
Evaluation of the Impact of Continuous Eligibility: Interim 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 this 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 is to examine the impact of the change on the Medicaid program and the children's health insurance program, North Carolina Health Choice (NCHC). The study will explore whether there is an increased number of children remaining on Medicaid as a result of this change and, if there is, how the increased caseload affects the costs of providing services. The study also will examine how the change in the Medicaid caseload impacts the costs of NCHC.

The study is being 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 will use data from a variety of sources to assess the impact of the eligibility changes. As part of the first phase of the study, information was extracted from the Eligibility Information System (EIS). EIS is used by eligibility specialists 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 is being used to develop statistical models of the dynamics of the Medicaid caseload prior to the implementation of the continuous eligibility changes. Similar models are being developed for cases processed after the policy changes. The models will be compared in order to identify the impact of the changes.

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

whether that change would affect their children's eligibility for Medicaid had the continuous eligibility provision not been enacted. The participants in the survey will be selected using a stratified sampling scheme that can be used to make statewide estimates of the impact of the policy change.

This interim report provides an overview of the study. It provides a discussion of the issues related to conducting the study and the type of analysis that will be conducted. The report identifies a number of the issues involved in using administrative data for the analysis. It also reviews the procedures that will be used to conduct the telephone survey of the respondents. A draft of the questionnaire is also included.

The report also contains the results of the preliminary analysis of the administrative data. The focus of the analysis is on the caseload dynamics of the Medicaid for Infants and Children (MIC) program. Although MIC recipients are not the only ones affected by the policy change, the program does account for a large proportion of the children of categorically needy families that receive Medicaid.

The initial analysis of the MIC data indicate there are two major factors that have a major impact on the length of time a child receives benefits. The first factor is the length of the certification period. Although some children leave MIC before the end of their certification period, the rate of their exit is slow and gradual. There is a sharp decline in the number of children participating in MIC associated with the length of the standard certification period, twelve months. The data indicate that many MIC recipients choose not to reapply for benefits when their certification period drops. Of those that do reapply, a large proportion leave the program when their second 12-month certification period expires.

Another factor associated with the length of time a child receives benefits is age. Most children, whose first experience with Medicaid is through MIC, begin receiving benefits at birth. Children under age one whose family's income is at or below 185% of the federal poverty level are eligible for benefits from MIC.¹ At the child's first birthday, the case is re-evaluated.² To remain eligible for MIC, the family's income must be at or below 133% of the

¹ Family, in this instance, refers to the technical term "assistance unit."

² In addition to the annual certification review and the re-evaluation of cases at age one, cases are also reevaluated when the child turns six. Children between age six and 19 may be eligible for benefits through MIC if their family's income is at or below the federal poverty level.

federal poverty level. Because of the large number of infants added to the program at birth and because the child's case must be re-evaluated when he or she turns one-year-old, a substantial number of children leave MIC the month of their first birthday.³

These analyses will be expanded in the final report. They also will be supplemented with an analysis of categorically needy Medical Assistance to Families with Dependent Children (MAF) cases and of the NCHC caseload. The final report, which will be submitted to the General Assembly by January 1, 2000, will also contain the results of the survey as well as the analysis of the impact of the continuous eligibility provisions on Medicaid and NCHC.

³ These redeterminations at age one and subsequent case closures are associated with children participating in MIC for 13 months. The standard certification period for MIC cases is 12 months, which would provide coverage from the first day of the month the child was born through the last day of the month before their first birthday. At that time, if the family's income is unchanged, the case is certified for at least one additional month—which provides coverage for the month in which the child turns age one. If the family's income is less than 185% of the poverty level but above 133% of the poverty level, the case is closed at that time, resulting in a spell on MIC that closes after 13 months.

1. Study Description

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 is requiring the N. C. DHHS to study the effect of the legislation on the Medicaid program and NCHC. This document is the interim report of this study and will be submitted to the General Assembly by October 1, 1999. A final report is due 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 will impact program costs. Costs will increase because Medicaid, instead of NCHC, will pay for the medical services these children receive. While these costs for Medicaid may be associated with a decrease in the costs of NCHC, there will also be a loss of revenue since premiums will not be collected for these children.

This change also can extend Medicaid coverage for children in families leaving Work First. Prior to the legislation, most families received six months of transitional Medicaid coverage, followed by an additional six months. In order to get the six additional months of Medicaid the family has to file monthly status reports. If the reports are not filed as required, transitional benefits end after the first six month period. Under the new legislation, children in these families may automatically have 12 months of coverage from their last redetermination. They may still be eligible for transitional benefits after their 12 months of continuous coverage expires.

While there will be an impact on children from former Work First families, the largest impact will likely be seen in the other Medicaid program areas, such as MIC and for children in categorically needy families that receive benefits through MAF.

The evaluation of the impact of the legislation will need to 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 due, there will be a number of challenges for the evaluation.

Fortunately, there are a number of resources that can be exploited to assess the impact of the legislative changes. These resources include archived administrative data from the Eligibility Information System (EIS) and information on claims available through the Division of Medical Assistance's (DMA) data warehouse. Medicaid costs will be based on the average costs per eligible child. These costs have been developed by the DMA Financial Operations. In addition to administrative data, telephone interviews will be conducted with parents of children receiving continuous coverage. These interviews will supplement the analysis of administrative data and answer questions concerning the family's current circumstances.

2. Analytic Approach

The first step in conducting the evaluation would be to organize existing or available administrative data in order to address the research questions. This will be done by extracting information from EIS on families and individuals that have received Medicaid. These extracted data will be used to create a database that can be used to estimate how long families

and individuals—particularly categorically needy families and their children—have stayed on the program. The EIS extracts also can be used to track the number of categorically needy families with children that were approved or redetermined after the policy change was implemented.

The EIS extracts also will be used to track the rate at which children from categorically needy families are approved for NCHC. Although the policy granting 12 months of continuous coverage was implemented February 1, 1999, there will be a number of categorically needy families that will not necessarily benefit from the change. These families include those that lost Medicaid coverage in late 1998, after NCHC was implemented, as well as those that leave Medicaid after February 1999 that were not redetermined after the policy change was made. It will be important to track the experiences of the children from these families that did not benefit from the policy change in order to estimate how many children from families that do benefit would likely have moved to NCHC.

The EIS extracts also will be 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 that will be used in the survey will be to ask respondents about their family's income and financial situation and compare the findings to information available through EIS.

The analysis will be accomplished through a series of two tasks. The first task deals with the extraction and analysis of data from EIS. The second task involves a survey of categorically needy families. The activities associated with each task is described below.

Task 1: Extract and Analyze Data from EIS

As part of this task, data will be extracted from EIS. This will be done by unloading a copy of the entire IMS database and selecting information from the individual eligibility and other segments of the file. The analysis will focus on categorically needy families with children. Staff from the Jordan Institute for Families at the School of Social Work at the University of North Carolina at Chapel Hill are familiar with EIS. These researchers have developed a database that tracks every family and individual that has received Work First or

Aid to Families with Dependent Children (AFDC) at any time since January 1995 from EIS extracts.

The information extracted from the individual eligibility records in EIS will be used to develop a longitudinal file that can be used to analyze the average length of a spell of Medicaid coverage. A spell will be measured as the number of months from the time coverage begins until the individual loses coverage. An individual may have an initial eligibility determination and several redeterminations during a single spell. Additional analysis will be conducted to determine how family characteristics, such as the number and ages of children, affect the length of stay on the program.

Families and individuals will be grouped into cohorts based upon when their initial spell on Medicaid began. The spells will be analyzed using life curve and survival analysis techniques. One of the results of this analysis will be a fairly precise estimate of the median or average length of time spent on Medicaid.

Additional analysis will be conducted to explore the feasibility of constructing cohorts based on when a case was redetermined. This analysis will examine the rate at which cases lose eligibility between redeterminations and the likelihood that a case will be closed at redetermination due to an increase in income or assets.

The results of these analyses will be used to estimate the rate at which categorically needy families that are approved or redetermined after February 1, 1999, would have left Medicaid if the policy had not changed. This estimate will be needed in order to project what the Medicaid caseload would have been without the policy change. The estimate also will be used to project the costs of the change.

Not every categorically needy family or child that leaves Medicaid exits the program as a result of a change in income and assets. Some of the categorically needy families that are approved or redetermined after February 1 will leave the program in less than 12 months. These exits may be due to a number of reasons including the family requesting termination or a move out of state. The rates of exit from Medicaid for categorically needy families approved or redetermined after February 1 will be compared with those of similar families approved or redetermined in the same months in earlier years. This comparison will be made using life tables and survival curves. The results of this comparison will yield information on how the

policy may have changed the rate that families leave the program for non-financial reasons. The survival analysis will be a very useful tool for the comparison across time years because it can detect early evidence of a change in the rate of exit from Medicaid. Given the limited time frame for this study, it will be important to be able to detect changes based on a short follow-up period.

In addition to survival analysis, the study also will use macro-level analysis to develop a model of the caseload. This model will be used to estimate the size of the caseload had the continuous eligibility provision not been enacted. These projections will be compared with the actual caseload after the policy was changed. The difference between the estimated and observed caseload will be used to assess the impact of the policy changes.

The analysis also will explore the impact of the continuous eligibility change on such things as the number of cases opened and closed each month. To the extent there is a decrease in the number of case closings, which could be associated with fewer cases closed due to increased income or changes in household composition, the size of the caseload will increase if the number of openings remains the same.

EIS data also will be used to analyze the transition from MIC, categorically needy MAF, and other programs onto NCHC. This analysis will be extremely challenging since NCHC was implemented in October 1998, five months before the continuous eligibility provisions took effect. Those five months provide a very limited time frame in which to assess the rate at which individuals who are on or have been on Medicaid switch to NCHC. The data from EIS will be used to develop statistical models of the transition to Health Choice.

Task 2: A Survey of Participants

The analysis of the administrative data in EIS will be supplemented with a survey of categorically needy families with children that have been approved or had their eligibility redetermined after February 1, 1999. The survey will be conducted through telephone interviews with these households. As part of these interviews, an adult family member will be asked a series of questions concerning his or her income. The results of these interviews will be compared with information contained in EIS. In instances where the household reports a change in income or resources, a determination will be made concerning whether the change

would have made the household ineligible for Medicaid. The results of this analysis will be used to project the number of families that would have lost Medicaid coverage if the policy had not changed.

3. Sampling Issues

Information extracted from EIS in Task 1 is being used to create a sample frame, or list of eligible households. The cases will be grouped by counties. The counties will be grouped by size in order to create three or four strata. A sample of counties will be randomly selected from each stratum. A random sample of cases will be drawn from each of these counties. Since EIS seldom contains the family's telephone number, the case record of each family involved in the survey will be reviewed to identify their current telephone number. An advantage of using a stratified sample is that a small number of counties will be involved. As a result, there would be fewer trips and less coordination involved. This stratified sample will permit estimates to be made concerning the entire statewide caseload. A disadvantage of this method is that it is a complex sample and the results would need to be weighted before the estimates could be made.

The families selected for the survey will be those with children that began a spell in MIC in March 1999. The data from EIS indicate that more than 10,000 children began a spell in MIC in March 1999. For about 6,000 of these children, it was their first experience with Medicaid. The remaining 4,000 children had some prior experience with a Medicaid program or received benefits through some other program, such as foster care, AFDC⁴, or Work First. These cases would have been processed after the policy changed. The sample will likely be allocated proportionately across the strata.

Attempts will be made to conduct interviews with 900 households. The size of the sample is based on the variation in income that is expected and not the number of households participating in MIC. A sample of 900 households should provide sufficient precision to detect changes in income levels among participating households. The sample size is based on the assumption that the largest change in income—between the time the case was last approved or redetermined under the new continuous eligibility guidelines—will be \$300 with a sampling error of + or - \$5. Using \$300 as the range, the population standard deviation (σ) was

⁴ Prior to June 1996, Work First Family Assistance was called Aid to Families with Dependent Children.

estimated at one-fourth the range (300/4), or 75. The population variance (σ^2) was at 5,625 (75 x 75).

The following formula was used to estimate sample size:

$$n = (N \sigma^2) / ((N-1)(D) + \sigma^2)$$

where

n is the sample size

N is the number of MIC cases redetermined in a month

σ^2 is the population variance

D is calculated as follows:

$$D = (B^2)/4$$

where

B is the sampling error.

Substituting 5 for B, we get

$$D = (5^2)/4$$

or

$$D = 6.25$$

Substituting the value of D into the equation, and estimating the MIC cases redetermined in the target month, we get

$$n = (50,000 \times 5,625) / ((49,999 \times 6.25) + 5,625)$$

or

$$n = 884.10$$

The value of n was rounded up to 900.

The sample size was selected prior to the analysis of the data from EIS. Although it estimated the number of redeterminations at 50,000, the sample is being drawn from the number of cases that begin a spell in MIC, a much smaller number. The number of MIC cases redetermined in a month does not have a major impact on the sample size. If the number of redeterminations were as low as 9,000, the sample would need to include about 818 cases. Using a larger sample (900 cases) will likely result in increased precision of the estimate of the income change. The factor that has the largest impact on the sample size is the amount of variation in income. Since the true variation in income is unknown, it is estimated based on an assumption that the range in the change in income will be \$300. Another assumption is that the variation will be approximately the same across strata.

It is likely that a number of households will refuse to participate in the survey. In addition, it may be impossible to contact some households because they do not have telephones or access to telephone or they have moved and can not be located. While a family's refusal to participate will affect the response rate it should not have a significant impact on the findings from the survey. A number of strategies will be used to minimize the number of households refusing to participate. These include reviewing case records in the county DSS to get the most recent telephone number, sending a letter to all families notifying them of the survey, and offering incentive payments for completing the survey.

4. Household Notification

The address shown in EIS will be used to generate a letter to each household in the sample informing them of the study and inviting them to participate. This letter will include information on the name of the project, an explanation of why it is being conducted, and a description of how and why the family was selected for the survey. The letter will describe the telephone interview, the types of questions to be asked, the anticipated length, and the amount of discomfort and risks that might be expected. The family will be told that participation in the survey is voluntary and that their Medicaid benefits will not be affected if they choose not to participate.

The household will be informed that the information they provide will be treated as confidential and will not be shared with DMA or county DSS staff in such a way as to identify them. The letter will also contain the name, address, and telephone number of the Principal

Investigator with an invitation for the family to call if they have any questions or concerns. In addition, the letter will contain information about the Academic Affairs Institutional Review Board (AA-IRB) at UNC- Chapel Hill, its address, telephone number, and electronic mail address and an invitation to contact them also if the family has any questions or concerns about their rights as a survey participant. A toll-free number has been installed for participants to call if they have questions or concerns about the study. The AA-IRB is responsible for monitoring and reviewing all protocols for research involving human subjects.

To enhance response to the survey, families that complete the survey will be paid \$10. The incentive is a one-time payment to these households and is small enough in size that it will not affect their benefits for other programs, such as Food Stamps. It is also small enough that the households will not have to report the payment to their eligibility worker as income.

The letters to the households will be sent with a request to the postal service for address service. As a result, if the family has moved, the letter will be forwarded. In addition, a notification will be sent to Jordan Institute staff that the address has changed along with the new address.

A list of heads of household and telephone numbers of survey participants will be generated by Jordan Institute staff based on information from EIS. Jordan Institute staff will work with DMA staff and the local departments of social services to obtain telephone numbers that can be used to contact each family. If a family does not have a telephone, a separate letter will be sent requesting them to call project staff at the toll-free number to set up an appointment for an interview.

When the head of household calls, project staff will attempt to schedule a time when the person will be interviewed. In some instances, the family member may be interviewed when they call. In other instances, project staff will get a telephone number and make an appointment for an interview. This information will be forwarded to the survey sub-contractor.

Project staff have developed a questionnaire to assess what types of income—earned as well as unearned—the family receives. A draft of that survey is attached to this report. The questionnaire will be converted for use by a computer assisted telephone interview (CATI) system.

The first set of questions in the survey instrument will be used to generate a roster of people in their household, their ages, gender, and their relationship to the head of the household. This information is needed in order to determine who should be considered a member of the family for Medicaid purposes. The next set of questions asks whether anyone in the household receives income from an array of sources. If income is received, the respondent will be asked the amount as well as how often it is received. The respondent will be asked whether the amount of income has changed from when children in the family were approved for MIC, and if it has changed, whether it has increased or decreased and how much.

The telephone interviews will be conducted by Maximus, Inc. Maximus has a good deal of experience conducting interviews with lower income populations in North Carolina. It is currently conducting an evaluation of the Work First program for the Division of Social Services. As part of that evaluation, several thousand telephone interviews will be conducted with current and former Work First families.

Due to the timing of the survey, there may be differences reported in several benefit payments, such as Social Security, Supplemental Security Income (SSI), or Veteran's Benefits. These benefits will likely increase in October.

If there appears to be a substantial change in income, the information obtained through the survey will be reviewed to determine if the change in income would affect eligibility for MIC. The review of the income will include a determination based on Medicaid policy whether the income should be counted or excluded. Project staff will work with DMA staff to make these determinations. If the income should be counted, a calculation will be made to determine whether the additional income would make the child or family ineligible for Medicaid benefits if the policy had not changed.

The results of the survey will be used to project the number of MIC cases statewide that are currently receiving benefits and would have lost them if the policy had not changed. These findings will be used to supplement the analysis of the administrative data.

The results of the survey will be treated as confidential. Information will not be shared with DMA or county departments of social services in such a way that individual households could be identified.

5. Confidentiality of Information

A primary concern of project staff is that the information used in this study remain confidential. The extracts from EIS contain personal information, such as a person's name, address, date of birth, Social Security number and income. Data collected through the telephone survey also contain sensitive information such as income.

To safeguard the privacy and confidentiality of the data from EIS, a number of steps will be followed to ensure that only project staff that need to have access to the data can obtain it. This involves the way the information is extracted, the way it is copied onto computer systems at the University of North Carolina at Chapel Hill (UNC-CH), the way the data are stored, and who is provided access to the data.

EIS files are stored on computers at the State Information Processing Services (SIPS). Project staff have access to SIPS and will extract the information. The extracts are made by using SAS to read the data and create transport files. The transport files will be written to cartridge tapes. Project staff will take blank tapes to SIPS, where the SAS transport files will be created. The project staff member will retrieve the tapes from SIPS and hand deliver them to the offices of Academic Technology and Networks (ATN) on the UNC-CH campus, where they are copied onto a Unix computer system. The tapes will be retrieved by project staff and stored securely at the School of Social Work. The files are maintained under the computer IDs of the project's principal investigator and one of the programmers associated with the project and are accessible only to them.

Copies of the extracts will be moved to a Unix server owned by the School of Social Work. Access to this server and its disk space is limited to individuals working on this or closely related projects funded by the Division of Social Services. The Unix server runs software that enhances security. The server is configured in such a way that special software programs are needed to gain access to the system. The server also logs and tracks unsuccessful attempts to gain access to the system. These logs are routinely monitored by the system administrator. Steps are quickly taken to prevent unauthorized access to the system. All the data analysis will be performed on this Unix server.

Information abstracted from Medicaid case records, such as the family's telephone number, which will be obtained with the assistance of the local departments of social services,

will be entered into software programs on desktop computers. Files containing the names and phone numbers of heads of households selected for the survey will be hand delivered or sent by courier service to Maximus. Files will be sent from Maximus using a similar method. Project staff are investigating the feasibility of encrypting the files using a program such as PGP Personal Privacy to prevent unauthorized access. Once the files are received at UNC-CH, they will be copied onto the Unix server.

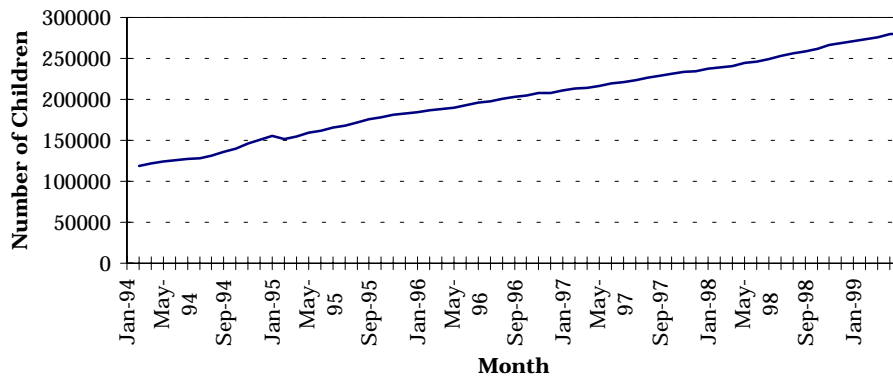
6. The Dynamics of the MIC Caseload

The MIC program is designed to provide medical assistance to children whose families have limited means. Eligibility for the program is based on several factors including the age of the child and family income. The older the child, the lower the income the family can receive and still be eligible. From birth to age one, children may be eligible for MIC even if their family income is 185% of the federal poverty level. Children from age one to age six may be eligible if their family income is at or below 133% of the federal poverty level. Children from age six to age 19 may be eligible for MIC benefits if their income is at or below the federal poverty level.

In North Carolina, the number of children receiving benefits through MIC has grown over time. The growth in the caseload is shown in Figure 1. The figure illustrates how the MIC caseload has grown from close to 125,000 children in March 1994 to more than 279,000 children in March 1999.⁵ The growth has been fairly steady over time, with only one slight drop in the caseload of around 4,000 children in January 1995.

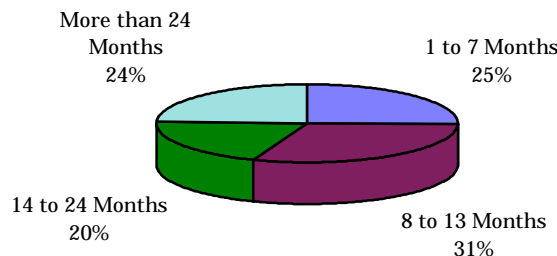
⁵ The data for this chart was obtained through analysis of individual eligibility records from the Eligibility Information System (EIS). After extracting data from EIS, a count was made of the number of children eligible for benefits for each month.

Figure 1: The Number of Children Receiving Benefits Through MIC Over Time



Analysis of the data from EIS indicates that most of the children that receive benefits stay on MIC for a relatively short time. This pattern of participation is shown in Figure 2. As the figure indicates, one-fourth of the children that received benefits from MIC at any time between January 1994 and March 1999 participated in the program for a total of seven months or less over the entire sixty-three month time period. An additional 31 percent of the children participated between eight and 13 months. This means that over half of the children (56 percent) that received benefits through MIC participated for 13 months or less. About 20 percent of the children participated in MIC from 14 to 24 months. Only 24 percent of the children that participated in MIC received benefits for two years or more.

Figure 2: The Number of Months Children Have Received MIC Benefits, January 1994 Through March 1999

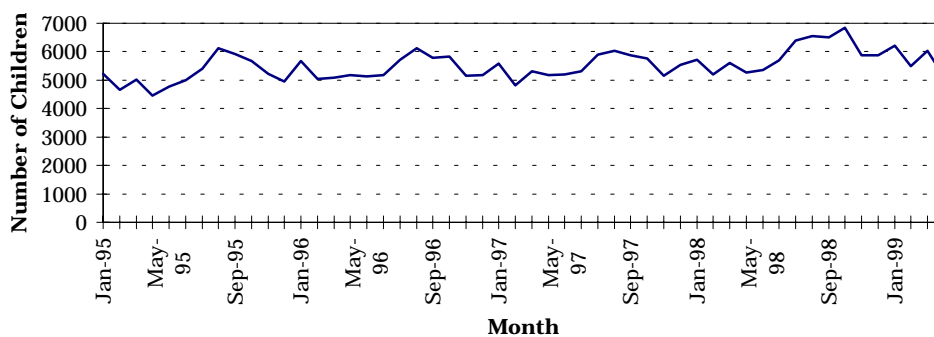


Children can come to the MIC program through a variety of routes. Some enter MIC after receiving benefits through another Medicaid program. These benefits could be issued as

the result of the child's family receiving cash assistance through AFDC or Work First. In other instances, a child may have been the victim of abuse or neglect and received Medicaid after entering placement authority with the local department of social services. Occasionally a child's family may receive benefits through MAF prior to MIC. The transition may be immediate—from Work First transitional Medicaid one month and MIC the next—or there may be gaps of no Medicaid coverage for one or more months.

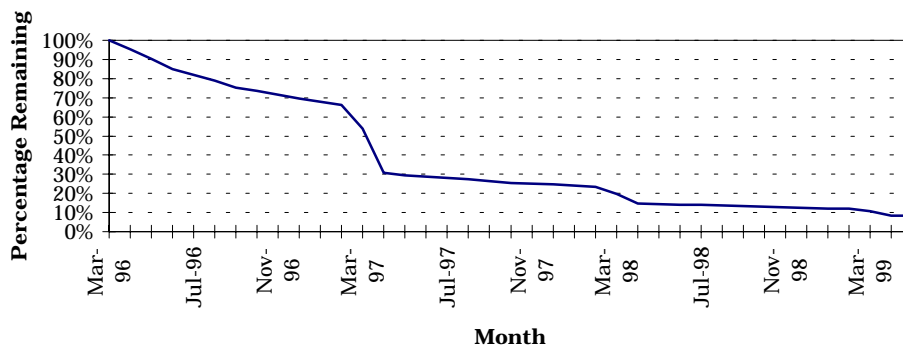
Each month for the last four years, somewhere between 4,000 and 6,500 children begin receiving Medicaid benefits for the first time through MIC. Most of these children are newborns. Even though the size of the MIC caseload has grown over time, the number of children entering Medicaid for the first time through MIC has stayed somewhat stable as Figure 3 indicates. It was only in late 1998 that the size of the groups, or cohorts, of children entering Medicaid for the first time grew to more than 6,000 and stayed there for several months. The figure also indicates that there is a seasonal pattern in the size of these cohorts, at least for the period 1995 through 1997. There appears to be an increase in the size of these cohorts during the month of August, followed by a gradual decline, with another slight surge in size in January. For some reason, the size of these cohorts began growing in July 1998 and stayed above 6,000 children through October 1998. They have fluctuated since then. Although the figure shows a decline in the size of these entry cohorts in March 1998, that may be due to the timing of the data extracts from EIS as opposed to an actual change in the operation of the program.

Figure 3: The Number of Children Entering Medicaid for the First Time Through MIC by Month



Earlier, Figure 2 indicated that many of the children that receive benefits through MIC stay on the program for a relatively short period of time. This is supported by separate analysis of different cohorts of children entering MIC over time. Close to 5,100 children entered Medicaid for the first time through MIC in March 1996. Figure 4 shows the rate at which those children left the program. As the figure indicates, about 30 percent of the children that began receiving benefits in March gradually left the program by February 1997. In March 1997 there is a sharp drop. That drop continues at a slightly increased rate through April 1997. The rate of exit from the program flattens again. Only about seven percent of the children that were receiving MIC benefits in April 1997 had left the program by February 1998. There is another drop in the number of children participating in the program in March 1998, followed by an additional drop in April 1998. The rate of exit from the program flattens again, followed by another drop in March 1999. Of the children that began their first Medicaid spell on MIC in March 1996, less than 10 percent remained on the program without an exit by May 1999.

Figure 4: Rate of Exit for MIC Recipients for the March 1996 Entry Cohort



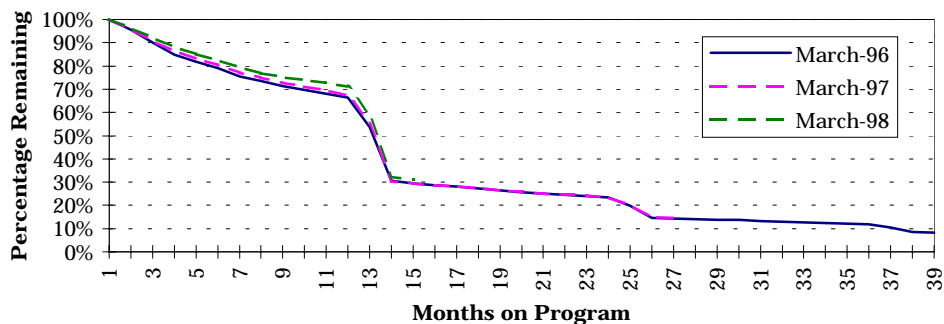
The increase in the rate of exit from MIC in March 1997 shown in Figure 4 is likely the result of the 12-month certification period. The data suggest that many families decide not to reapply for MIC benefits when their first certification period expires. The drop in April 1997 is likely due to the large 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.

The drop in March and April 1998 are likely due to similar reasons. For cases leaving in March 1998, the child's family reapplied for benefits when their first certification period expired but chose not to reapply at the end of the second 12-month certification period. For cases leaving in April 1998, the case was likely certified for one year, given an additional one-month certification period to cover the child through his or her first birthday, then recertified for 12 additional months. At the end of that certification period, the child's family may have chosen not to reapply for benefits.

Similar patterns in the rate of exit from the program have been found for other entry cohorts as Figure 5 indicates. The figure illustrates the rate of exit from MIC for the March 1996, March 1997, and March 1998 entry cohorts. In all three cohorts, close to 30% of the children who begin a spell on MIC have left within 12 months. At the end of 12 months, there is a sharp drop in the number of children participating in the program. This drop coincides with the expiration of their 12-month certification period. There is a continuing drop at 13 months. This appears to be due to the exit from MIC of a number of children that lose eligibility at age one due to their family's income exceeding 133% of the federal poverty level.

Figure 5: The Rate of Exit from MIC for Multiple Entry Cohorts



According to the figure, the March 1998 entry cohort shows a slightly lower rate of decline during the first 12 months than the 1996 or 1997 entry cohorts. As the figure indicates, the March 1996 and March 1997 entry cohorts follow an extremely similar rate of exit after

the first twelve months. Their rate of exit is so similar, it is extremely difficult to differentiate between the lines for the two cohorts.

The patterns found for these three cohorts resemble those found for other entry cohorts. They do not appear to be unique. They were chosen for several reasons. First, they are all for the same month. This allows for exploration of differences that may occur over time. By using the same month but in differing years, the impact of seasonality is minimized. Figure 3 indicated there is a seasonal variation in the size of entry cohorts. By understanding the patterns of participation associated with individuals that begin their experience with MIC in March, we can develop similar models for March 1999, the first month in which the continuous eligibility provisions were applied. As a result, we will be able to compare the findings for March 1999 with those for earlier years.

Another reason for studying cohorts of children that enter Medicaid for the first time through MIC is that these groups are less likely to be affected by their previous experience with other Medicaid programs. The responses of families with children that have received benefits through other programs, such as Work First or MAF, may be filtered through their experiences. Their response to change in policy could be affected by what they have learned in the past by their dealings with other programs.

Also, the children of families on MIC may have higher incomes than those that have received benefits through other programs. Other programs, such as Work First and MAF, may have lower income eligibility thresholds than MIC, especially for children under age one. The impact in a change in policy dealing with how income is treated may be more visible with the MIC population.

By developing models of the rate at which children leave the MIC program prior to the continuous eligibility changes, we can compare those models with the experiences of children whose cases are processed after the policy was modified. To the extent that there are differences, they can be explored to better assess the impact of the policy change. The analysis based on the rate of exit cohorts is also important due to the limited time frame to assess the impact of the changes. The rate of exit for children in the March 1999 entry cohort will be compared with the rates for previous March cohorts. If there were to be changes, they would

likely appear during the first few months when, as Figure 6 indicates, about 20 percent of the caseload leaves by the end of the first six months on the program.

A number of other factors that could affect the rate at which children leave the program have been assessed as part of this initial analysis of the administrative data from EIS. These factors include the age of the child when he or she enters MIC, the size of the county, the sex of the child, and the race of the child. Although there is some slight variation across these factors, none of them other than age appear to have a substantively significant impact on the rate at which children leave MIC.

Table 1 provides a breakdown of the age of the children in each entry cohort. As the table indicates, around two-thirds of each entry cohort is comprised of newborn infants. Between 14 percent and 15 percent of each entry cohort is made up of children between the ages of 1 and 6 while between 16 percent and 20 percent of the children in each cohort are older than six. This indicates that most children that enter Medicaid for the first time through MIC are newborns. This large number of children that begin receiving MIC at birth is associated with the high rate of exit after 13 months on the program.

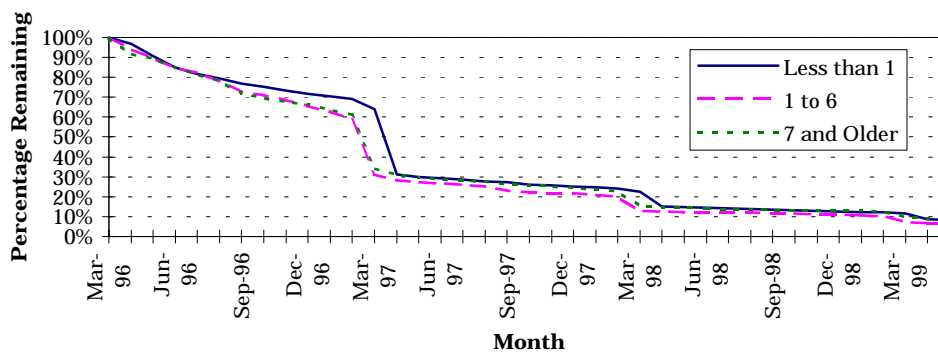
Table 1:

Children in MIC Entry Cohorts
Broken Down By Age

Age Classification	Cohort		
	Mar-96	Mar-97	Mar-98
Entered MIC at Birth	63%	65%	65%
Entered MIC between Birth and Age 1	4%	4%	4%
Entered MIC between Age 1 and 6	14%	14%	15%
Entered MIC After Age 6	20%	17%	16%
Total	100%	100%	100%
(N)	5093	5301	5594

Figure 6 illustrates the impact of age on the rates at which children leave MIC. The rates of exit are plotted for children from birth to age one, from age one to age six, and from age six to age 19. As the figure indicates, the rate of exit from MIC is about the same for all three age groups for the first six months, through August 1996. By October 1996, about 30 percent of the children in the one to six and the six to 19 age groups have left the program, while only 25 percent of the children in the under one age group have left. A large proportion of children in the two older age groups—ages one to six and ages six to 19—leave the program after 12 months, as indicated by the steep drop in the survival curve. While there is a slight drop for the under one-year-old age group at 12 months, the drop is much sharper at 13 months. The rates of exits for all three groups follow similar paths after 13 months. Similar patterns were found in other entry cohort.

Figure 6: Rate of Exit from MIC by Age for the March 1996 Entry Cohort

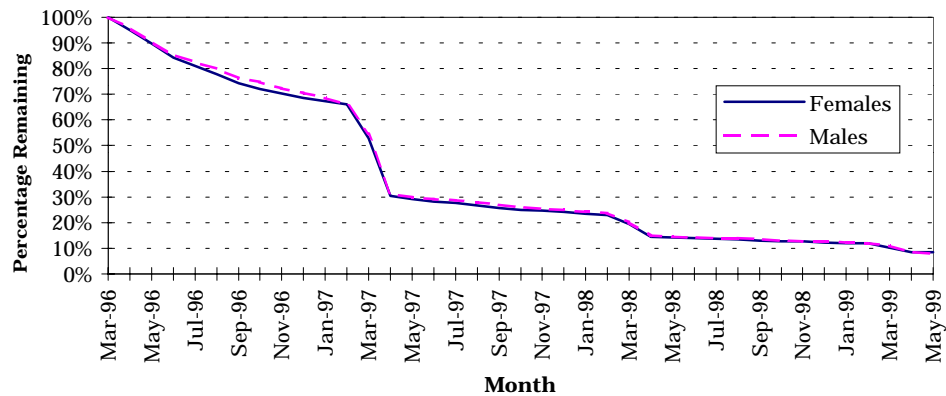


The slight difference in the slopes of the lines between the under one age group and children in the other groups is due to the difference in income eligibility limits among the groups. Newborns usually receive 13 months of coverage. Children in the other age groups appear to be more likely to leave the program for not being recertified. This difference in the rate of exit impacts the average amount of time the children remain on the program. The median length of stay on MIC for children in the under age one cohort is 13.4 months. For the age one to six cohort, the median length of stay is 12.3 months, while the median length of stay for the six to 19-year-old cohort is 12.4 months.

Figure 7 illustrates the rate of exit from MIC for the March 1996 entry cohort based on the sex of the child. As the figure indicates, the rate of exit from MIC for male children is the

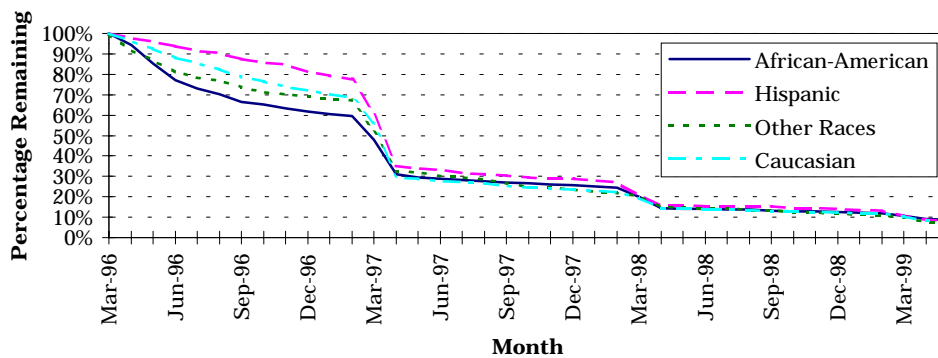
same as the rate of exit for female children. The lines showing the rate of exit—or survival curves—is almost exactly the same for males as it is for females. As in previous figures, the rate of exit is gradual—about 3 percent per month—until the child has been on the program for 12 months—the length of a standard certification period. About 35 percent of the children that participated in February 1997 leave before April 1997. Similar patterns were found for subsequent entry cohorts.

Figure 7: Rate of Exit from MIC by Sex of Child for the March 1996 Entry Cohort



The rate of exit for the March 1996 MIC entry cohort broken down by race is shown in Figure 8. Children are grouped according to racial classification shown in EIS. In this analysis, four racial classifications were used: African-American; Hispanic; Other Racial Classification (including Asian, Native American, and other classifications); and Caucasian. About 8.4 percent of the children in the March 1996 entry cohort are Hispanic, while African-American children account for 30.4 percent. Caucasian children account for 55 percent of the entry cohort, and children from other races account for 6.2 percent.

Figure 8: Rate of Exit by Race for the March 1996 Entry Cohort

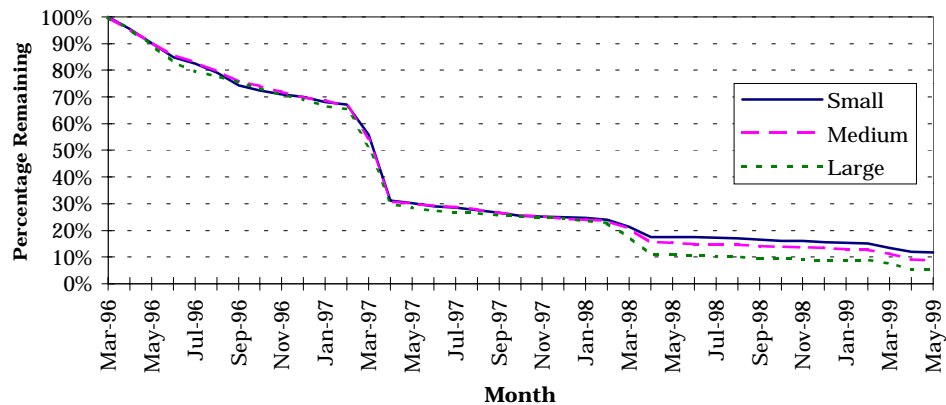


As the figure indicates, there are some slight differences in the rates of exit based on the race of the child during the first 13 months, over time the differences become less pronounced. During the first 12 months on the program, African-American children tend to leave the program at a higher rate than all other racial classifications. Hispanic children exit at the lowest rate. One reason for the high rate of exit for African-American children is a rapid decline that occurs at three months. The reason for this decline is unclear.

At the end of 12 months, there is a sharp drop in the number of children for all racial classifications. By April 1997, children from all four classifications left MIC at about the same rate. By 1998, the difference between the rates of exit are almost indistinguishable. It is unclear why there are slight differences in the rates of exit from MIC for different racial classifications. The differences may be due to factors such as the age of the child at entry into MIC. Additional analysis will be performed in an attempt to explain these differences.

Figure 9 shows the differences in the rate of exit from MIC based on the size of the county. Counties were classified based on an administrative ranking that had been used by the North Carolina Division of Social Services. Counties were ranked as level 1, level 2, or level 3. Level 1 counties are generally small counties while level 3 counties are the largest. Level 2 counties fall in the middle. These rankings also correspond somewhat to whether the county is rural, suburban, or urban.

Figure 9: The Rate of Exit from MIC by Size of County for the March 1996 Entry Cohort



As the figure indicates, the rate of exit from MIC for the March 1996 entry cohort is approximately the same for children regardless of the size of the county where they live. This suggests that MIC policy is being applied the same across all counties.

The analysis of the children entering Medicaid for the first time through MIC indicates there are a number of similarities across different groups. First, while the size of the MIC caseload has been increasing, the number of children entering Medicaid for the first time through MIC has remained somewhat constant over time. The rate at which these children leave MIC has also remained constant as well.

Two factors that appear to be related to how long a child remains on MIC are the length of the certification period and the age of the child at entry into MIC. A number of families apparently choose not to reapply for benefits when their child's certification period expires. As a result, there are drops in the number of children participating in the program associated with the length of the standard certification period, 12 months. A large number of children entering Medicaid for the first time through MIC are infants and begin their spell on the program at birth. Because income eligibility for MIC benefits is tied to the age of the child, a number of children leave when they turn age one.

Other factors, such as sex of the child and the size of the county where the child lives, do not appear to be related to the length of time children remain on the program. There appear to be some differences in the length of time children remain on the program associated with

the child's racial classification, but the reason for these differences is unclear. Additional analysis will be conducted in an attempt to identify the reasons for these differences.

7. Draft of Questionnaire

As part of this study, a telephone survey will be conducted with approximately 900 families that have children participating in MIC. Prior to being contacted by telephone for the survey, all of the families will be sent the following letter.

Draft Letter to Survey Participants (To be printed on letterhead)

Mrs. John A. Johns
301 Pittsboro St.
Chapel Hill, NC 27599

Dear Mrs. Johns:

The Jordan Institute for Families at the School of Social Work at the University of North Carolina in Chapel Hill is doing a study of the Medicaid program in North Carolina. This study is funded by the North Carolina Department of Health and Human Services, Division of Medical Assistance. Dr. Dean Duncan of the School of Social Work is doing the study.

The study will test a change in eligibility for Medicaid. This change happened earlier this year. Because of this change, many families that might have lost their Medicaid coverage can now still receive it.

As part of this study, we are doing interviews over the telephone with families across the state. I would like your family to be part of this study. Several families in your county are also being asked to be part of the study as well.

During the telephone interview you will be asked questions about your family. The questions are similar to those asked by your Medicaid worker. The questions involve who currently lives in your house, the amount of income you receive, and other issues involving your financial situation. The interview should take no more than 20 minutes to complete.

Any answers you give to the interview questions will not be told to anyone else. We will not give any personal information or tell what you said to the Division of Medical Assistance, your county department of social services, or anyone else. Only individuals working on this project will see your answers.

The results of this study will be provided to the Division of Medical Assistance. A report of the study also will be made to the North Carolina General Assembly. All reports will have only statistical numbers.

We do not know of any personal risk or discomfort you will have if you choose to participate in this study.

You can decide to participate or not. You will not be punished, and you will not lose your Medicaid benefits if you don't want to be a part of the study. We will not tell anyone you

do not want to participate. If you decide to participate, you can stop being in the study at any time. If you choose to participate, we will send you a check for \$10.00.

If you know now that you don't want to participate in the study, you can call Dr. Duncan at (888) 245-8835, toll-free, or (919) 962-7897. Otherwise, someone will call you in a few weeks. If you decide that you do not want to participate at that time, you can tell the person that calls. You will not be punished, and you will not lose your Medicaid benefits.

The Academic Affairs Review Board (AA-IRB) of the University of North Carolina at Chapel Hill has approved this study. If you want to know your rights, you may contact the chair of the AA-IRB, Dr. David A Eckerman at the following address:

David A. Eckerman,
Chair of the AA-IRB
UNC-CH
201 Bynum Hall CB 4100
Chapel Hill, NC 27599-4100

You can contact Dr. Eckerman by phone by calling (919) 962-7761. If you have access to electronic mail, you can contact him by sending email to aa-irb@unc.edu.

In summary, this study will test a change in eligibility for Medicaid. If you agree to participate in this study, you will be asked some questions about your financial situation. You can refuse to participate at any time.

If you have any questions now about this study or at any time in the future, you can call Dr. Duncan at (888) 245-8835, toll-free, or (919) 962-7897. You also can contact Dr. Duncan by mail addressed to:

Dr. Dean F. Duncan
UNC-CH School of Social Work
301 Pittsboro St., CB 3550
Chapel Hill, NC 27599-3550.

If you have access to electronic mail, send email to dfduncan@email.unc.edu.

You should keep this letter in case you have any questions about this study in the future.

Sincerely,

Dean F. Duncan
Clinical Assistant Professor

The following is the current version of the survey questionnaire that will be used. The final version will be available by late September. Contact with the households will begin in October.

Preliminary Questionnaire Draft

Hello, my name is _____. I'm calling for the Jordan Institute for Families at the School of Social Work at the University of North Carolina at Chapel Hill. I'd like to speak with *(respondent)*.

Is this *(respondent)*?

You should have received a letter from Dr. Dean Duncan of the School of Social Work that told you about a study we are conducting.

Q1. Did you receive that letter? Yes No

This study will test a change eligibility for Medicaid benefits that started earlier this year.

As part of this study, we are calling families across the state. We are calling several families in your county. We'd like for your family to participate in the study.

As part of this study, we'd like to ask you some questions about your family's financial situation. These questions are similar to the ones asked by your Medicaid eligibility worker. We will not tell anyone else what you tell us, and we will not give out any personal information, like your name, address, and so forth. The results of this study will be provided to the North Carolina Division of Medical Assistance and to members of the North Carolina General Assembly as statistics.

You can decide to take the survey or not. You will not be punished and you will not lose your Medicaid benefits if you don't want to participate. If you decide to participate you can tell me to stop the questions at any time. We do not know of any personal risk or discomfort you will have if you choose to participate in this study. If you do participate, we will send you a check for \$10.00.

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Chapel Hill, NC 27599-3550.

If you have access to electronic mail, you can send email to dfduncan@email.unc.edu.

Q2. Would you like to participate in the study? Yes No

Do you have any questions before we begin?
(ANSWER QUESTIONS AS NECESSARY)

Q3. First I need to know the name of each person who stays here, beginning with you.
(ENTER THE FULL NAME OF EACH PERSON IN COLUMN 1)

Q4. Is there anyone else who usually stays here but is away temporarily?
(IF "YES," ASK THEIR NAME AND ENTER IN COLUMN 1)

Q5. How is (NAME) related to you?
(ENTER RELATIONSHIP IN COLUMN 2)

Q6. Next, I need to know how old each person is. How old is (NAME)?
(ENTER AGE IN COLUMN 3)

For the rest of the interview, when I say "your family" I mean the following people ...
(READ LIST FROM COLUMN 1)

Q7-A. Has anyone in your household had a job of any kind in the last two weeks? Yes No

Q7-B. Is anyone in the household self-employed? (PROBE: For example, does anyone earn money by farming, fishing, baby sitting, or some other means?) Yes No

Q8. Does anyone in your household receive income from any of the following sources?

(READ LIST)

A.	AFDC or Work First	Yes	No
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B.	Social Security Disability Benefits	Yes	No
C.	SSI (Supplemental Security Income)	Yes	No
D.	Emergency Assistance	Yes	No
E.	VA (Veteran’s Disability or Widow’s Benefits)	Yes	No
F.	Unemployment Insurance Benefits	Yes	No
G.	Workmen’s Compensation	Yes	No
H.	Social Security Retirement or Survivors Benefits	Yes	No
I.	Other Pension or Retirement (Military, Railroad, etc)	Yes	No
J.	Child Support	Yes	No
K.	Alimony	Yes	No
L.	Money from Friends, Relatives	Yes	No
M.	Interest on Savings Accounts or Bonds	Yes	No
N.	Dividends on Stocks or Bonds	Yes	No
O.	Income for Rental Property	Yes	No
P.	Regular Allowance from Inheritance, Estate, or Trust	Yes	No
Q.	Annuity Payments	Yes	No
R.	Other (SPECIFY _____)	Yes	No

Q9. Are there any students living in your family who receive scholarships, loans, or grants so they can go to school? Yes No

If Q7-A is “Yes” then ask:

Q10-A. You told me earlier that someone in your family had a job in the last two weeks. Which person is this? Anyone else?
(ENTER FIRST NAME AND LAST INITIAL FOR EACH PERSON WITH A JOB)

Q10-B. Where does (NAME) work? Anywhere else?
(ENTER EMPLOYER. IF YES, ENTER ADDITIONAL EMPLOYER)

Q10-C. How often does (NAME) get paid?
 A. Weekly
 B. Every Two Weeks
 C. Monthly
 D. Other (SPECIFY _____)

Q10-D. How much does (NAME) earn?
(ENTER AMOUNT)

Q 10-E. Think back to February of this year. Is the amount that (NAME) is earning the same, more, or less than then?

- A. More
- B. Less

C. The same

Q 10-F. (If Q10-E is answered A or B) How much (more)(less) _____ ?

If Q7-B is “Yes” then ask:

Q11-A. You told me earlier that someone in your family is self-employed. Which person in your family is self-employed? Anyone else?

Q11-B. What kind of work does (NAME) do?

Q11-C. How much money did (NAME) earn from this self-employment last year?

Q11-D. How much did (NAME) spend in operating expenses and overhead?

If any item under Q8 is “Yes” then ask:

Q12-A. You said earlier that someone in your household received income from (SOURCE). Which person receives this income? Anyone else?
(ENTER SOURCE, FIRST NAME, AND LAST INITIAL FOR EACH PERSON.)

Q12-B. How often does (NAME) receive a check or payment from (SOURCE)?
(ENTER FREQUENCY)

Q12-C. What was the amount of the last payment (NAME) received from (SOURCE)?
(ENTER AMOUNT)

Q12-D. When did (NAME) receive the last check from (SOURCE)?
(ENTER MONTH, DAY, AND YEAR)

Q 12-E. Think back to February of this year. Is the amount that (NAME) receives from (SOURCE) the same, more, or less than then?

- A. More
- B. Less
- C. The same

Q 12-F. (If Q12-E is answered A or B) How much (more)(less) _____ ?

If Q9 is “Yes” then ask:

Q13-A. You said earlier that a person in your family receives a grant or a loan or a scholarship to go to school. Which persons receive this assistance to go to school? Anyone else?
(ENTER FIRST NAME AND LAST INITIAL FOR EACH PERSON)

Q13-B. What school does (NAME) attend?
(ENTER NAME OF SCHOOL)

Q13-C. What kind of assistance does (NAME) receive?
(ENTER TYPE OF ASSISTANCE)

Q13-D. Who provides this assistance?
(ENTER SOURCE OF ASSISTANCE)

Q13-E. How much does (NAME) receive?
(ENTER AMOUNT)

Q13-F. What period of time does this payment cover—a month, quarter, semester, school year, or what?
(ENTER RESPONSE)

Thank you for your time.

You should receive your \$10.00 check in about four weeks.