
Evaluation of the Impact of Continuous Eligibility: Final Report

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Executive Summary

In 1998, the North Carolina General Assembly passed legislation that affected the eligibility of certain individuals for Medicaid benefits. The focus of the legislation was to provide children in households that are classified as categorically needy twelve months of continuous Medicaid coverage without regard to any changes in financial circumstances that otherwise would affect their eligibility for benefits. This twelve-month coverage occurs when the children are initially approved for benefits and when their benefits are redetermined.

The legislation required the North Carolina Department of Health and Human Services (DHHS) Division of Medical Assistance (DMA) to conduct a study of the impact of this change. The study examined the impact of the change on the Medicaid program and the children's health insurance program, North Carolina Health Choice for Children (Health Choice). The study explored whether there was an increased number of children remaining on Medicaid as a result of this change and how the increased caseload affects the costs of providing services. The study also examined how the change in the Medicaid caseload impacted the costs of NCHC.

The study was conducted by staff from the Jordan Institute for Families at the School of Social Work at the University of North Carolina at Chapel Hill.

The study used data from a variety of sources to assess the impact of the eligibility changes. As part of the study, information was extracted from the Eligibility Information System (EIS). EIS is used by caseworkers in county departments of social services across the state to record information concerning an individual's authorization for Medicaid or NCHC benefits. The data from EIS was used to develop statistical models of the dynamics of the Medicaid caseload prior to the implementation of the continuous eligibility changes. Similar models were developed for cases processed after the policy changes. As part of the study, the models were compared in order to identify the impact of the changes.

In addition to the data from the Eligibility Information System (EIS), a telephone survey was conducted with the families whose cases were processed after the changes were implemented in February 1999. The survey collected information on each family's financial circumstances and whether there have been any changes since the case was processed. The survey data was analyzed to identify how many families had a change in income. In addition,

attempts were made to determine whether that change would affect their children's eligibility for Medicaid had the continuous eligibility provision not been enacted.

The key findings of the study are:

- The change in continuous eligibility did not appear to have an immediate impact on the children of categorically needy (CN) families receiving Medical Assistance to Families with Dependent Children (MAF). The number of children enrolled in this category and the rate at which they left the program appeared to be unchanged prior to and following the policy change.
- There was a slight decrease in the rate at which children left the Medicaid for Infants and Children (MIC) program after the continuous eligibility provisions were implemented.
- A number of factors suggest that this change in the rate of exit is not due to the continuous eligibility provisions.
- The costs of the continuous eligibility provisions is projected to be 0.3% of the cost of providing Medicaid coverage to MIC children through August 1999.
- The continuous eligibility provisions do not appear to have affected enrollments in North Carolina Health Choice for Children.

Introduction

As part of the 1998 budget bill, the North Carolina General Assembly enacted legislation that affects the period of eligibility for certain Medicaid recipients. As a result of the change children of categorically needy families receive twelve months of Medicaid coverage without regard to changes in the family's income and assets. Prior to this legislation, categorically needy families could lose their Medicaid benefits if there were a change in income or assets. Under the terms of the legislation, the children in the families will receive one year of continuing coverage from the date their application is approved or their case redetermined without regard to changes in income or assets.

As part of the legislation, the General Assembly required the North Carolina DHHS to study the effect of the legislation on the Medicaid program and NCHC. This document is the final report of this study and will be submitted to the General Assembly January 1, 2000.

There are a number of ways that the changes could affect Medicaid and NCHC. One impact is in terms of the number of children provided benefits. The continuous eligibility provisions are likely to increase the number of children receiving Medicaid. This would impact program costs. Costs will increase because Medicaid, instead of NCHC, will pay for the medical services these children receive.

This study address six key questions:

- How many more children are receiving Medicaid coverage as a result of the change?
- How many of the children receiving the extended coverage would have been enrolled in NCHC?
- How much does it cost the Medicaid program to provide this coverage?
- How many of these children would have been financially ineligible for Medicaid if these changes had not been enacted?
- What are the costs to the Medicaid program for providing services to these children that would have been financially ineligible?
- Do the costs born by the Medicaid program represent savings for NCHC?

With the short time frame for the study and the fact that the first cohort of families and children to receive the extended benefits will still have one more month of Medicaid coverage when the final report is submitted, there were a number of challenges for the evaluation. To meet these challenges, a number of resources have been exploited to assess the impact of the legislative changes. These resources include archived administrative data from the Eligibility Information System (EIS). Medicaid costs are based on the average costs per eligible child. These costs were developed by the Division of Medical Assistance (DMA) Financial Operations. In addition to administrative data, telephone interviews were conducted with parents of children receiving continuous coverage. These interviews supplemented the analysis of administrative data and are used to answer questions concerning the family's current circumstances.

The first step in conducting the evaluation was to organize existing administrative data in order to address the research questions. This was done by extracting information from EIS on families and individuals that have received Medicaid. These extracted data were used to create a database that was queried to estimate how long families and individuals—particularly categorically needy families and their children—have stayed on the program.

The EIS extracts also were used to generate a sample frame for a survey of categorically needy families with children that benefited from the policy change. The primary reason for this survey is to determine how many of these families have had an increase in income that would have made them ineligible for Medicaid if not for the policy change. The approach used in the survey was to ask respondents about their family's income and financial situation since the case was redetermined. While these survey data do not cover a full twelve-month period, they will provide an indication of the rate at which these families had a change in income that could have affected their eligibility during the seven-month period between March and September, 1999.

1. The Impact of Continuous Eligibility Provisions on MIC

An earlier report documented the dynamics of the MIC caseload.¹ In this section, the changes in the MIC caseload since the implementation of the continuous eligibility provisions are explored. As part of this analysis, the behavior of cases approved for MIC in March 1999 is compared with that for cases approved in March 1998. This analysis includes a comparison of the rates of exits from the programs. The types of exits are also compared. Not every case that leaves MIC leaves Medicaid. Many MIC exits occur when a child transfers to a different Medicaid program. For cases that leave MIC as well as Medicaid, the reasons for those exits are compared across years to identify changes. Comparisons are also made concerning what Medicaid programs children transfer to.

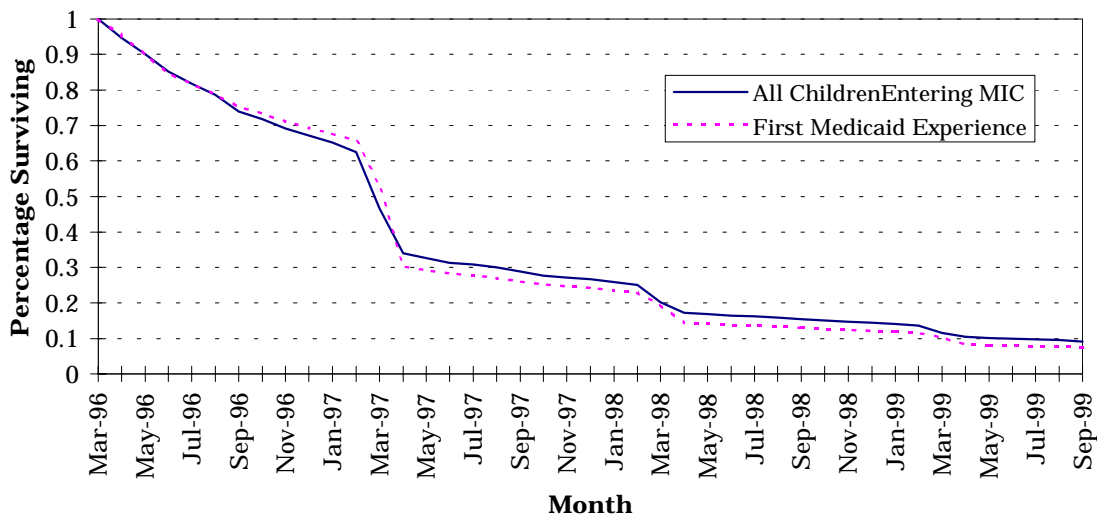
The analysis in the earlier report focused on children that entered Medicaid for the first time through MIC. Children that enter Medicaid for the first time through MIC account for about a little less than 60% of MIC cases openings. In addition to those, some children beginning a period of coverage in MIC have received Medicaid benefits through other programs. Regardless of whether a child is entering Medicaid for the first time through MIC or whether he or she has had prior experience in Medicaid, their patterns of exits are fairly similar. This relationship is shown in Figure 1-1. The figure shows the rate of exit from Medicaid for children that are entering the program for the first time through MIC as well as for children that have previous experience with the program. The figure displays survival curves—lines that trace the rate of exit—for each group.

In conducting the analysis for this report, children are grouped by the month they enter the program. These groups are frequently referred to as entry cohorts. Children are assigned to unique entry cohorts. That means that if a child enters MIC in March 1997, remains on the program for several months, leaves for a period of time, and subsequently re-enters MIC, he or she is still associated with the March 1997 entry cohort. The child does not join a different cohort when he or she re-enters the program.

The survival curves shown in Figure 1-1 chart the percentage of children from the March 1996 entry cohort that remain on the program each month. Children tend to leave MIC

at a moderate rate. For example, the figure indicates that only 20% of the children from either group have left the program by July 1996. By April 1997, close to 70% of the children that entered the program in March 1996 have left. The chart indicates that the rate of exit for both groups is roughly the same. A reason for using information from the March 1996 is that the experiences of the children can be followed for more than three years. With the March 1996 date, we are able to track and display the exits of almost every child from that cohort. We are also able to explore the changes in the rates of exit for that cohort over time.

Figure 1-1: Rate of Exit from MIC for both type of March 1996 Cohorts



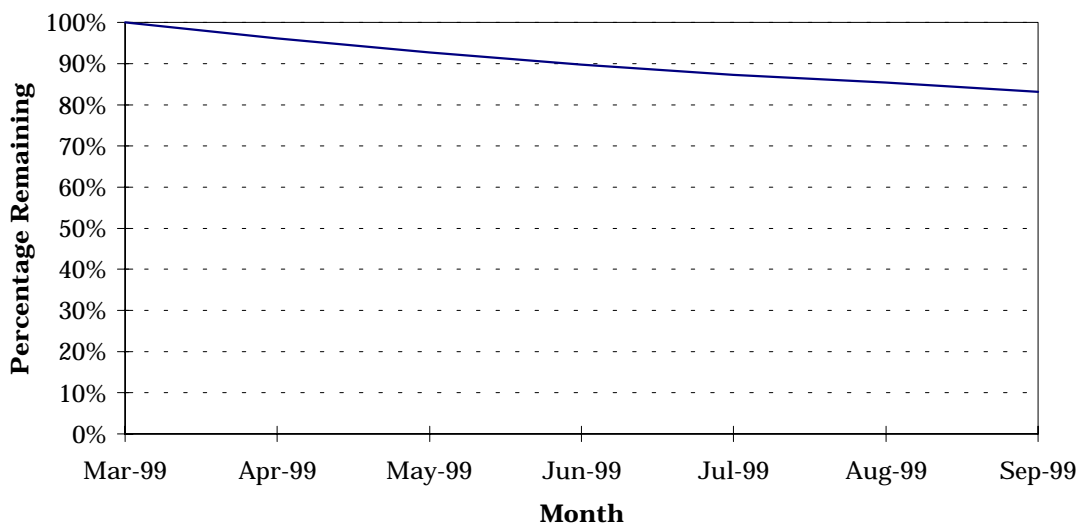
The reason for presenting this chart is to illustrate that similar conclusions will likely be reached whether the analysis is based on all children that begin a period of coverage on MIC at a particular time or on those that are entering Medicaid for the first time when they begin their MIC coverage.

By concentrating on children that are entering Medicaid for the first time when they enter MIC, we can get a clearer picture of how changes in the program affect program participation. The behavior of children that are entering Medicaid for the first time won't be affected by previous experience on Medicaid.

¹ Duncan, Dean F. III, "Evaluation of the Impact of Continuous Eligibility: Interim Report." Chapel Hill, The University of North Carolina at Chapel Hill School of Social Work, August 1999.

Figure 1-2 shows the rate of exit from MIC for children that began their first period of coverage in March 1999. The information in this figure is based on children that entered Medicaid for the first time when they entered the MIC program. As the figure indicates, the number of children that continued to participate in the program declined over time. By June, 90% of the children that entered MIC in March were still participating in the program. By September, 83% remained on the program.

Figure 1-2: The Rate of Exit from MIC for Children that Entered Medicaid for the First Time in March 1999



The rate of exit from MIC for the March 1999 entry cohort was very similar to that for the March 1998 entry cohort as Figure 1-3 indicates. Through May, the third month the children have received MIC benefits, the rate of exit from the program remained the same. As the figure indicates, children from the 1999 entry cohort tended to remain on the program at a slightly higher rate than children from the 1998 entry cohort. By July, 85% of the children from the 1999 entry cohort remained on the program, compared with 82% of the children from the 1998 entry cohort. In September, about 83% of the 1999 entry cohort remained on the program compared with close to 79% of the 1998 entry cohort.

The increase in the rate of exit from MIC in March 1998 shown in Figure 1-3 is likely the result of the 12-month certification period. The data suggest that many families decide not to reapply for MIC benefits when their first certification period expires. The drop in April

1999 is likely due to the large number of children who enter the program at birth but lose eligibility because their family's income is above 133% of the federal poverty level. These children are initially certified for 12 months. At the end of their certification period, the case is re-evaluated to determine if the child remains eligible for benefits. The eligibility worker likely determines that the income of the child's family is between 133% and 185% of the federal poverty level. The child remains eligible for MIC until the last day of the month in which they turn one.

Figure 1-3: Rate of Exit from MIC for Children Enterign Medicaid for the First Time in March 1998 and March 1999

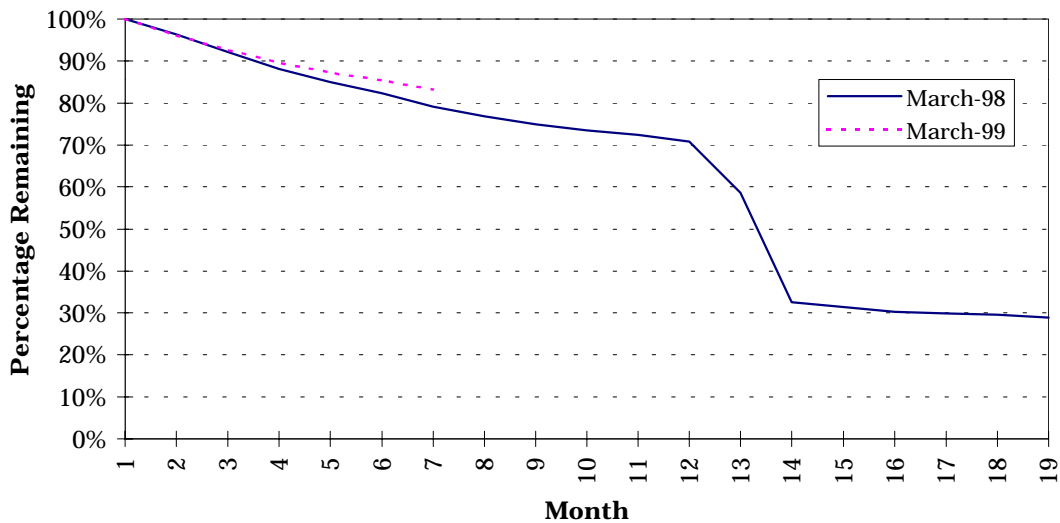


Figure 1-4 illustrates the hazard rate for the March 1999 entry cohort. The hazard rate indicates the likelihood of a child leaving MIC at a particular point in time. The higher the hazard rate, the greater is the rate that children leave MIC. As the hazard rate falls, the rate of exit for the program decreases. The hazard rate is something like a speedometer. It indicates the rate of exit from the program at particular points in time. As the figure indicates, the hazard rate for the March 1999 entry cohort declines over time through July. There is a slight increase in the hazard rate in August.

Figure 1-4: The Hazard Rate for the March 1999 MIC Entry Cohort

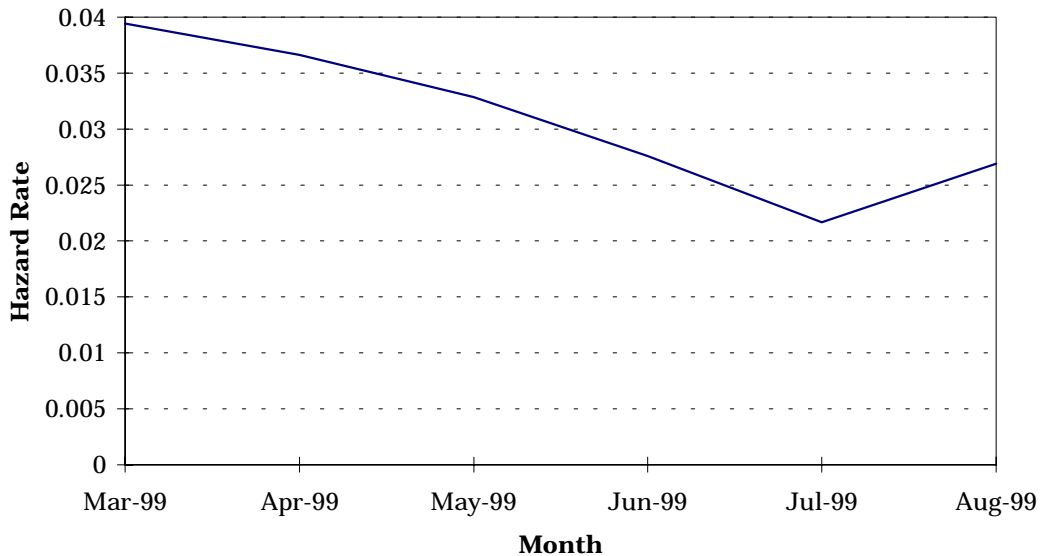
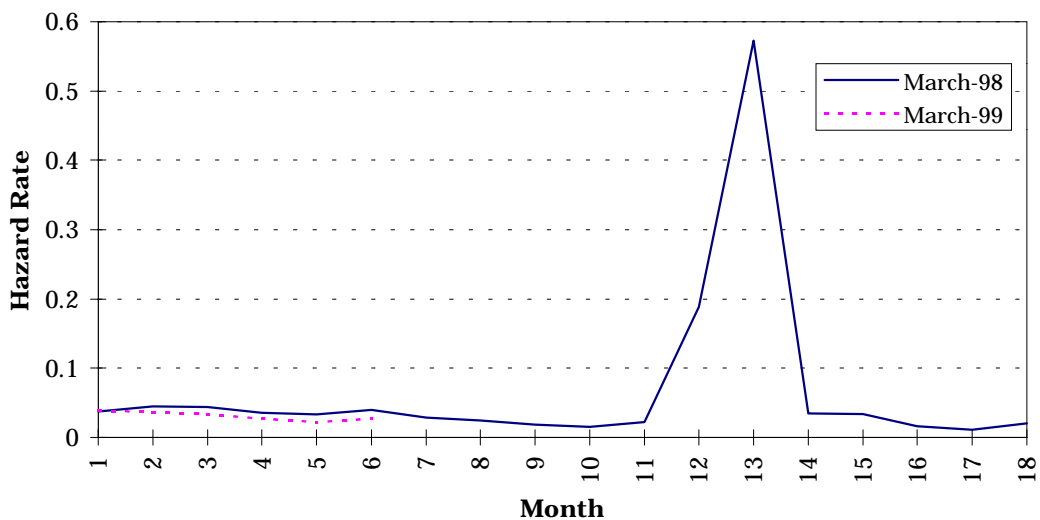


Figure 1-5 contains a comparison of the hazard rate for the March 1999 entry cohort with the March 1998 entry cohort. As the figure indicates, the hazard rates are very similar. The 1999 hazard rate is slightly lower than the hazard rate for the March 1998 cohort. This is

Figure 1-5: The Hazard Rates for the March 1998 and March 1999 Entry Cohorts

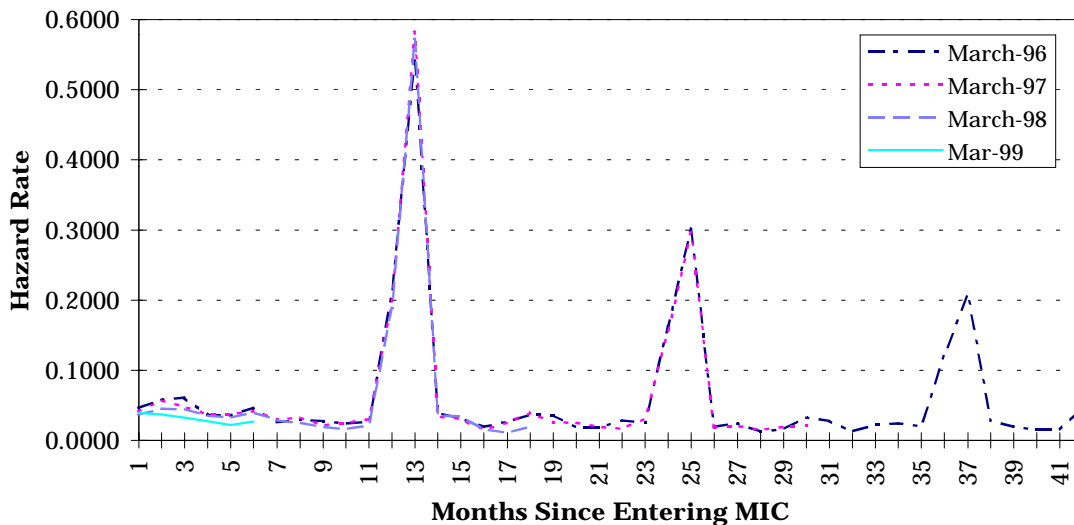


what would be expected based on the survival curves shown in Figure 1-3. Cohorts that have a lower rate of exit from the program also have lower hazard rates.

As the figure indicates, the hazard rate for the March 1998 entry cohort has a sharp increase at 13 months. This increase in the hazard rate is associated with an increase in the rate of exit from MIC at 13 months for the March 1998 entry cohort shown earlier in Figure 1-3. This increase in the rate of exit from the program appears to be related to a large number of children leaving the program after 13 months. The increase in exits from MIC is associated with a number of children leaving the program after they turn one-year-old.

The hazard rate for the March 1998 and March 1999 entry cohorts is similar to that found for previous years as Figure 1-6 indicates. According to the figure, there is an increase in the hazard rate at 13 months, at 25 months, and again at 37 months. These increases in the hazard rate are associated with increases in the rates of exit from MIC at 13 months and at 12-month interval thereafter.

Figure 1-6: The Hazard Rates for Mutiple Cohorts of Children Entering MIC for the First Time



It is likely that the hazard rate for the March 1999 entry cohort will follow the same pattern over time.

Types of Exits from MIC

A number of children leave MIC each month. At the end of March 1999, 244 children who had started receiving benefits on the program a month earlier left. For the March 1998 entry cohort, 205 children left after one month. Children that leave MIC do not necessarily

leave Medicaid. As Table 1-1 indicates, 30.7% of the children from the March 1999 entry cohort transferred to another program without a break in Medicaid coverage. This compares with 43.9% of the March 1998 entry cohort. About half of the children from the March 1999 entry cohort that left MIC after a month subsequently returned to Medicaid following a break of a month or more.

Table 1-1

March Exits from MIC

	March-99	March-98
Immediate Transfer to a Different Medicaid Program	30.7%	43.9%
Exited Medicaid and Returned Within a Month	33.2%	22.0%
Exited Medicaid and Returned More than a Month Later	19.7%	9.3%
Left MIC and Did Not Return to Medicaid by September	16.4%	24.9%
Total	100.0%	100.0%
(N)	(244)	(205)

Only 16.4 % of the children from the March 1999 entry cohort left MIC and did not return to a Medicaid program by September. For the March 1998 entry cohort, 24.9% of the children that left after a month had not returned by September 1998. By using a September cutoff for each year, comparisons can be made across time periods. If a September cutoff was not used for the March 1998 entry cohort, the number of children subsequently returning to Medicaid might be inflated because information would be available on returns to the program that may have taken place in November and December 1998 or later. The data used in the analysis was extracted from EIS in October 1999. As a result, it does not reflect all returns to Medicaid that may have occurred in October 1999 or later.

Table 1-2 shows the transitions for cases from the March entry cohorts that left in April after two months on MIC. The transitions follow a similar pattern for both the 1998 and 1999 entry cohorts. For the March 1999 entry cohort, 68.8% of the children made an immediate transition to a different Medicaid program. For the March 1998 entry cohort, 66.4% made an immediate transition. Also, 24.8% of the March 1999 entry cohort left in April and had not returned by September, compared with 27.3% of the March 1998 entry cohort.

Table 1-2:
April Exits from MIC

	March-99	March-98
Immediate Transfer to a Different Medicaid Program	68.8%	66.4%
Exited Medicaid and Returned Within a Month	6.0%	0.8%
Exited Medicaid and Returned More than a Month Later	0.5%	5.5%
Left MIC and Did Not Return to Medicaid by September	24.8%	27.3%
Total	100.0%	100.0%
(N)	(218)	(238)

The pattern for children from both entry cohorts that left the program in May after receiving benefits for three months is also similar. As Table 1-3 indicates, 63.5% of the March 1999 entry cohort that left in May made an immediate transition to another Medicaid program. Also, 66.4% of the children that began a period of coverage under MIC in March 1998 and left in April 1998 made an immediate transition to another program.

Table 1-3:
May Exits from MIC

	March-99	March-98
Immediate Transfer to a Different Medicaid Program	63.5%	61.0%
Exited Medicaid and Returned Within a Month	0.5%	0.0%
Exited Medicaid and Returned More than a Month Later	2.1%	3.1%
Left MIC and Did Not Return to Medicaid by September	33.9%	35.9%
Total	100.0%	100.0%
(N)	(189)	(223)

Table 1-4 shows what programs children transitioned to after leaving MIC. As the table indicates, most children that left MIC move to Work First. Slightly more than 85% of the children from the March 1999 entry cohort that left after a month switched to Work First, compared to 88.9% of the March 1998 entry cohort. Close to 95% of children from both the 1998 and 1999 entry cohorts that left in April and transitioned to another Medicaid program switched to Work First. About 90% of the children from those entry cohorts that left in May and transitioned to a different program switched to Work First.

Table 1-4:

Transitions From MIC to Other Medicaid Programs By Month

Program	March-99	March-98	April-99	April-98	May-99	May-98
Work First (AAF)	85.3%	88.9%	95.3%	94.3%	90.0%	90.4%
N.C. Health Choice (MIC-J or MIC-K)	9.3%		0.7%		3.3%	
IV-E Foster Care (IAS)			2.0%	2.5%		5.1%
State Foster Home Medicaid (HSF)		2.2%	0.7%	2.5%	1.7%	0.7%
Medicaid for Disabled Individuals (MAD)	1.3%	7.8%			1.7%	1.5%
Medicaid for Pregnant Women (MPW)			0.7%		0.8%	0.7%
Medicaid for Needy Families (MAF)	4.0%	1.1%	0.7%	0.6%	2.5%	1.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(N)	(75)	(90)	(150)	(158)	(120)	(136)

Table 1-4 also shows that 9.3% of the children—seven individuals--from the March 1999 entry cohort that left MIC after one month made an immediate transition to N.C. Health Choice for Children. Of these seven children, six began receiving medical coverage under the part of N.C. Health Choice that provides coverage for children whose family's income is less than 150% of the poverty level. The other child began receiving coverage under the N.C. Health Choice program for children whose family's income is above 150% of the poverty line.

Table 1-5 shows the reasons for termination for children that left MIC from the March 1998 and March 1999 entry cohorts and didn't return. Of the children from the March 1999 entry cohort who had their case closed and didn't return to Medicaid, 30% died. An additional 22.5% had applied for benefits for only one month. Only 15.7% of the children that left the March 1998 entry cohort after a month and didn't return died. An additional 13.7% applied for only one month.

Table 1-5:**Reasons for Leaving MIC and Not Returning for March Exits**

	March-99	March-98
Death	30.0%	15.7%
Moved Out of North Carolina	15.0%	7.8%
Applied for a Particular Time Period	22.5%	13.7%
Income Exceed Limits	5.0%	11.8%
Requested Termination		2.0%
Child now in foster care		2.0%
Other	2.5%	17.6%
Unknown/Missing	25.0%	29.4%
Total	100.0%	100.0%
(N)	(40)	(51)

Table 1-6 lists the reasons for leaving for children from the March 1998 and March 1999 entry cohorts that left MIC after two months and did not return to Medicaid. As the table indicates, 37% of the children from the 1999 entry cohort that left and didn't return were terminated because they moved out of North Carolina. That compares with 26.2% of the children from the March 1998 entry cohort. Also, 22.2% of the children from the March 1999 cohort that were terminated in April 1999 were closed at the client's request. This compares with 13.8% of the cases that were closed in April 1998. Only 11.1% of the cases that were terminated in April were closed due to the death of the child.

Table 1-6:**Reasons for Leaving MIC and Not Returning For April Exits**

	March-99	March-98
Death	11.1%	7.7%
Moved Out of North Carolina	37.0%	26.2%
Applied for a Particular Time Period	1.9%	7.7%
Income Exceed Limits	5.6%	9.2%
Resources Exceed Limits		6.2%
Requested Termination	22.2%	13.8%
Child now in foster care	1.9%	1.5%
Unable to Locate		1.5%
Failed to Cooperate on Redetermination	1.9%	
Failed To Provide Social Security Number	1.9%	
Other	13.0%	20.0%
Unknown/Missing	3.7%	6.2%
Total	100.0%	100.0%
(N)	(54)	(65)

Table 1-7 shows the reasons cases were closed for children from the March 1998 and March 1999 entry cohorts that left MIC in May after three months and did not return to Medicaid by September. The most common reason that cases from the March 1999 entry cohort were closed is that the child moved out of state. Of the 64 cases that were closed in April, 46.9% were terminated for this reason. A year earlier, only 30% of the cases that were closed were terminated for the same reason. Also, 15.6% of the cases from the March 1999 entry cohort that were terminated were closed because the child could not be located. Only 8.8% of the cases from the March 1998 entry cohort were closed for this reason.

Table 1-7:**Reasons for Leaving MIC and Not Returning for May Exits**

	March-99	March-98
Death	4.7%	3.8%
Moved Out of North Carolina	46.9%	30.0%
Applied for a Particular Time Period		
Income Exceed Limits		3.8%
Resources Exceed Limits		6.3%
Requested Termination	9.4%	16.3%
Child now in foster care		
Unable to Locate	15.6%	8.8%
Failed to Cooperate on Redetermination	4.7%	
Failed To Provide Wage Verification	6.3%	
Failed To Provide Social Security Number		
Other	7.8%	25.0%
Unknown/Missing	4.7%	6.3%
Total	100.0%	100.0%
(N)	(64)	(80)

The Impact of the Policy Change on MIC

Analysis of the data from EIS suggests that while the continuous eligibility changes may have had an impact on MIC, the impact was small. The data on the rate of exits from MIC indicate that children approved after the changes were implemented appear to remain on the program at a slightly higher rate than children approved prior to the changes. At this point the findings are not conclusive. It is not clear that the continuous eligibility changes are responsible for the change in the rate of exit. The rate of leaving MIC, at least for the first few months after a case is approved, is unchanged. The differences in the rates of exit appear after the third month. It may be the case that this is when the changes would appear. The hazard rate for a cohort of children approved after the policy change was implemented is slightly lower than that for a similar cohort approved a year earlier. The changes in the two hazard rates do not appear to be substantial.

In determining the cost of the continuous eligibility provision, it would likely be incorrect to assume that the decrease in the rate of exit from MIC was due entirely to the

continuous eligibility provisions. This is due to several factors. First, only a small number of cases were terminated in 1998 for excess income. As Table 1-5 indicates, 6 children were terminated at the end of March for excess income. Table 1-6 reports that 6 additional children were terminated at the end of April for excess income, while Table 1-7 indicates that 3 children were terminated at the end of May for excess income. Analysis of the 73 children from the March entry cohort that were terminated in June indicates that only 7 children were terminated for excess income, while data for July indicates that there were 18 terminations for excess income. Between March and July, only 40 children, out of the 5,593 in the cohort, or 0.7%, were terminated for excess income.

Also, as Tables 1-1, 1-2, and 1-3 indicate, only between 16.4% and 35.9% of the children that exit MIC are terminated and don't return to the program. Most of the exits are associated with transfers—either immediately or within a few months—to other Medicaid programs.

A reasonable way to estimate the number of children that would have been terminated due to excess income if not for the continuous eligibility provisions would be to use the proportion of children terminated for that reason from a similar cohort. Table 1-8 projects the number of children that would have been terminated in the March 1999 if the continuous eligibility provisions had not been implemented. The projections are based on the proportion of children from the March 1998 entry cohort that were terminated—or estimated to have been terminated—due to excess income.

The proportions are calculated by taking the number of terminations each month due to excess income and dividing them by the number of children in the March 1998 entry cohort (5,593). The proportions from March through July are based on data extracted from EIS.

Table 1-8:**The Projected Number of Terminations Due To Continuous Eligibility**

Month	Number of Children from March 1999 Entry Cohort on MIC	Percentage of Children Expected To Be Terminated At the End of the Month	Projected Number Of Children Terminated At the End of the Month	Number of Months Remaining of Continuous Eligibility Through the End of August	Costs Through End of July
March	6,308	0.10%	6.3	5	\$4,182
April	6,064	0.10%	6.3	4	\$3,346
May	5,846	0.05%	3.2	3	\$1,255
June	5,657	0.12%	7.6	2	\$2,007
July	5,503	0.30%	18.9	1	\$2,509
August	5,385				
Total	34,763				\$13,299

The number of children projected to be terminated is estimated by multiplying the proportion of children terminated by month in 1998 by the number of children in the March 1999 cohort (6,308). The costs are calculated by multiplying the number of projected terminations by the number of months left through August 1999 period by \$132.60. The reason for using August 1999 is that we have accurate estimates of the size of the entry cohort through then. The table indicates the number of months of coverage remaining through August. For example, a child that should have been terminated at the end of March for excess income will have five additional months of MIC coverage through August as the results of the continuous eligibility provisions (April, May, June, July, and August).

As the table indicates, the projected cost of the continuous eligibility provision would be \$13,299 for the March 1999 entry cohort from March through August. To estimate the cost of providing Medicaid to the children that entered MIC as part of the March 1999 entry cohort, we can multiply the number of children months of coverage (34,763 from Table 1-8 above) by the average monthly cost of coverage (\$132.60). That indicates that the cost of

providing Medicaid coverage to these children through MIC has cost \$4,609,574 through August 1999. The estimated cost of the continuous eligibility provision is 0.3% of the cost of providing Medicaid coverage ($\$13,299/\$4,609,574$).

2. Changes in MIC Households

A survey was conducted in order to examine the dynamics of household income for families that have a child on MIC. One purpose of the survey was to estimate the rate at which income changes would have impacted MIC had the continuous eligibility provisions not been implemented. The respondents were selected from a number of counties using data extracted from EIS. The sample frame consisted of all children that began a period of coverage under MIC in March 1999.

Originally, a stratified random sample of all counties in North Carolina was planned. This sample would have provided valid and reliable estimates that could be used to make projections on the MIC caseload statewide. Unfortunately, Hurricane Floyd made it impossible to include a number of counties in the eastern part of the state. Because of Floyd, a modified sampling plan was employed that resulted in the exclusion of counties affected by the Floyd.

In selecting the families of children to be included in the survey, counties were stratified, or grouped, according to their size. Counties were classified as small, medium, and large with an administrative classification system used by DSS. Four small, four medium, and three large counties were selected. After the counties were identified, a sample of cases was selected from each one. The following counties were involved in the survey: Alamance, Anson, Forsyth, Iredell, Macon, Mecklenburg, Randolph, Rowan, Stokes, Wake, and Richmond. Several of the families selected for the survey moved between March 1999 and the time the survey was conducted in late October and early November. Because of the moves, the survey includes information on cases from Harnett, New Hanover, Orange, and Yancey counties.

Table 2-1 shows the breakdown of the sample by county and the response rate in terms of how many cases were chosen from each county and how many interviews were completed. In reviewing the table it is important to note that phone numbers were not available for all of the cases selected. Computerized information and case records were used to generate a list of telephone numbers for the families. In most counties, the response rate was 30%.

County departments of social services were extremely cooperative in providing the phone numbers. However, in many instances, phone numbers were not listed in administrative

records. In other instances, the number had been changed or disconnected. In order to reach as many families as possible, letters were sent to families that did not have a telephone or to families where the telephone number supplied by the county or EIS was no longer correct. The letter asked the child's parent to call a toll-free number. Another method used to increase the response to the survey was to provide \$10 incentive payments to all households that participated in the survey.

Table 2-1:

Sample Breakdown by County

	Frequency	Percent	<u>Response Rate By County</u>	
			Number of Cases Chosen for Interview	Percent Responded
Alamance	38	12.34%	106	35.85%
Anson	15	4.87%	49	30.61%
Forsyth	29	9.42%	97	29.90%
Harnett	1	0.32%	1	100.00%
Iredell	24	7.79%	64	37.50%
Macon	10	3.25%	22	45.45%
Mecklenburg	49	15.91%	171	28.65%
New Hanover	1	0.32%	4	25.00%
Orange	1	0.32%	1	100.00%
Randolph	41	13.31%	105	39.05%
Richmond	18	5.84%	45	40.00%
Rowan	43	13.96%	133	32.33%
Stokes	2	0.65%	33	6.06%
Wake	35	11.36%	114	30.70%
Yancey	1	0.32%	1	100.00%
Total	308		946	32.56%

Many of the telephone numbers found in administrative records were not correct. A problem with excluding individuals that do not have telephone numbers from the survey is that they may differ in several ways from individuals that do have telephones. For example, families without telephones may have lower incomes than families that have a stable telephone number. As a result, the survey may over represents families with income. These families with income are likely to be the ones that will have a change in income that may make them ineligible for MIC.

Table 2-2 shows information concerning the attempts made by interviewers. The majority of cases required more than one attempt at reaching the respondent. The average

number of attempts was 3.26.² Calls were attempted to 721 phone numbers. A total of 308 interviews were completed. The overall completion rate was 42.7%. Of those recipients with a phone number available, 42.7% were interviewed.

Table 2-2:
Number of Telephone Calls Made to MIC Families in the Survey

Number of Attempts	Frequency
1	260
2	125
3	79
4	58
5	46
6	35
7	37
8	67
9	6
10	3
11	3
12	1
13	1
Total	721
Average	3.26

Table 2-3 shows the variety of reasons why people were not contacted. The most common reasons were disconnected number and wrong numbers. In only 23 cases was the phone not answered with repeated attempts. After being contacted, 36 families refused to participate.

² This may indicate that some of the numbers which were disconnected or there was no answer may have been reachable eventually, but under such a short time frame interviewers had to move on to new numbers after a short period of time.

Table 2-3:
Types of Problems Encountered in Contacting MIC Families

Description	Frequency
No Answer	23
Busy	3
Answering Machine, No Message	16
Answering Machine, Message	10
Callback to Start	19
Immediate Refusal	36
Language Unable	11
Wrong Number	98
Disconnected Number	99
Message Only Number	17
Non-Working Number	17
Household Contact Made	11
Technical Phone Problems	14
Fax/Data Line	5
Call Forwarding	1
Miscellaneous Unable	4
Mid-Terminate	2
Complete	308
Non-Published Number	26
No Longer in Program	2
Previously Surveyed	1
No Phone in Household	1
Remove from Calling List	3

As part of the survey, one person in each of the 308 households was interviewed. The sex and race breakdown for these respondents is shown in Table 2-4. The table also contains a breakdown by sex and race for each county. Approximately equal numbers of males and females were interviewed. Most individuals interviewed were Caucasian (47.70%) while 38% of the respondents were African-American. The sample somewhat reflects the composition of the March 1999 entry cohort. In that cohort, 29.6% of the children were African-American and 49.9% were Caucasian. Hispanic children account for 14.6% of those entering MIC in March and children from other races comprised 5.9% of the entry cohort.

Table 2-4:
Survey Respondents Broken Down by Race and Sex

	Sex		Race					Totals
	Male	Female	Asian	African-American	Hispanic	Other	Caucasian	
Frequency	152	156	4	117	33	7	147	
Percent	49.40%	50.60%	1.30%	38.00%	10.70%	2.30%	47.70%	
By County								
Alamance	19 (50%)	19 (50%)		10 (26%)	7 (18%)		21 (55%)	38
Anson	5 (33%)	10 (67%)		11 (73%)			4 (27%)	15
Forsyth	14 (48%)	15 (52%)		17 (59%)	5 (17%)	1 (3%)	6(21%)	29
Harnett	1(100%)						1 (100%)	1
Iredell	14 (58%)	10 (42%)	1 (4%)	4 (17%)	1 (4%)		18 (75%)	24
Macon	6 (60%)	4 (40%)					10 (100%)	10
Mecklenburg	20 (41%)	29 (59%)	2 (4%)	32 (65%)	3 (6%)	2 (4%)	10 (20%)	49
New Hanover		1 (100%)		1 (100%)				1
Orange	1 (100%)						1 (100%)	1
Randolph	24 (59%)	17 (41%)		1 (2%)	8 (20%)	2 (5%)	30 (73%)	41
Richmond	8 (44%)	10 (56%)		8 (44%)		1 (6%)	9 (50%)	18
Rowan	22 (51%)	21 (49%)	1 (2%)	14 (33%)	5 (12%)		23 (53%)	43
Stokes	2 (100%)						2 (100%)	2
Wake	16 (46%)	19 (54%)		18 (51%)	4 (11%)	1 (3%)	12 (34%)	35
Yancey		1		1 (100%)				1

Table 2-5 shows some of the characteristics of the household surveyed. The median number of people living in these households is 4. The average, or median number, of children in these households is 2 and the median number of adults in these households is 2. The table shows that the median number of children is fairly consistent across counties. Anson County has a slightly lower median number of children while Randolph and Rowan counties having a slightly higher median number of children.³ The median age of the respondents is 30 and the median age of the children in the household is 6. The median number of people on Medicaid in these households is 2. In examining the counties the table suggests that Forsyth and Mecklenburg counties tend to have older adults while Iredell, Randolph and Richmond counties tend to have younger adults heading families.

**Table 2-5:
Households Characteristics by County**

All Counties	Number of People in the Household	Number of Children in the Household	Number of Adults in the Household	Age of Respondent (Payee)	Mean Age of Children in the Household	Number of People in the Household on Medicaid (Children Included)
Median	4	2	2	30	6	2
Range	1 - 12	1 - 8	1 - 8	16 - 74	3 months - 17 years	1 - 7
Median By County						
Alamance	4	2	2	29	5	2
Anson	4	3	2	29	5	3
Forsyth	4	2	2	32	7	2
Harnett	3	1	2	34	1	3
Iredell	4	2	2	25	2	2
Macon	4	2	2	29	4	1
Mecklenburg	4	2	2	32	8	2
New Hanover	2	1	1	27	4	1
Orange	5	3	2	28	8	1
Randolph	5	2	2	27	6	2
Richmond	3	2	2	27	4	2
Rowan	5	3	2	28	5	2
Stokes	5	3	1	27	4	3
Wake	4	2	2	31	6	3
Yancey	4	2	2	34	12	2

Earnings and other sources of income of the people living in these households are important in evaluating the impact of continuous eligibility. In the households contacted during the survey, 73.7% had at least one employed adult. In addition to earnings, these households tend to have a number of other sources of income. In the survey, respondents were asked to identify all sources of income for each member of the household. There may be problems with assessing the accuracy of the responses regarding the income of all members in the household. The respondent may not know accurately the income of all the people in the household. Nevertheless, the respondent is likely to have a reasonable idea of the amount of

³ It is difficult to interpret the statistics for Harnett, New Hanover, Orange, Stokes and Yancey since they have so few households interviewed.

income received. The information collected through the survey may not be exact, but it likely comes reasonable close.

The responses were reviewed for consistency and reasonableness. If responses appeared to be out of bounds, they were closely examined. If necessary, responses were edited if apparent data-entry errors were discovered. Respondents were asked two questions concerning income: how much is received and how often is it received. In certain situations, the responses did not appear to agree. For example, a service station employee might report income of \$300 per hour. After examination, this might be changed to \$300 per week.

The sources of income reported include: earnings from employment, earnings from self-employment, Work First, Social Security Disability Benefits, Supplemental Security Income, Veteran's Disability or Widow's Benefits, Unemployment Insurance Benefits, Social Security Retirement or Survivor's Benefits, Other Pension or Retirement, Child Support, Money from Friends, Relatives, Interest on Savings Accounts or Bonds, and Annuity Payments. Additionally, respondents were asked whether a student in the household was receiving scholarships, loans, or grants for school. The sources of income are described in Table 2-6-A and 2-6-B.

Table 2-6-A:
Sources of Income for Households

Sources of Monthly Income for Household	# of People Reporting this Type of Income	Median Amount of Income	Range of Reported Income
Earnings from Employment	186	\$1,500	\$10.98 - \$7,175
Annuities	4	\$401	\$181 - \$2,000
Child Support	54	\$255	\$50 - \$1,479.49
Friends	2	\$29	\$8.33 - \$50
Interest on Savings Accounts or Bonds	3	\$3	\$1.75 - \$4.00
Student Scholarships, Loans or Grants	12	\$250	\$58 - \$1075
Other Pension or Retirement	2	\$235	\$35 - \$336
Social Security Disability Benefits	17	\$500	\$150 - \$854
Supplemental Security Income	16	\$400	\$21 - \$733
Social Security Retirement or Survivor's Benefits	7	\$499	\$311 - \$1,301
Unemployment Insurance Benefits	4	\$508	\$360 - \$1,424
Veteran's Disability or Widow's Benefits	2	\$250	\$200 - \$300
Temporary Assistance to Needy	24	\$236	\$69.00 - \$404

Families			
Self Employment	8	\$33	\$0 - \$1000

**Table 2-6-B:
Median Monthly Income by County**

	Alamance	Anson	Forsyth	Harnett	Iredell	Macon	Mecklenburg	Orange	Randolph	Richmond	Rowan	Stokes	Wake	Yancey
Earnings from Employment	\$1,500	\$1,200	\$1,280	\$3,256	\$1,840	\$1,080	\$1,600		\$1,600	\$904	\$1,300	\$1,760	\$1,600	\$1,280
Annuities							\$2,000		\$401	\$181			\$1,500	
Child Support	\$200		\$199		\$289	\$200	\$215		\$203	\$266	\$294	\$320	\$220	
Friends					\$50								\$8	
Interest on Savings Accounts or Bonds							\$2	\$3			\$4			
Student Scholarships, Loans or Grants	\$58		\$250			\$183	\$250			\$250				
Other Pension or Retirement											\$35			
Social Security Disability Benefits	\$275	\$233	\$500				\$500			\$630	\$500		\$495	
Supplemental Security Income	\$273	\$326	\$21		\$500		\$196		\$268	\$500	\$389		\$500	
Social Security Retirement or Survivor's Benefits	\$586		\$400				\$477				\$1,301			
Unemployment Insurance Benefits					\$720		\$508		\$360		\$1,424			
Veteran's Disability or Widow's Benefits					\$200									\$300
Temporary Assistance to Needy Families	\$236	\$181	\$170				\$289		\$315	\$236	\$230		\$236	
Self Employment			\$9.50	\$0.00			\$1,000	\$250	\$33		\$186			

In reviewing earnings, it appears that a majority (186 or 60%) of households receives much of their income from employment. Because it was likely that some people had more than one job, respondents were asked to report income from each of those jobs. In reviewing the median earnings of all employed people in these households, the median average monthly income from a first job was \$1304 while the median average monthly income from a second job was \$840. The overall median income from employment earning was \$1,500 a month. The types of employers reported by respondents included: Temporary/personnel agency, Restaurants, Hotel/motel, Hospitals/healthcare facilities, Supermarkets/large grocery, Drug store, Convenience store/small grocery, Hardware store, Other retail, Factories/manufacturers, Schools/colleges, Department stores/clothing stores, Farm/agriculture, Janitorial firms, Professional services, Construction firms, Government agency, Church, Driver Bus/Truck/Cab, Child Care, Administrative/Data Entry and Other.

Tables 2-7-A and 2-7-B provide a breakdown for each of these job types and by county. It appears that the majority of employed people in these households work in restaurants, hospital or health care facilities, retail, factories, or construction. The counties show that these job types are consistent across the state with metropolitan counties having a greater number of jobs.

Table 2-7-A:**Type of Job Reported**

	All Counties	Percent
Temporary/personnel agency	3	0.99%
Restaurant	29	9.57%
Hotel/motel	1	0.33%
Hospital/health care facility	34	11.22%
Supermarket/large grocery	11	3.63%
Drug store	3	0.99%
Convenience store/small grocery	5	1.65%
Hardware store	2	0.66%
Other retail	50	16.50%
Factory/manufacturer	50	16.50%
School/college	5	1.65%
Department store/clothing store	8	2.64%
Farm/agriculture	5	1.65%
Janitorial firm	8	2.64%
Professional services (law, finance, etc.)	15	4.95%
Construction firm	30	9.90%
Government agency	7	2.31%
Church	4	1.32%
Driver Bus/Truck/Cab	8	2.64%
Child Care	5	1.65%
Administrative/Data Entry	8	2.64%
Other	13	4.29%
Total number of jobs reported	304	

Table 2-7-B:
Type of Job by County

	Alamance	Anson	Forsyth	Harnett	Iredell	Macon	Mecklenburg	New Hanover	Orange	Randolph	Richmond	Rowan	Stokes	Wake	Yancey
Temporary/ personnel agency														3	
Restaurant	7				4	1	3			5	2	5		2	
Hotel/motel								1							
Hospital/health care facility	4	2	4		3		4			6	2	5		4	
Supermarket/ large grocery							1			1	1	6		2	
Drug store		1	1									1			
Convenience store/small grocery	1				2					1	1				
Hardware store										2					
Other retail	5	1	10		1	1	9			14		5		4	
Factory/manufacturer	13	1	5		8	1	5		2		3	8		3	1
School/college				1		1	1				1	1			
Department store/ clothing store					1					1		5		1	
Farm/agriculture	1	1					2					1			
Janitorial firm							2			3		1		2	
Professional services (law, finance, etc.)	3		1		3	1	2				1	1		3	
Construction firm	1	1	4		2	3	8			1	3	5	1	1	
Government agency	1						3			1		1		1	
Church	1			1			1			1					
Driver Bus/Truck/Cab			4							2		1		1	
Child Care					1	1	1					1		1	
Administrative/Data Entry	2		1							2	1			2	
Other		1					3			3		3	1	2	
Total number of jobs reported	39	8	30	2	25	9	45	1	2	43	15	50	2	32	1

Few respondents reported that individuals in their household are self-employed. Only 8 households reported income from self-employment. The average income (costs subtracted from revenue) of those who were self-employed varied from \$0 to \$1000.00 a month. The type of work done by those who are self-employed includes Clerk/general office, Child care/babysitter, Janitor/maintenance worker, Housekeeper (motel/home), and Assembly/production worker.

**Table 2-8-A:
Increase in Monthly Income Since February**

	Number of Households	Median Change
Earnings from Employment	88	\$400.00
Annuities	1	\$600.00
Child Support	11	\$120.00
Friends	1	\$8.33
Interest on Savings Accounts or Bonds	1	\$6.00
Other Pension or Retirement	1	\$200.00
Social Security Disability Benefits	4	\$100.00
Supplemental Security Income	1	\$50.00
Social Security Retirement or Survivor's Benefits	3	\$5.00
Unemployment Insurance Benefits	2	\$614.00
Veteran's Disability or Widow's Benefits	1	\$200.00
Temporary Assistance to Needy Families	10	\$150.00
Median of all Types of Income		\$135.00
Mean of all Types of Income		\$204.44
Sum Total	124	

In exploring the changes in income experienced by these households since February 1999 the majority of respondents state that their income from earnings as well as other sources has not risen. Tables 2-8-a and 2-8-b illustrate that most of those who did report an increase in their monthly household income experienced this increase due to employment earnings. Excluding increases in income from annuities, of which there was only one case, employment earnings also represented the highest median increase.

**Table 2-8-B:
Median Income Change by County**

	Alamance	Anson	Forsyth	Harnett	Iredell	Macon	Mecklenburg	Orange	Randolph	Richmond	Rowan	Stokes	Wake
Earnings from Employment	\$320	\$320	\$520	\$800	\$208	\$900	\$167		\$240	\$200	\$1,000		\$1,280
Annuities					\$600								
Child Support	\$80						\$65		\$250				\$304
Friends													\$8
Interest on Savings Accounts or Bonds								\$6					
Other Pension or Retirement					\$200								
Social Security Disability Benefits	\$164	\$186	\$60										
Supplemental Security Income											\$50		
Social Security Retirement or Survivor's Benefits							\$10			\$8			\$2
Unemployment Insurance Benefits					\$720		\$508						
Veteran's Disability or Widow's Benefits					\$200								
Temporary Assistance to Needy Families			\$100				\$150			\$236	\$239		\$236
Median of all Types of Income	\$320	\$480	\$320	\$800	\$528	\$900	\$167	\$6	\$240	\$200	\$413		\$324
Mean of all Types of Income	\$495	\$597	\$586	\$800	\$619	\$860	\$384	\$6	\$1,001	\$232	\$783		\$799

The survey was designed to estimate the number of families that had a change in income that would have made them ineligible for MIC if the continuous eligibility provisions had not been implemented. It was not possible using readily available information through EIS extracts to identify member of the MIC budget unit (e.g., those individuals whose income must be considered in determining whether a child is eligible for MIC). Instead, the total income available to the family was used as a proxy measure for income.

This method overestimates the number of families that would have lost eligibility for MIC. The reason for this is that, in many instances, only the income of one or two individuals—and not everyone living under one roof—must be considered for MIC eligibility purposes. By considering the income of everyone living under the roof, it is possible to develop a measure of the maximum number of families that would lose eligibility for Medicaid if all income were considered.

This would be due to the fact that the March 1998 entry cohort was comprised of 5,593 children. If 21% had an increase in income during the first six months that resulted in their ineligibility, that would equate to 1,175 children ($5,593 \times .21$). Only 1,171 children from the March 1998 entry cohort left MIC by September for all reasons.

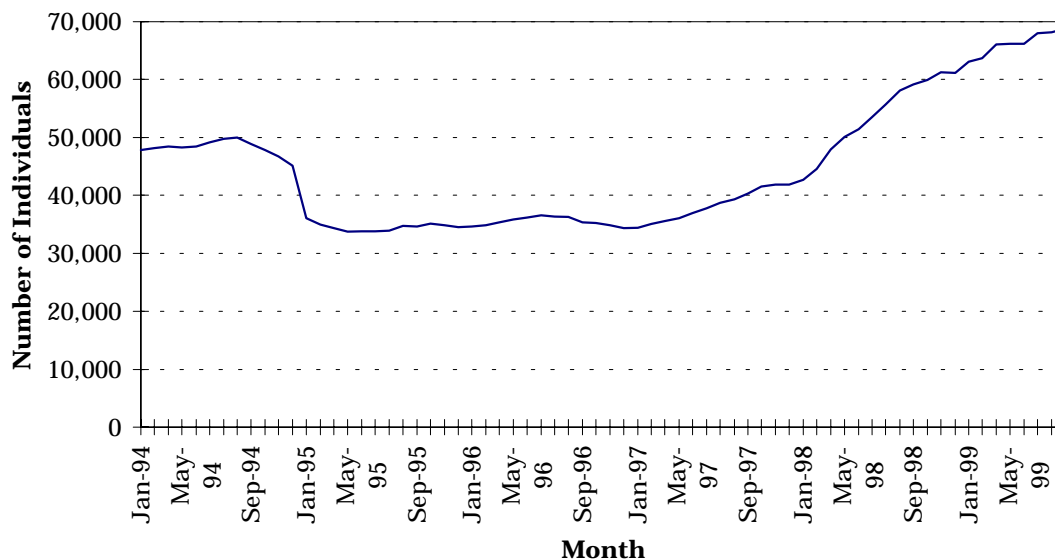
Because of this, the findings concerning the number of households that had a change in income that would have made a child ineligible for MIC if not for the continuous eligibility provisions is questionable. The issue seems to be the difference in income available to the household and income that is available to the MIC budget unit. Additional analyses of these data will be undertaken in an attempt to identify which earnings should be counted as available to the budget unit.

3. Dynamics of the MAF Categorically Needy Caseload

Another program affected by the change in continuous eligibility is Medical Assistance to Families with Dependent Children (MAF) Categorically Needy (CN). MAF provides Medicaid for individuals under age 21 and eligible caretaker relatives. Generally, children are evaluated for coverage first under MIC. If they are not eligible for MIC, they are evaluated for MAF. As the result of a recent policy change by the Division of Social Services (DSS) and DMA, Work First cases that are closed are now transferred to MAF CN as opposed to being switched to other transitional Medicaid benefits. The primary reason for this change is the one-year of continuous eligibility. As the result of this change, the MAF CN caseload will likely grow substantially.

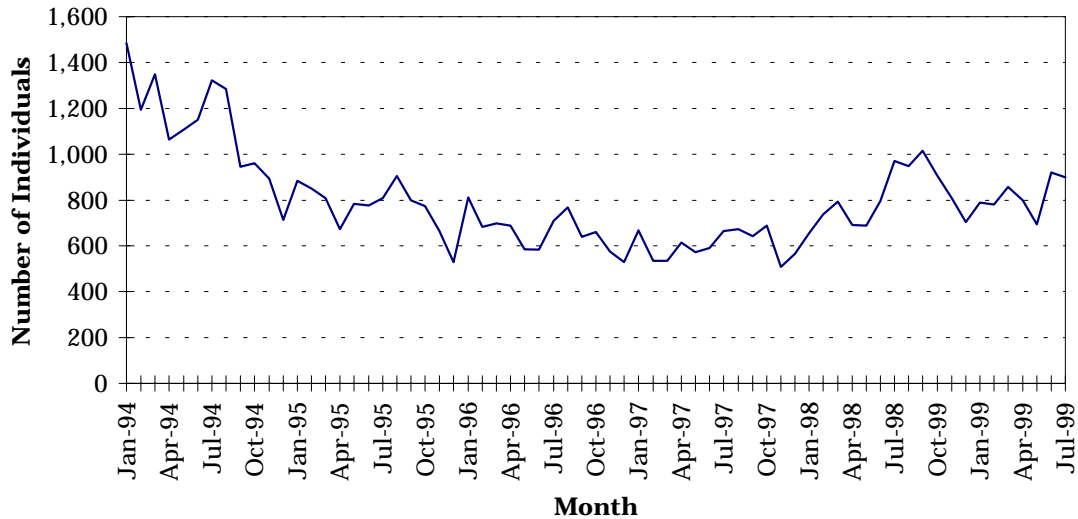
Figure 3-1 illustrates the MAF CN caseload since January 1994. As the figure indicates, there were close to 48,000 individuals—children and adults--in the MAF CN caseload in January 1994. In January 1995, the caseload dropped to around 36,000 individuals. The MAF CN caseload stayed below 40,000 individuals until September 1997. By November 1998, the caseload increased to more than 61,000 individuals. In August 1999, the caseload was approaching 69,000 individuals.

Figure 3-1: The MAF-CN Caseload Over Time



Most of the individuals that receive benefits under MAF CN have received Medicaid benefits through other programs. Figure 3-2 shows the number of individuals that begin their first period of eligibility on Medicaid as a MAF CN participant. As the figure indicates, about 1,400 individuals entered Medicaid for the first time through MAF CN in January 1994. Between September 1995 and June 1998, the number of individuals beginning their first period of eligibility on Medicaid through MAF CN ran between 500 and 800 individuals per month. In September 1998, the number increased to 1,059. Since then, the number has averaged close to 800 individuals per month.

Figure 3-2: The Number of Individuals Beginning Their First Spell on Medicaid Through MAF CN



The information shown in Figure 3-2 can be compared with that shown in Figure 3-3 which illustrates the total number of individuals beginning a period of coverage under MAF CN. Figure 3-3 contains information on individuals that have been covered by other Medicaid programs, such as MIC or Work First, as well as those that are receiving Medicaid coverage for the first time. The information presented in Figure 3-3 has a similar pattern to that shown in Figure 3-2. By comparing the two charts, it appears that individuals that are new to the Medicaid program account for between 20% and 25% of those persons that begin a period of coverage under MAF CN.

Figure 3-3: The Number of Individuals Beginning a Spell on MAF CN

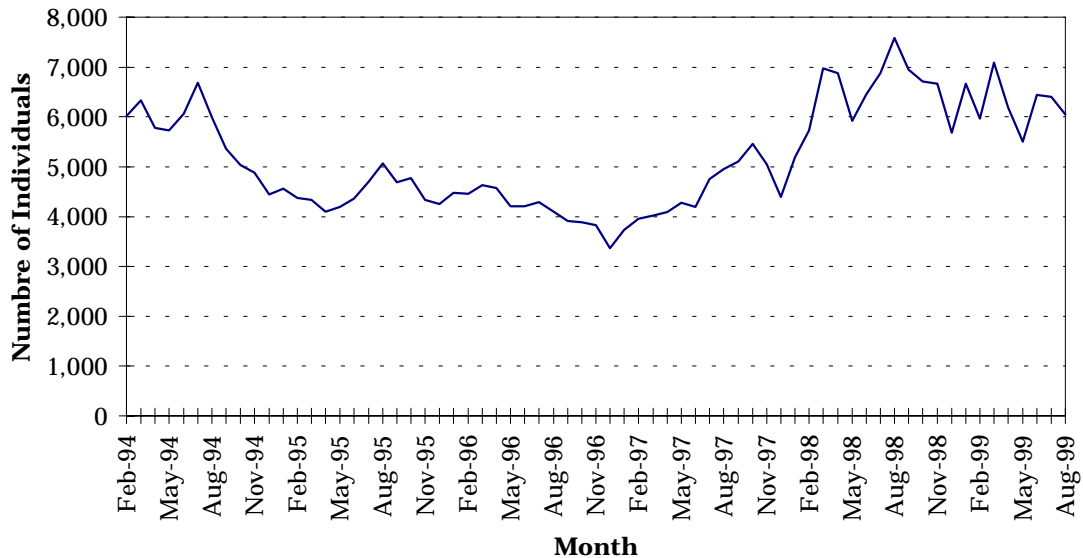
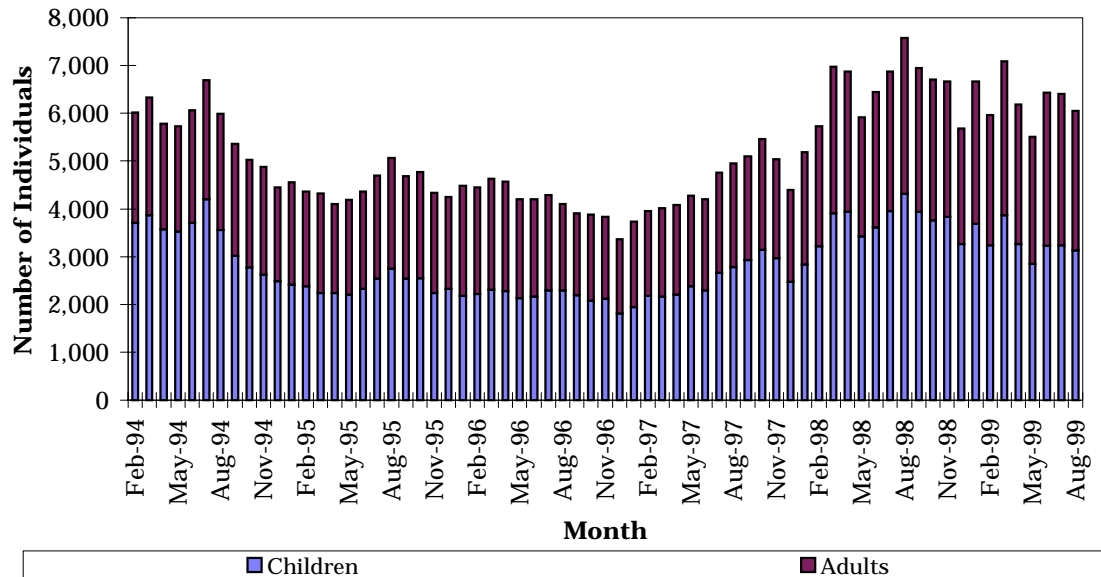


Figure 3-4 provides a breakdown of the individuals entering the caseload by whether they are a child or an adult. An individual is classified as a child in this chart if he or she is under age 19 when benefits begin. As the figure indicates, between 50% and 60% of the individuals entering the MAF CN caseload each month are children. In the case of MIC, only children under age 19 are covered, although the income of certain adults in the household is considered for determining eligibility for benefits. With MAF CN, children up to age 21 can be covered, along with parents and stepparents under certain conditions.

Figure 3-4: Individuals Entering MAF CN Broken Down by Children and Adults



Exits from MAF CN

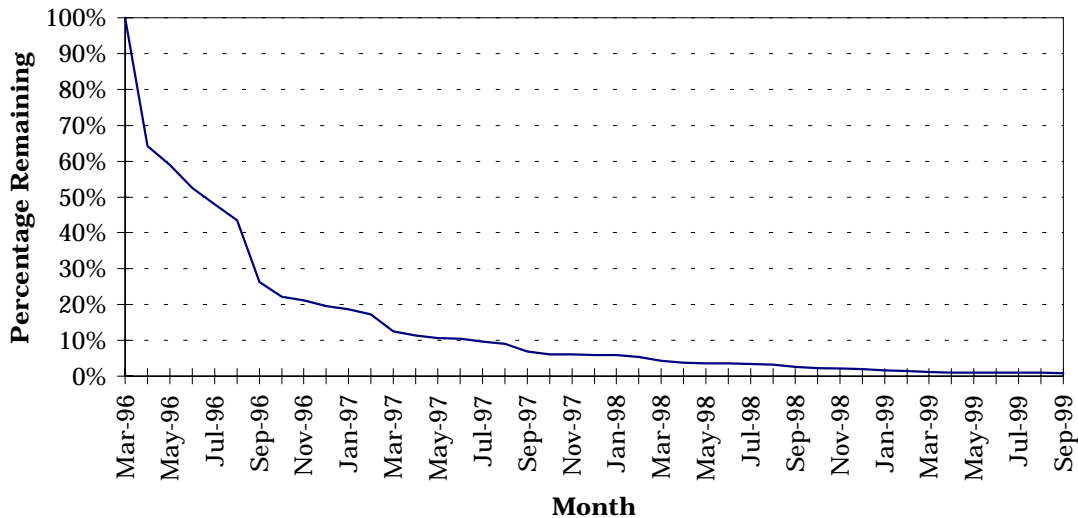
Children on MAF CN leave the program at a higher rate than children on MIC. This is illustrated in Figure 3-5. As the figure indicates, there is a very sharp drop in the number of children on the program over time. There is a very high rate of exit after the first month a group of children begin a period of coverage under the program. The data suggest that a number of children receive benefits through MAF CN for a month before the program. A number of these children transition to a different Medicaid program. The rate of exit slows slightly after the first month, as evidenced by the slight decrease in the slope of the line. There is another sharp increase in the rate of exit occurring at six months. This likely associated with the length of the initial certification period.

The exit rate shown in Figure 3-5 is for all children that are beginning a period of eligibility under MAF CN in March 1996. It includes information on children entering Medicaid for the first time as well as for children that may have received benefits during an earlier time period through a different Medicaid program. The pattern for children that are entering the Medicaid program for the first time by receiving benefits through MAF CN is very similar. The figure indicates that almost 60% of the children that entered MAF CN in March 1996 left the program within six months. By October 1996, about 78% of the children

that began a period of coverage under MAF CN had left. Close to 90% of the children left within a year.

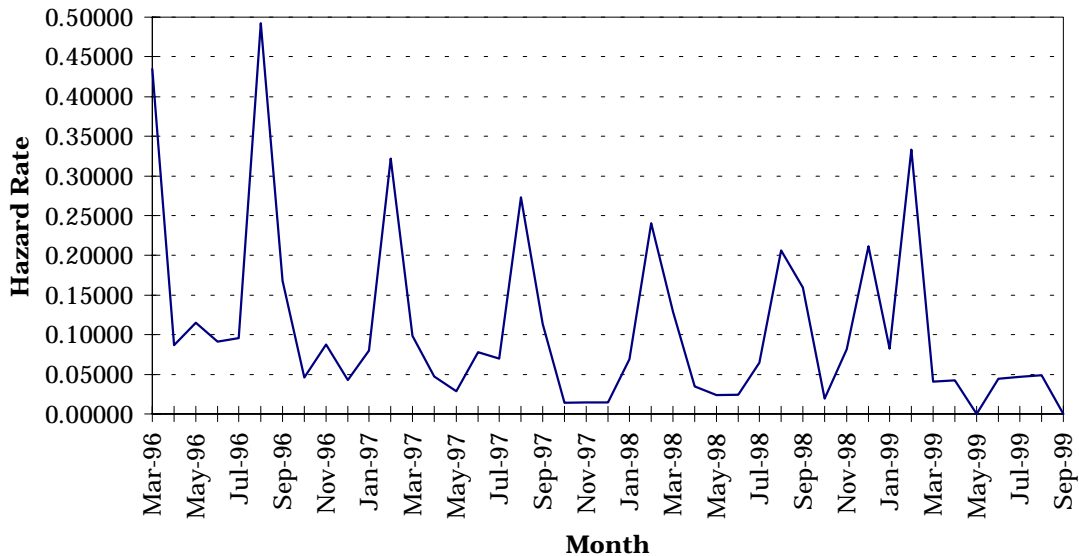
These findings indicate that most children receive coverage through MAF CN for only a very short period of time. The length of time children participate in MAF CN is much shorter than that found for MIC.

Figure 3-5: Rate of Exit from MAF CN for the March 1996 Entry Cohort



Another way of exploring exits from the program is through analysis of the hazard rate over time. The hazard rate for the March 1996 entry cohort is shown in Figure 3-6. As the figure shows, there is a sharp increase in the hazard rate corresponding to six month cycles. There are sharp increases that take place after March 1998 that don't appear to follow the six month cycle. By that time, there are only a small number of individuals on the program, and small number of individuals leaving at the same time can result in an increase in the hazard rate.

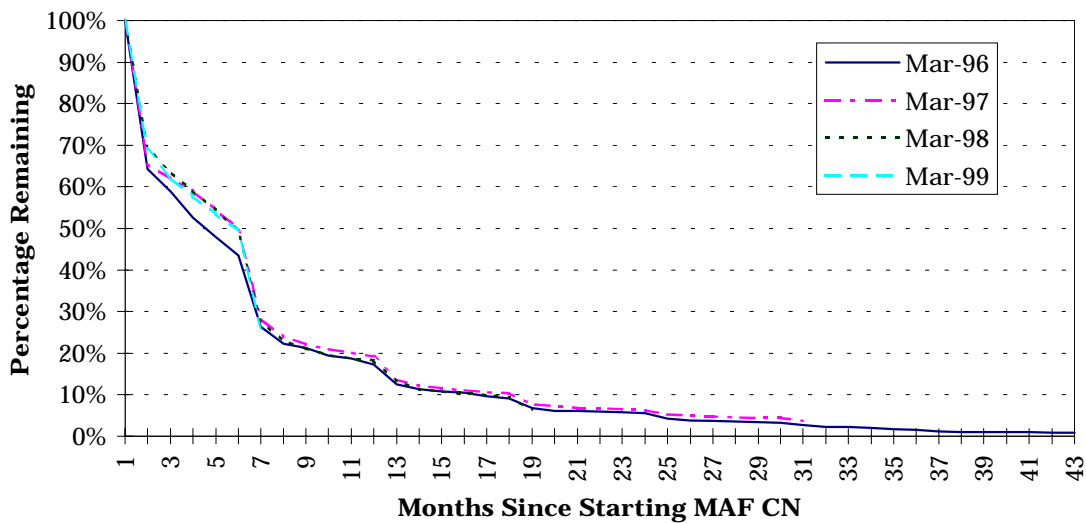
Figure 3-6: The Hazard Rate for the MAF CN March 1996 Entry Cohort



The rate of exit from MAF CN has remained fairly consistent over time as Figure 3-7 indicates. The figure illustrates the rate of exit from MAF CN for children beginning a period of coverage under MAF CN in March 1996, March 1997, March 1998, and March 1999. While there are some slight differences across years, the patterns appear very similar.

As the figure indicates, close to 30% of the children who enter the program leave within a month. Within about five months, half of the children who enter the program have left. Within 10 months, eight out of ten children who entered the program have left. This pattern remains constant across all four years.

Figure 3-7: Rate of Exit from MAF CN for Multiple Cohorts



Factors Affecting Exits from MAF CN

The pattern of exit for MAF CN remains fairly consistent for all children, regardless of personal characteristics, such as gender, age, and race. Figure 3-8 shows the rate of exit from MAF CN broken down by gender for children who entered the program in March 1996.⁴ As the figure indicates, the rate of exit for males and females is virtually the same. There is a sharp drop in the number of children on the program at the end of the first month. The rate of exit slows slightly for the next several months, but drops again at the end of August. According to the figure, almost 60% of the children that began a period of coverage on MAF CN left the program within six months. The child's gender does not appear to be related to the rate of exit.

⁴ The March 1996 entry cohort was used in these analyses because it offers the longest follow-up time period. Similar results were found for later entry cohorts.

Figure 3-8: Rate of Exit from MAF-CN for the March 1996 Entry Cohort by Gender of Child

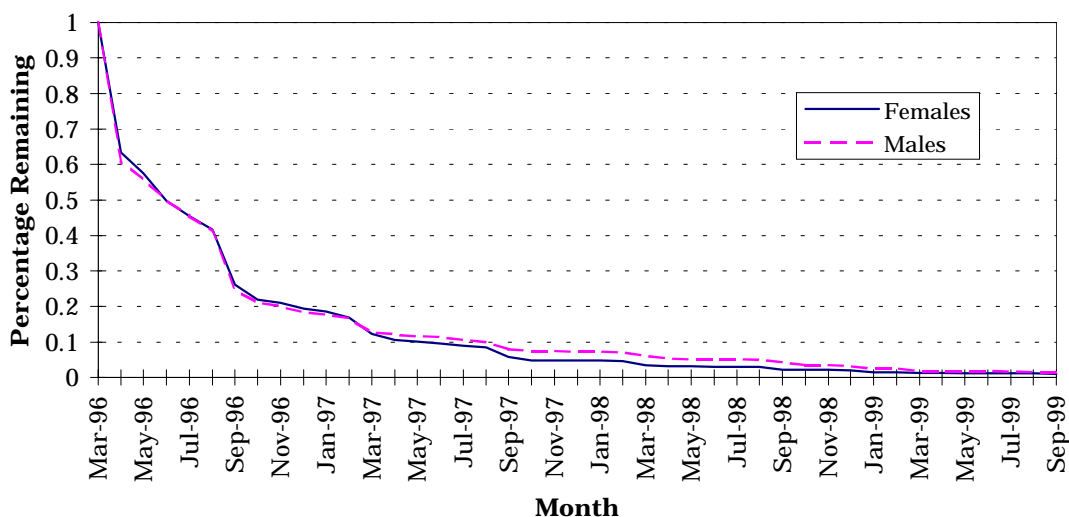


Figure 3-9 illustrates the rate of exit for children in the March 1996 entry cohort for various age groupings. The figure indicates that younger children tend to leave MAF CN at a slightly higher rate than older children. As the figure shows, only about 43% of the children who were less than one-year-old when they entered the program in March remained on the program in May. About 61% of the older children—those over seven-years-old—remained on the program in May. Slightly more than half of the children age one to six remained on the program in May. The average, or median, length of stay on MAF CN for a child under age one from the March 1996 entry cohort is 2.2 months. For children age one to six, the average length of stay in the program is 3.3 months. For children over age seven, the average length of stay on MAF CN is 5 months. Only 5.8% of the March 1996 entry cohort is under age 1. Children age one to six account for 37.6% of this entry cohort. Children age seven and older account for 56.6% of the entry cohort.

One reason the rate of exit for all children from this entry cohort, illustrated in Figure 3-5 above, more closely resembles the rate of exit for the older children than for those under one is that the older children comprise the largest portion of the entry cohort. As a result, the pattern of exits for the entire cohort more closely resembles the rate of exit for the older children than for the younger children.

Figure 3-9: The Rate of Exit from MAF-CN for the March 1996 Entry Cohort by Age of Child

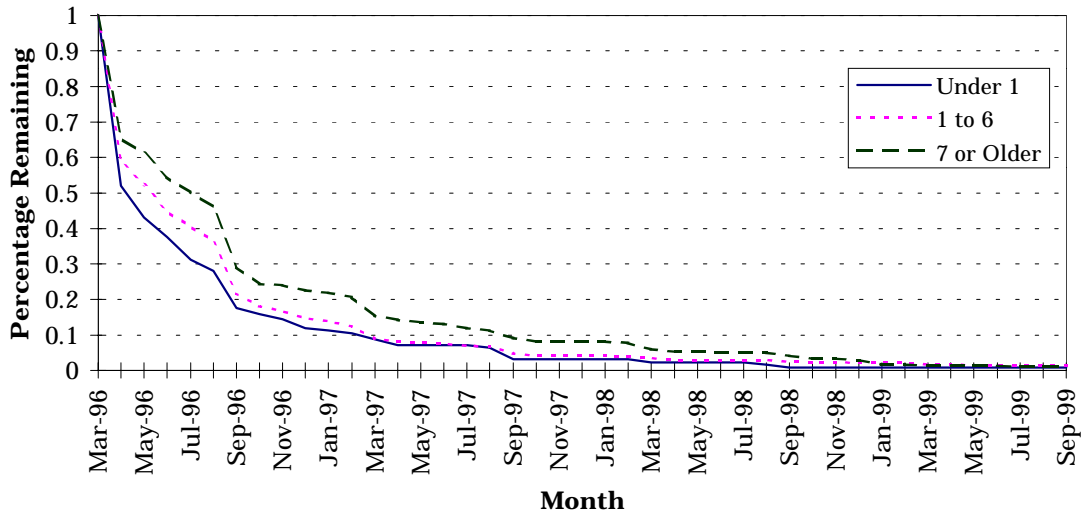
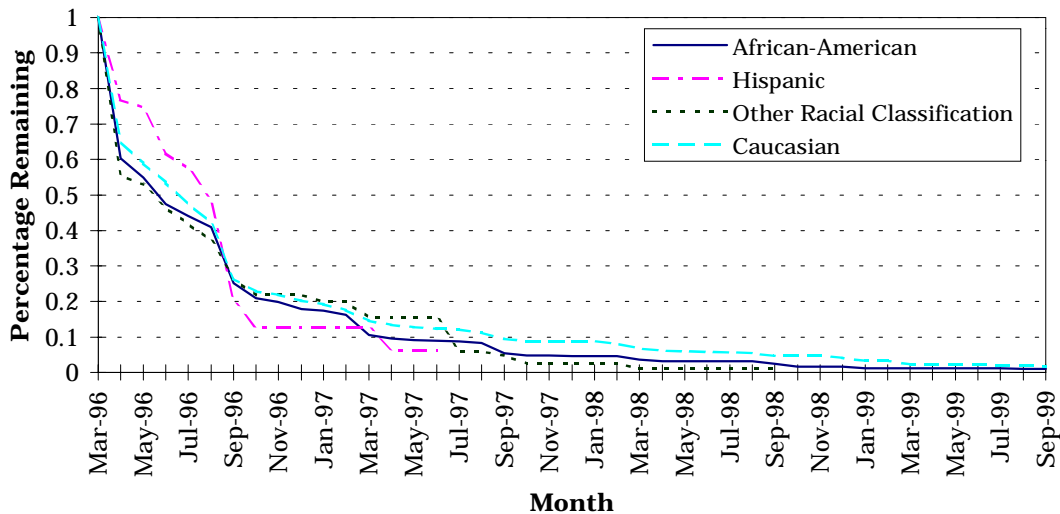


Figure 3-10 illustrates the variation in the rate of exit for the March 1996 entry cohort by the racial classification of the child. The figure indicates that children of all races have a similar pattern of exits. Hispanic children, who make up only 2.3% of this entry cohort, tend to remain on the program initially for a slightly longer period of time than other children. For example, in May 1996, 75% of the Hispanic children that began a period of coverage under MAF CN in March remained on the program. This compares with 55% of the African-American children, 59% of the Caucasian children, and 53% of the children with other racial classifications. Within a few months, the rates of exits converge. By September 1996, only 25% of the African-American children remained on MAF CN, compared with 20% of the Hispanic children, 26% of the Caucasian children, and 26% of the children from other racial classifications.

African-American children, who comprise 56.5% of the March 1996 entry cohort, had an average, or median, length of stay on MAF CN of 3.7 months. The average length of stay for Hispanic children was 5.8 months. Children from other racial classifications, who comprise 5.3% of the entry cohort, had an average length of stay of 3.4 months. Caucasian children, who make up 35.9% of the entry cohort, have an average length of stay on MAF CN of 4.5 months.

Figure 3-10: The Rate of Exit from MAF-CN for the March 1996 Entry Cohort by Race of Child



The Impact of Continuous Eligibility on Exits from MAF CN

One method of assessing the impact of continuous eligibility is to compare the rates of exit from MAF CN for cohorts approved after the policy changed with those that were processed before. March 1999 was the first MAF CN entry cohort to be processed under the new policy. Figure 3-11 illustrates the rate of exit from the program for that cohort. Since information on the exits from the program for that cohort is available for only a small number of months, the rate of exit appears to be somewhat lower than rates found for earlier cohorts. That assumption is likely a little misleading.

As the figure indicates, about 30% of the children that entered the program in March 1999 left at the end of the month. By May, only 62.1% of the children remained. By July, only 53.5% of the children that entered MAF CN in March remained. The rate of exit increased in August and by September, only 25.8% of the children remained. This pattern is very similar to that found for earlier cohorts.

Figure 3-11: The Rate of Exit from MAF CN for the March 1999 Entry Cohort

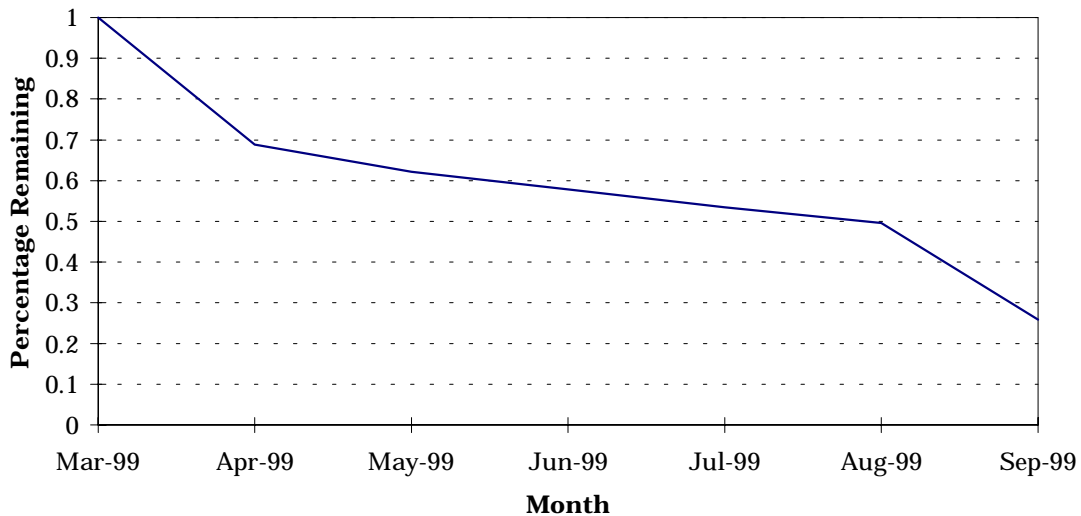
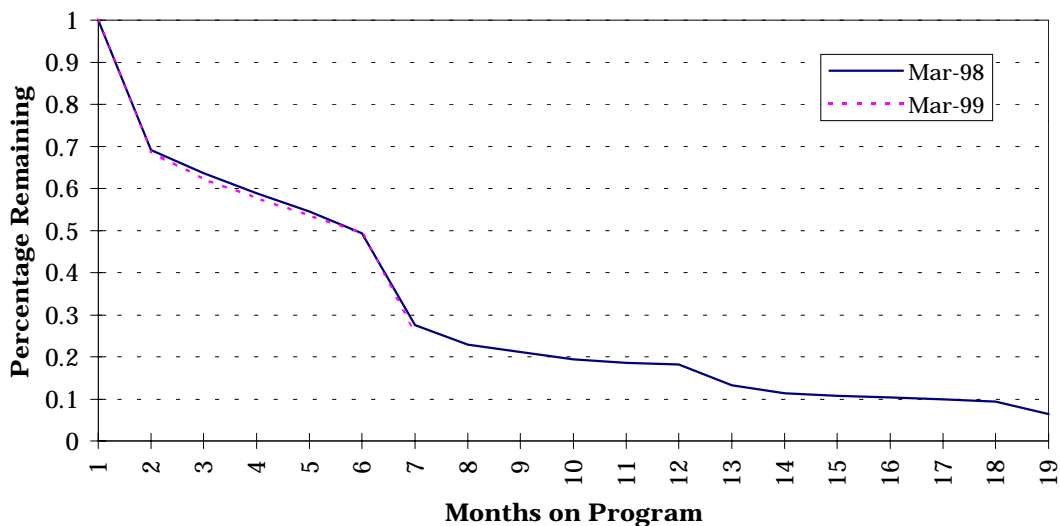


Figure 3-12 compares the rate of exit for the March 1999 entry cohort with that for the March 1998 entry cohort. As the figure indicates, the survival curves for the two cohorts are almost indistinguishable.

Figure 3-12: The Rate of Exit from MAF CN for the March 1998 and March 1999 Entry Cohorts

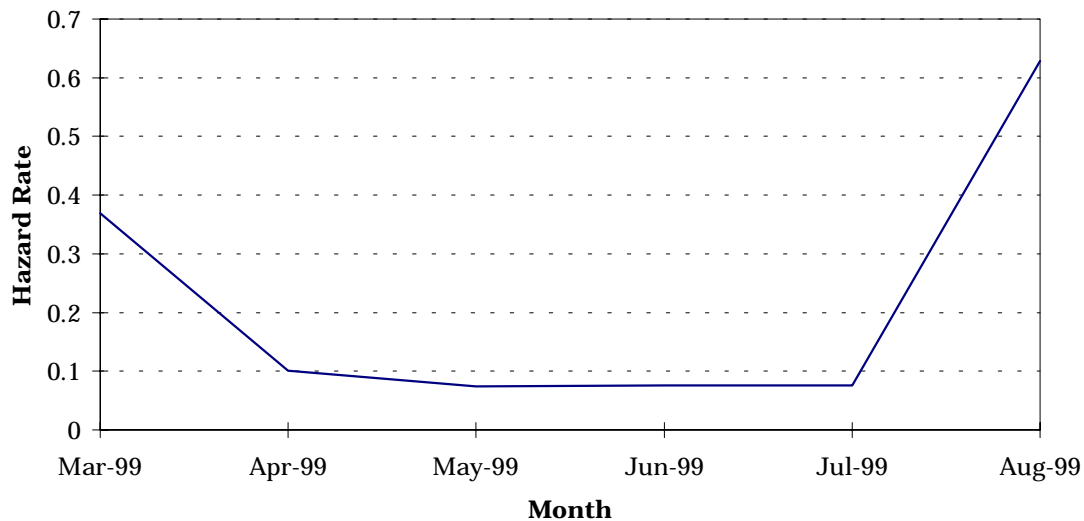


For both cohorts, about 30% of the children leave at the end of the first month. The rate of exit declines for the next four months. Approximately five percent of the children that

entered MAF CN in March leave in each of these months. There is a sharp increase in the rate of exit that occurs in August. By September, only about one-fourth of the children that began a period of coverage under MAF CN in March remain on the program.

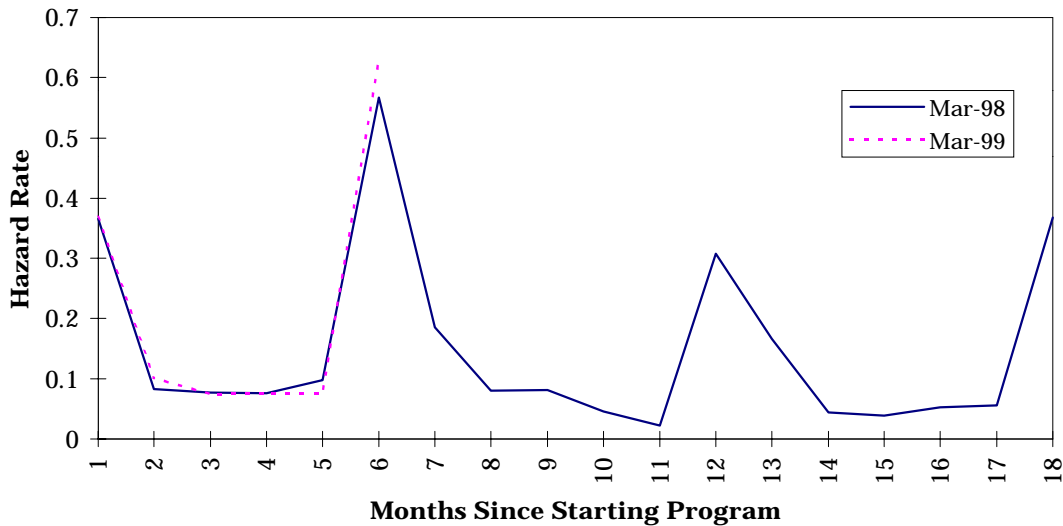
Figure 3-13 shows the hazard rate for the March 1999 entry cohort. The figure shows that the likelihood of leaving the program is high during March, then drops through June, and increases in August. This is what would be expected based upon the survival curves shown in Figures 3-11 and 3-12 above.

Figure 3-13: The Hazard Rate for MAF CN for the March 1999 Entry Cohort



In comparing the hazard rate for the March 1999 entry cohort with the one for the March 1998 entry cohort, little difference is observed. This comparison is shown in Figure 3-14. As the figure indicates, both cohorts appear to have nearly identical hazard rates. Both begin with a high hazard rate which falls and stays roughly level for several months. In August of each year, the hazard rate increases again. The hazard rate for the 1999 entry cohort appears to be slightly higher in August than the one for the 1998 entry cohort. This may be a result of the fact that it is the last month for which data was available for this analysis. It is likely that if the analysis were to be repeated using data running through December 1999 that the hazard rate for August 1999 would be indistinguishable from that for August 1998.

Figure 3-14: The Hazard Rates for Exits from MAF CN for the March 1998 and March 1999 Entry Cohorts



The Impact of the Continuous Eligibility Changes on the MAF CN Caseload

Based on the analysis of the administrative data from EIS, the continuous eligibility provisions do not appear to have an effect on the MAF CN caseload. Children are leaving the MAF CN program at the same rate after the policy change as they did prior to its implementation. A number of these children that exit MAF CN transfer to other Medicaid programs. As a result, the continuous eligibility provisions do not appear to have a financial impact on the cost of providing Medicaid coverage to children receiving benefits under MAF CN.

Since there does not appear to be a change in the rate of exit from MAF CN, it is unlikely that the policy change would have an effect on the transition of children from MAF CN to the North Carolina Health Choice for Children program.

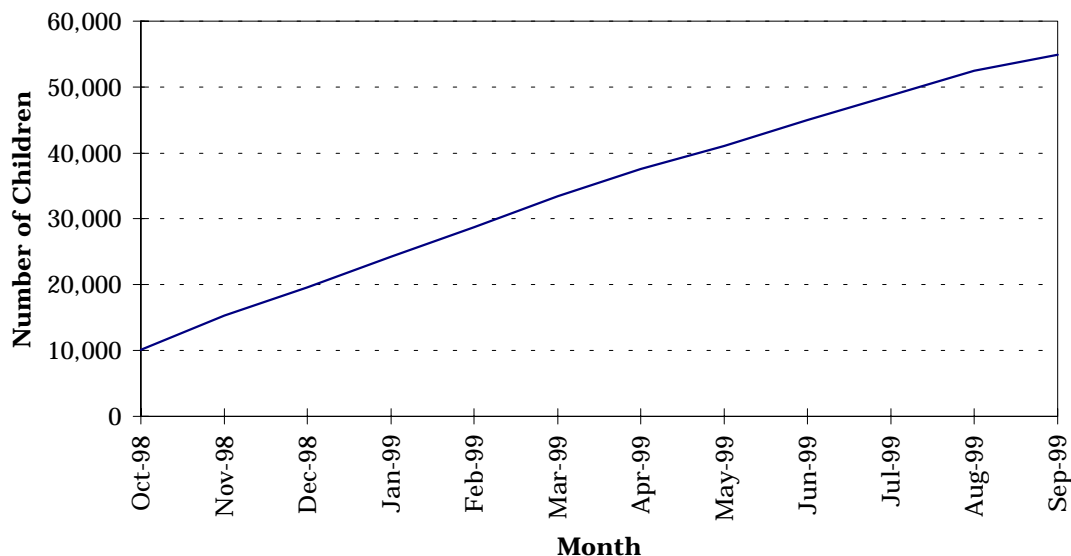
4. Dynamics of the North Carolina Health Choice Caseload

The North Carolina Health Choice for Children program was implemented in October 1998. The program is authorized under Title XXI of the Social Security Act and provides coverage for low-income children from birth through age 18. North Carolina Health Choice for Children (hereafter referred to as Health Choice) is different from Medicaid (authorized by Title XIX of the Social Security Act) in several ways. First, Health Choice is not an entitlement program like Medicaid. Also, benefits for Health Choice are provided through the State Employees Health Plan (SEHP).

Children whose family income is at or below 200% of the federal poverty level may be eligible for benefits under Health Choice. An additional requirement is that the child is not otherwise eligible for full Medicaid benefits or be covered by comprehensive private health insurance. Children whose families terminate private health insurance may be ineligible for Health Choice coverage for up to six months.

There are two categories of Health Choice coverage depending on the family's income. Children whose family income is less than 150% of the poverty line do not have to pay an annual enrollment fee or make a copayment for medical services. Families whose income is between 150% and 200% of the poverty line must pay an annual enrollment fee of \$50 per child (or a maximum of \$100 per family) plus a copayment for medical services. The size of the copayment is determined by SEHP and can't exceed 5% of the family's annual income. Generally, the copayments are \$5.00 per visit to a medical provider, \$6.00 per prescription and \$20.00 for non-emergency visits to a hospital emergency room.

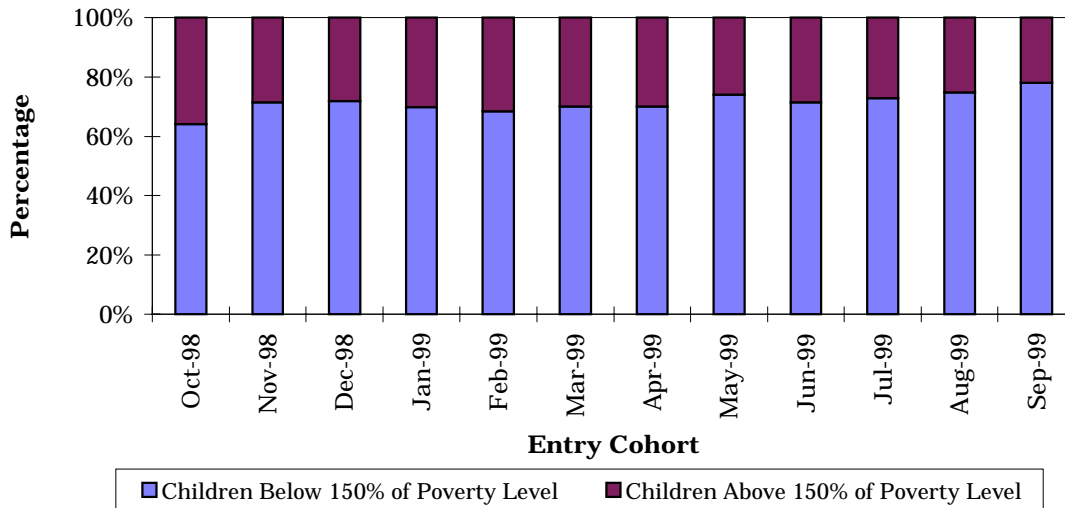
Figure 4-1 illustrates the growth in the Health Choice caseload over time. The caseload has grown from around 10,100 children in October 1998 to close to 55,000 children in September 1999. The caseload has been growing at the rate of about 4,500 cases per month.

Figure 4-1: The Health Choice Caseload Over Time

A large proportion of the children entering Health Choice has had previous Medicaid experience. Of the 59,311 children that have been enrolled, 72.5% had prior experience with Medicaid under MIC. Also 43.3% have received benefits under Aid to Families with Dependent Children (AFDC) or Work First, and 21.3% have received transitional Medicaid benefits after leaving Work First. An additional 21.4% were covered by Medicaid through MAF.

A majority of the children enrolling in N.C. Health Choice are from families whose income is below 150% of the federal poverty level as Figure 4-2 illustrates. As the figure

Figure 4-2: The Breakdown of Children Enrolling in Health Choice Each Month by Whether the Children are Below or Above 150% of Poverty Line



indicates, around two-thirds of the children who enroll in Health Choice each month are from these families. The breakdown of the caseload in terms of the proportion of cases from families below 150% of the poverty line and cases from families above 150% of the poverty line is important. One reason for that the number of children from families above 150% of the poverty line is smaller than the number below 150% of the poverty line may be the enrollment fee; the \$50 per child fee may deter some families from applying from Health Choice. There are a number of differences between children enrolled in Health Choice from families whose income is below 150% of the poverty rate and those from families above 150% of the poverty rate.

Figure 4-3 illustrates the ages of children from families whose income is below 150% of the poverty line enrolling in Health Choice each month. In October 1998, about 8% of the children were four-years-old or younger, 31% were between ages five to eight, 32% were between nine and twelve, and 29% were age thirteen or older. By January 1999, the percentage of children age four or younger had grown to 14%, the percentage of children age five to eight increased slightly to 32%, while the percentage of children nine to twelve dropped to 27% and the percentage of children thirteen and older dropped slightly to 28%. As the figure indicates, those percentages have remained about the same through September 1999.

Figure 4-3: The Age of Children Enrolling in Health Choice Each Month Whose Family Income Is Under 150% of Poverty Line

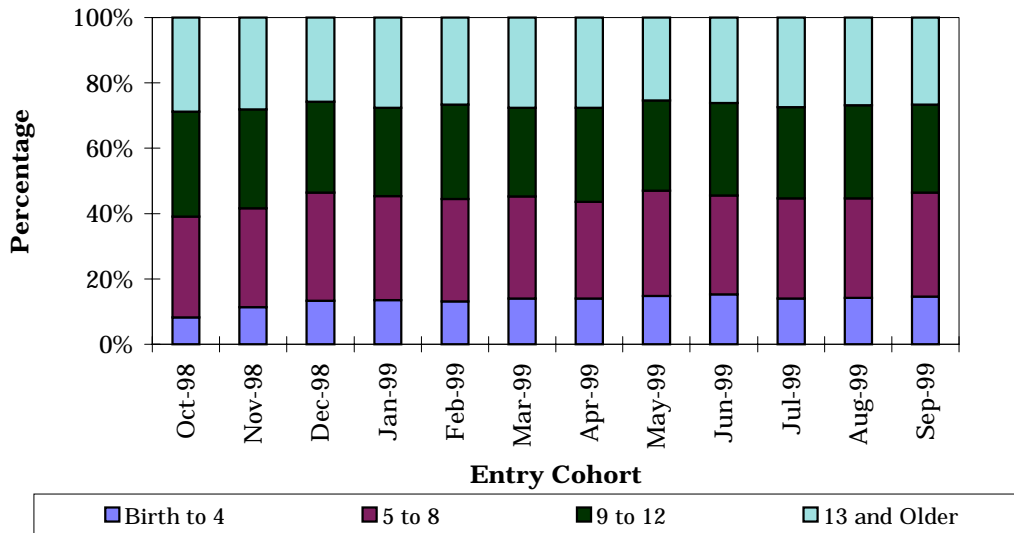
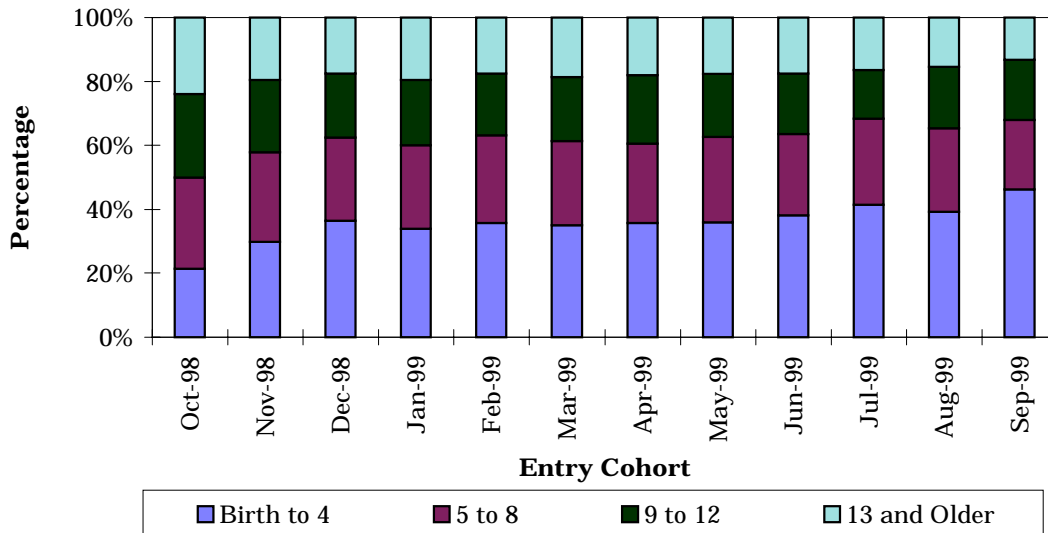


Figure 4-4 illustrates the ages of children enrolling in Health Choice each month whose family income is above 150% of the poverty level. As the figure indicates, 21% of the children from these families that enrolled in October 1998 were age 4 or younger, 29% were between ages five to eight, 26% were between nine-to-twelve-years-old, and 24% were age 13 or older. Over time, the percentage of children age 4 or younger increased. By January 1999, this age group comprised 34% of the children enrolling in Health Choice from families with income above 150% of the poverty line. By August 1999, children from this age group accounted for 39% of the children enrolling in Health Choice. Also by August, children age five to eight accounted for 26% of new enrollees from this income group, while the percentage of children age nine to twelve had decreased and children age 13 and older had fallen to 15%.

Figure 4-4: The Age of Children Enrolling in Health Choice Each Month Whose Family Income is Above 150% of Poverty Line



These two figures illustrate that children enrolling from families below 150% of the poverty line tend to be older than those from families above 150% of the poverty line. The percentage of children enrolling in Health Choice age 13 or older from families whose income is below 150% of the poverty line is almost twice that of children from families with income above 150% of the poverty line. By the same token, the percentage of children age four or younger from families with income below 150% of the poverty line is about one-third of that for families below 150% of the poverty line.

There are also differences in the racial composition of families enrolling in Health Choice depending on whether they are below or above 150% of the federal poverty level. Figure 4-5 illustrates the breakdown by race of children from families below 150% of the poverty level enrolling in Health Choice each month. The figure indicates that about 40% of the children enrolling in the program each month are African-American, while slightly more than 50% of the children are Caucasian. Hispanic children accounted for 2% of the children from families below 150% of the poverty level in October 1998. By September 1999, the proportion of children from families in this income classification enrolling in Health Choice classified as Hispanic had more than doubled to 5%.

Figure 4-5: Racial Composition of Children Enrolling in Health Choice Each Month From Families with Income Under 150% of Poverty Line

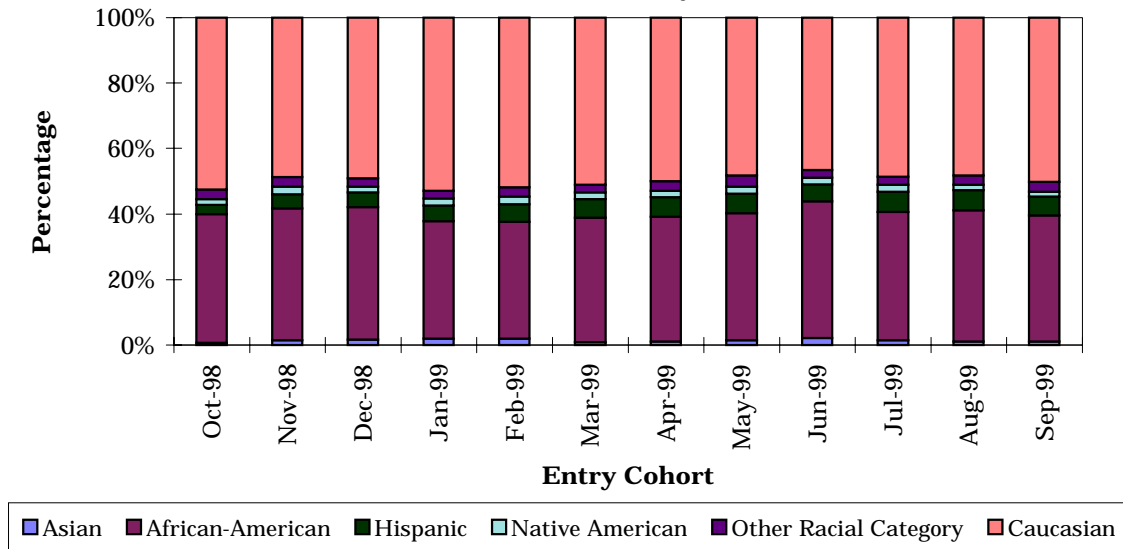
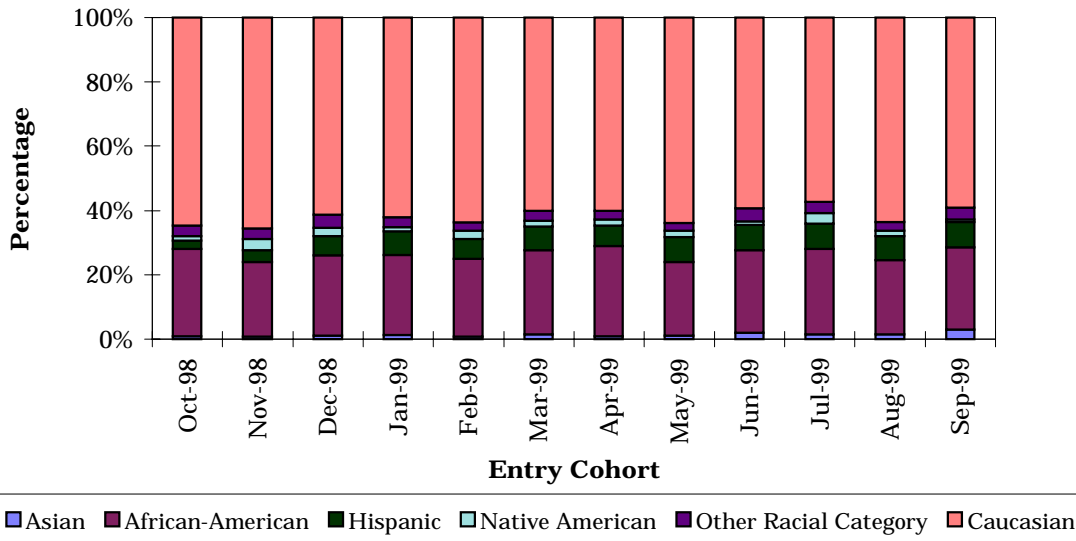


Figure 4-6 illustrates the racial classification of children enrolling in Health Choice each month from families whose income is above 150% of the poverty level. As the figure indicates, about 27% of the children from these families that enrolled in Health Choice in October 1998 are African-American and about 64% are Caucasian. By September 1999, the percentage of children enrolling in the program that were classified as African-American dropped slightly to about 25% while the percentage of children classified as Caucasian dropped to close around 60%.

Figure 4-6: Racial Composition of Children Enrolling in Health Choice Each Month From Families with Income Above 150% of Poverty Line



The differences in the racial composition between the cohort of children enrolling in Health Choice from families below 150% of the poverty level each month and those from families above 150% of the poverty level are likely a reflection of the state's population instead of the operation of the Health Choice program. The determination of whether the child is enrolled in Health Choice for families under 150% of poverty or for families above 150% of poverty is made by caseworkers in local county departments of social services throughout the state. The decision of which program classification to use is based on information supplied by the family at the time of application (or redetermination). A family does not decide ahead of time to apply for one version of the program or another.

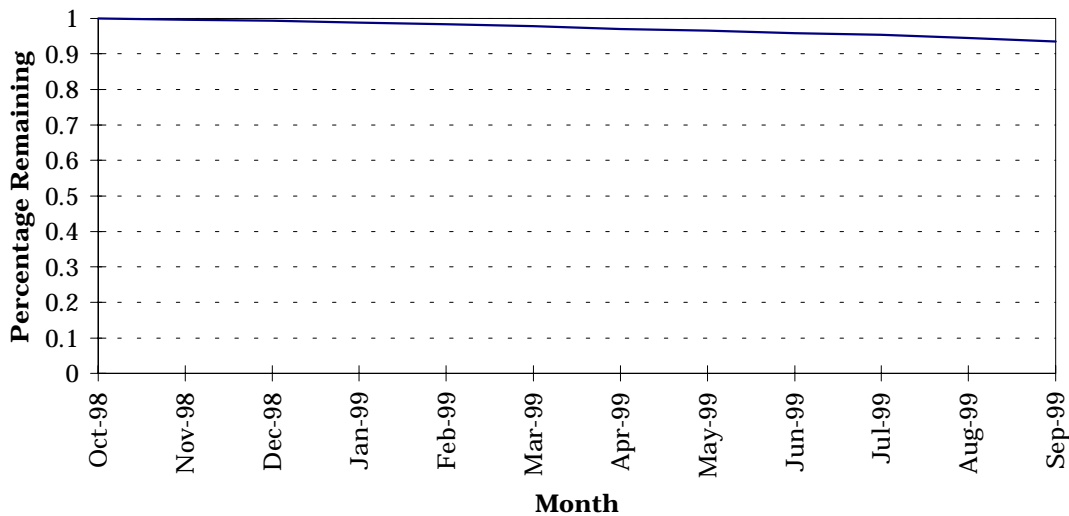
Exits from N.C. Health Choice

Once enrolled in Health Choice, children tend to stay on the program. One reason for this may be due to children being enrolled—or certified to participate in the program—for twelve months at a time. Children in other programs—such as MIC or MAF CN—may be certified for twelve months as well. Yet, as the analyses presented earlier in the report indicate, children tend to leave these programs at a significant rate.

Figure 4-7 illustrates the rate of exit from Health Choice for children that enrolled in the program in October 1998. As the figure indicates, the rate of exit from the program is very

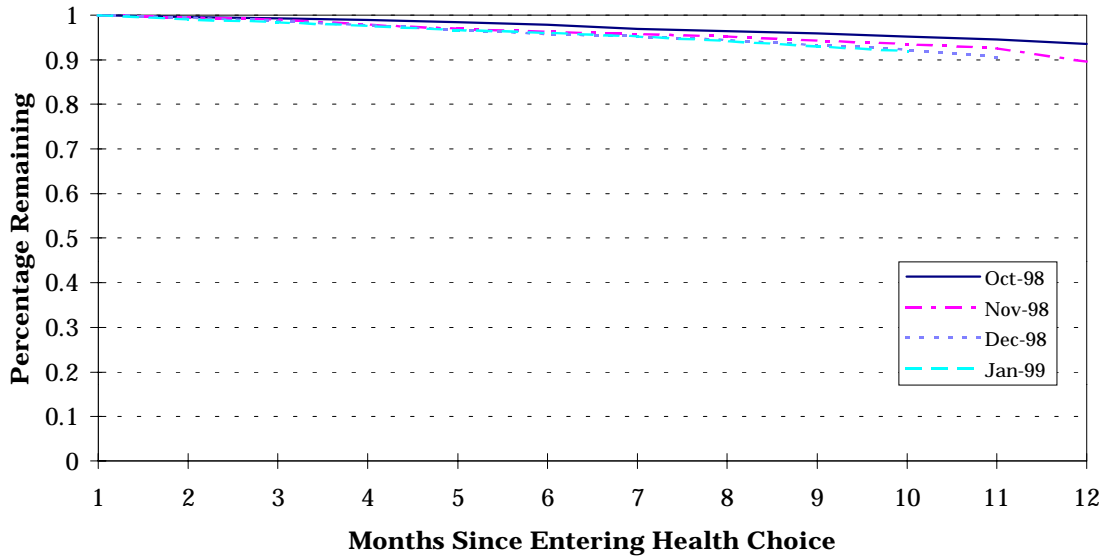
low. In fact, less than 7% of the children that entered the program in October had exited by September 1999. This is a much lower rate of exit from the program than that found for either MIC or MAF-CN.

Figure 4-7: Rate of Exit from NC Health Choice For Children for the October 1998 Entry Cohort



Similar rates of exit were found for children entering the program in subsequent months. As Figure 4-8 illustrates, the rates of exit for children that entered Health Choice in November 1998, December 1998, and January 1999 are almost the same. Although the rates of exit were slightly higher for subsequent months, or entry cohorts, they are much lower than the rates of exit from MIC or MAF CN. About 10% of the children from the November 1998 entry cohort had left within 11 months, about 10% of the children from the December 1998 within 10 months, and about 8% of the January 1999 entry cohort left Health Choice with 9 months. These findings suggest that the rate of exit from Health Choice may eventually approach 1% per month in the future. This is still a much lower rate than found in other programs.

Figure 4-8: Rate of Exit from Health Choice for Multiple Exit Cohorts

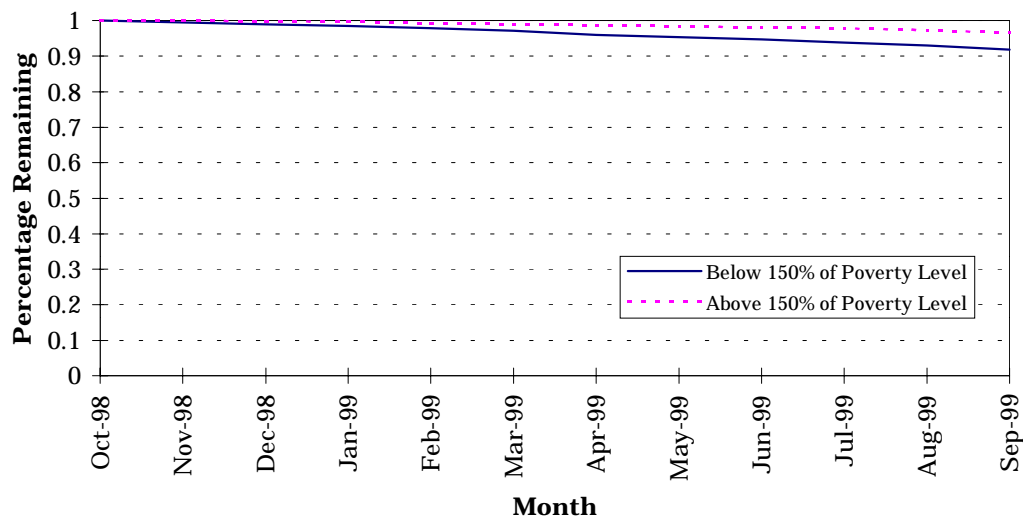


While the overall rate of exit from Health Choice is low, there is observable variation in the rate at which children leave the program based on their family's income. As Figure 4-9 indicates, children from families whose income is below 150% of the poverty level tend to leave the program at a higher rate than children from families whose income is above 150% of the poverty level. As the figure indicates, about 8.2% of the children from poorer families—those with incomes below 150% of the poverty level—had left the program by September 1999. Children from families with income above 150% of the poverty level left the program at a lower rate. Only 3.5% of the children from these families had left the program by September; 96.5% of children from these families remained on the program.

While the twelve-month period of coverage for children in Health Choice may be one reason why the rate of exit for the program is much lower than that observed for Medicaid programs such as MIC or MAF CN, it is likely not the only reason. In fact, the 12-month enrollment period is probably only a minor factor in the low rate of exit from the program. While there are sharp drops in the children remaining on MIC or MAF CN associated with certification periods (as indicated in the increased rates of exit), the rates of exit from these programs are much higher than the rate of exit from Health Choice during the first three months after a child begins a period of coverage on them. For example, Figure 1-3 indicates that about 10% of the children that begin a period of coverage under MIC have left the

program within three months. Figure 3-5 indicates that more than 40% of the children that begin a period of coverage under MAF CN leave by the end of three months. Figure 4-7 and 4-8 indicate that only one or two percent of the children have left Health Choice at the end of three months. Based on this, it would appear that the length the certification period—or length of enrollment period—does not play a major role in explaining the differences in the rates of exit between programs such as MIC and MAF CN and Health Choice.

Figure 4-9: Rate of Exit from N.C. Health Choice for Children Above and Below 150% of the Poverty Level From the October 1998 Entry Cohort



Another way of exploring exits from programs is to study the hazard rate. The hazard rate illustrates the likelihood of exiting the program at a particular point in time. At lower hazard rates children are less likely to leave the program. At higher hazard rates, cases are more likely to leave the program. Figure 4-10 illustrates the hazard rate for the October 1998 entry cohort. As the figure indicates, the hazard—or likelihood of leaving—increases over time but is still very low. There is a slight peak at March 1999, and, after a slight decrease, continues an upward trend through August 1999.

Figure 4-10: Hazard Rate for the October 1998 Entry Cohort

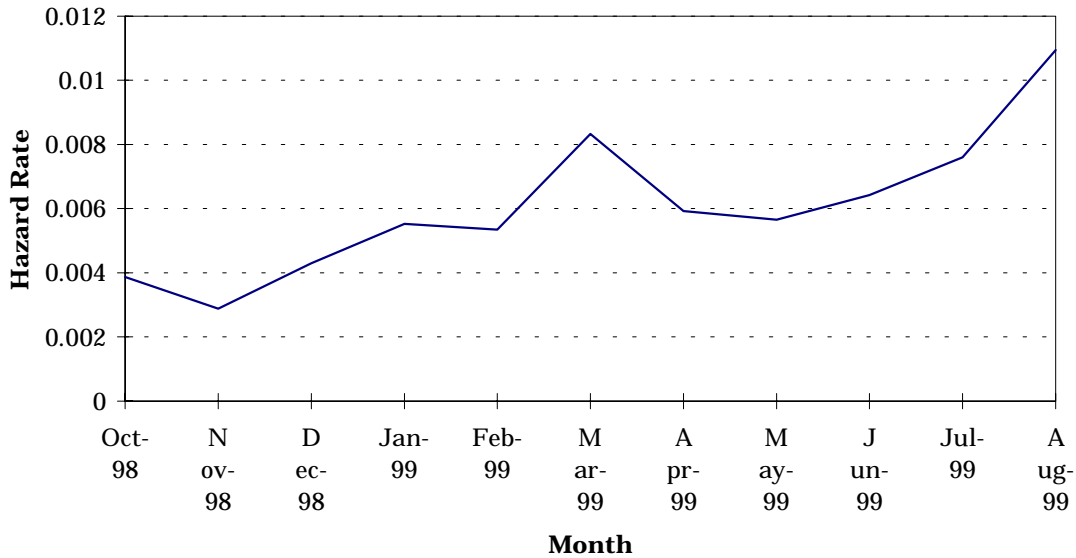
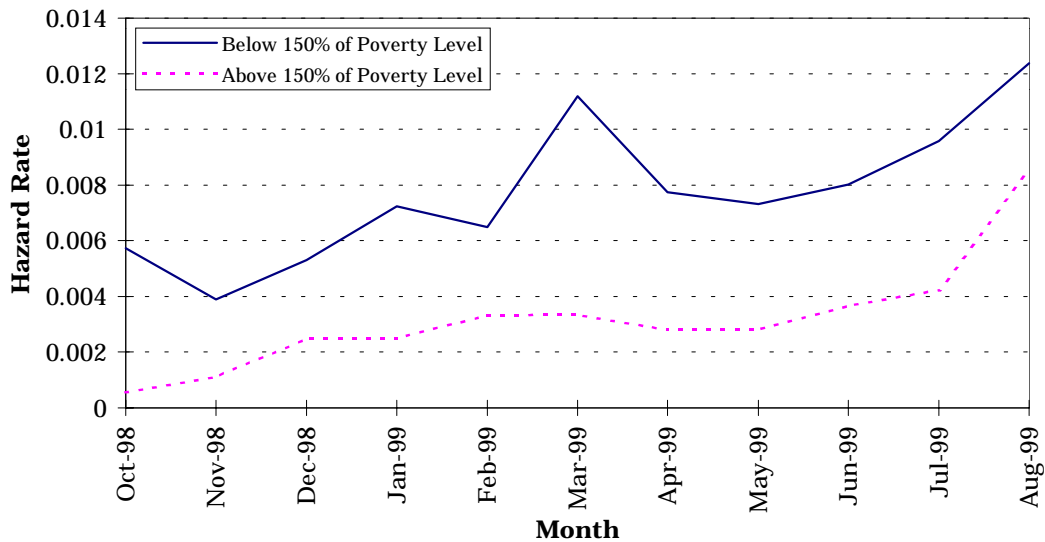


Figure 4-11 compares the hazard rates for children from families with incomes below 150% of the poverty line with those from families above 150% of the poverty line. The figure reinforces the information presented earlier in Figure 4-9. As the figure indicates, the hazard rate for families below 150% of the poverty rate is higher than that for families above 150% of the poverty rate. The higher the hazard rate, the higher rate of exit from the program. The figure also indicates that the increase in the hazard rate in March 1999 is only associated with those children from families with incomes below 150% of the poverty rate. Children from families with income above 150% of the poverty rate—while their hazard rate increases over time—do not have the sharp rise at five months.

Figure 4-11: Hazard Rates for Children Above and Below 150% of the Poverty Level for the October 1998 Entry Cohort



The reasons for the differences in rates of exits between children from families with income below 150% of the poverty level and those from families with income above 150% of the poverty level are not readily apparent. It may be that the families with incomes below 150% of the poverty level are more likely to move or relocate—and thereby lose contact with the local department of social services and their eligibility—than children from families whose incomes are slightly higher. Whether or not this is the reason for the higher rate of exit for children from these families, their rate of exit from Health Choice is still much lower than the rates of exit observed for many Medicaid programs.

The Impact of the Continuous Eligibility Provisions on Health Choice

The continuous eligibility provisions do not appear to have affected the Health Choice program. Analysis of the rate of growth in Health Choice enrollments do not indicate a change—either an increase or a decrease—associated with the implementation of the continuous eligibility policy in February 1999. Also, analysis of the characteristics of the children entering Health Choice does not indicate a change in the age, racial classification, or the income levels associated with the implementation of the policy.

Since Health Choice was implemented in October 1998, and the continuous eligibility provisions were implemented in February 1999, a long baseline does not exist. Yet, based on

the information available, the continuous eligibility provisions do not appear to have affected Health Choice enrollments.

5. Summary and Conclusion

This study attempted to address six questions:

- How many more children are receiving Medicaid coverage as a result of the change?
- How many of the children receiving the extended coverage would have been enrolled in NCHC?
- How much does it cost the Medicaid program to provide this coverage?
- How many of these children would have been financially ineligible for Medicaid if these changes had not been enacted?
- What are the costs to the Medicaid program for providing services to these children that would have been financially ineligible?
- Do the costs born by the Medicaid program represent savings for NCHC?

In terms of the first question, the answer is not completely clear. Analysis of the rates of exit from the program indicates that children are leaving MIC at a slightly lower rate after the implementation of the continuous eligibility provisions. As a result, at the end of six months, there are about 3.9% more children on the program—about 83% from the March 1999 entry cohort as compared to around 79% of the March 1998 entry cohort--than there would have been the case if the changes were not implemented. This increase in the caseload is gradual and does not begin to appear until about three months after each cohort starts the program. It is not clear whether the change is a random variation or a systematic change reflecting the new policy.

The change in continuous eligibility does not appear to have affected MAF CN children. The rate of exit from MAF CN appears to have remained unchanged since before the continuous eligibility provisions were implemented

Analysis of the Health Choice caseload does not indicate any changes in dynamics associated with the implementation of the continuous eligibility provisions. This analysis is complicated by the fact that Health Choice was implemented only five months prior to the continuous eligibility provisions. Examination of the rate of growth of Health Choice, as well

as exploration of the characteristics of the children enrolling in the program, does not indicate any changes associated with the continuous eligibility provisions.

The cause of the decrease in the rate of exit is not clear. For a number of reasons, the continuous eligibility provisions do not appear to be a major factor. While the decreased rate of exit will have cost implications, continuous eligibility appears to play a minor role. The projected cost of providing medical services to the March 1999 entry cohort through the end of August is \$4,609,574. The continuous eligibility provisions are estimated to represent 0.3% of that, or \$13,299.

It is not clear how many of the children that remain on MIC as the result of the continuous eligibility provisions would be eligible for other forms of Medicaid. Since MIC has higher income limits than other programs, it is likely that none of the children would be eligible for Medicaid if not for continuous eligibility.

The costs to the Medicaid program are those described above. The continuous eligibility provisions are projected to raise the costs of Medicaid for the March 1999 entry cohort by \$13,299 through the end of August, or about 0.3%.

The continuous eligibility provisions do not appear to have had an impact on Health Choice enrollments. There is no indication that Health Choice enrollments would have increased at a higher rate if the continuous eligibility provisions had not been enacted. As a result, the policy change does not have an impact on Health Choice costs.