	19,357	-	7,313	-	4,746	-	3,009	-
11	2,700	-	1,281	-	19,083	-	7,181	-	4,717	-	2,987	-
All Infants	32,930	-	15,191	-	233,440	-	89,741	-	56,727	-	35,340	-
Overall Adj. to Total:	1.021	Overall Adj. to Total:	1.056	Overall Adj. to Total:	1.056	Overall Adj. to Total:	1.019	Overall Adj. to Total:	1.014	Overall Adj. to Total:	1.021	Overall Adj. to Total:

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