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ASSESSMENT OF THE RANDOM SAMPLES
FOR EVALUATING IOWA'S
FAMILY INVESTMENT PROGRAM AND
FOOD STAMP PROGRAM

September 15, 1994

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EXECUTIVE SUMMARY

On October 1, 1993, Iowa replaced the former Aid to Families with Dependent Children (AFDC) Program and Food Stamp Program with the welfare-reform Family Investment Program (FIP) and the welfare-reform Food Stamp Program in 90 of its 99 counties. In the remaining nine counties the pre-reform and reform programs are operating concurrently in order that the reform programs might be evaluated relative to the programs they are replacing. To support the evaluation, the Iowa Department of Human Services (DHS) has selected or is in the process of selecting four random samples of welfare recipients in the nine research counties. These samples and their basic design specifications are as follows:

- *The Sample of Ongoing FIP Participants* was selected from among existing AFDC cases in September 1993. It consists of 2,000 control cases whose eligibility for cash assistance and benefit amounts are determined under pre-reform regulations, and 4,000 treatment cases who are subject to the reform regulations. Cases in this sample may or may not also receive Food Stamps.

- *The Sample of Ongoing Food Stamp-Only Participants* was selected from among existing Food Stamp-only cases in September 1993. It consists of 500 control cases who are subject to the regulations governing the pre-reform Food Stamp Program, and 1,000 treatment cases who are subject to the reform regulations.

- *The Sample of Approved FIP Applicants* is being selected from among FIP applicants during the first two years of welfare reform. The completed sample will consist of 2,000 control cases and 4,000 treatment cases.

- *The Sample of Approved Food Stamp-Only Applicants* is being selected from among Food Stamp-only applicants during the first two years of welfare reform. The completed sample will consist of 1,000 control cases and 2,000 treatment cases.

The evaluation contractor, Mathematica Policy Research, Inc. (MPR), and subcontractor, the Institute for Social and Economic Development (ISED), have assessed the designs for these samples, the implementation of those designs, and the resulting completed or partially completed samples. This report describes the research methodologies we used to conduct the assessment, presents our findings regarding the integrity of the samples and their capacity to support the evaluation research, and makes recommendations for improvements in the continuing sampling of FIP and Food Stamp-only applicants. The most important of our findings and recommendations are highlighted below.

Our review of sampling procedures and outcomes revealed no major threats to the integrity of the random assignment of participant and applicant cases to treatment and control status. Therefore, impact estimates based on the samples should have internal validity. Our review of the distribution of the samples across the research counties and the DHS administrative regions, and comparison of the characteristics of sample members with those of nonresearch cases statewide, raise concerns about whether the samples are representative of FIP and Food Stamp-only cases statewide. Therefore, impact estimates based on the samples may not be fully representive of impacts on the full FIP and Food Stamp-only caseloads.

ASSESSMENT OF THE SAMPLE DESIGNS

A1. The designs for all four samples call for the sampled cases to be allocated across the five DHS administrative regions in the same proportions as the statewide caseloads that the samples are intended to represent.

A2. The nine research counties consist of one county from each of four DHS regions and five counties from the fifth region. If one is willing to assume that these counties are "judgmentally representative" of their regions, then the samples can be said to be self-weighting clustered samples that are representative of their target populations statewide.

A3. The four counties that are the sole research counties from their respective regions are the largest (in terms of the FIP caseload) and most urban of the counties in their regions. This calls into question the reasonableness of the assumption that these counties are judgmentally representative of their regions. This concern is reinforced by our finding of substantial differences between the characteristics of cases in the participant samples and the characteristics of participant cases statewide (see paragraph B4, below).

STATISTICAL ANALYSIS OF THE PARTICIPANT AND APPLICANT SAMPLES

B1. A statistical analysis of nine case characteristics revealed only one statistically significant difference between treatment and control cases in each of the samples of ongoing participants.

B2. A similar statistical analysis revealed three statistically significant differences between treatment and control cases in the sample of FIP applicants and no statistically significant differences in the sample of Food Stamp-only applicants.

B3. While the significant differences that we did find warrant further investigation, these statistical findings are broadly supportive of a conclusion that the assignment of sampled participant and applicant cases to treatment and control status has been random and unbiased.

B4. A comparison of mean values of the nine case characteristics between the FIP and Food Stamp-only participant samples and corresponding samples of cases statewide revealed a number of differences. This evidence makes it difficult to assert that the participant samples are representative of their target populations statewide.

B5. In analyzing the applicant samples, we found a number of cases that have been assigned to treatment or control status, but are receiving aid types that are not consistent with selection into the research sample. That is, we found research cases receiving assistance other than FIP or Food Stamps only. We recommend that both DHS and MPR/ISED further investigate this unexpected finding.

ASSESSMENT OF APPLICANT SAMPLING PROCEDURES

C1. The numbers of applicants for FIP and Food Stamps only, and their rates of approval, have been much lower than anticipated. DHS has responded to this by (1) reducing in several steps the sampling intervals for both FIP and Food Stamp-only applicants, and (2) proposing a two-month extension of the sampling period for FIP applicants.

C2. The original applicant sampling intervals varied by county, as specified in the sample designs. The purpose of that variation was to achieve proportional allocations of the samples across the DHS administrative regions that are the same as those of all applicants. The reduction of the sampling intervals to a uniform value of 3 for both FIP and Food Stamp-only applicants eliminated this variation and is causing the regional distributions of the samples to deviate from the design distributions.[1] This creates ambiguity regarding what populations the applicant samples represent. We recommend that DHS move quickly to adopt sampling intervals that are a constant fraction of the original intervals.

C3. While we have several theories for the shortfall in applicants, a meaningful investigation into the shortfall would require data on the number of applicants by county by month for the nine research counties. Such data for all 99 counties will also be necessary to assess whether the regional distributions of sampled applicants resemble those of all applicants. DHS has told us that these data may not exist. We recommend that DHS make every effort to identify these data and provide them to us.

C4. When it is necessary for DHS to request changes in the sampling intervals, we recommend that (1) the memo specifying the new intervals should also specify an implementation date, and (2) DHS should have follow-up communication with the counties to ensure that they have received the interval-change memo and have implemented the specified changes.

C5. Our review of applicant sampling logbooks and the procedures actually being used by county staff revealed no major threats to the integrity of the random sampling process. However, we recommend that DHS: (1) develop uniform procedures for correcting a log entry following a clerical error, (2) reinforce to county staff the need to enter the names of applicants on the sampling logs at the time and in the order that the applications are received, and (3) request that large counties designate a single staff member to supervise and monitor the entry of names on the sampling logs.

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[1]In August, 1994, DHS increased the sampling intervals for Food Stamp-only applicants from a uniform value of 3 to approximately one-third of the original values. The sampling intervals for FIP applicants have been set at a uniform value of 3 since March 1, 1994.

I. INTRODUCTION

Iowa's Department of Human Services (DHS) has selected or is in the process of selecting four random samples that will be used to evaluate welfare reform in Iowa. Each of these samples consists of control cases, whose eligibility for assistance and benefit amounts are determined under pre-reform regulations, and treatment cases, whose eligibility and benefits are determined under reform regulations.[1] The selection of cases into the research samples and their assignment to treatment or control status are conducted on a random basis in the evaluation's nine research counties. Cases not selected into one of the research samples are assigned to "nonresearch status" and are subject to the reform regulations.

Based on their design documents (which are reproduced in Appendices A and B of this report), the four random samples can be briefly described as follows:

1. *The Sample of Ongoing FIP Participants.* This sample was selected from among ongoing AFDC recipients (who may or may not have also been receiving Food Stamps) in September 1993. On October 1, 1993, the 2,000 control cases in this sample were converted to regular FIP and the 4,000 treatment cases were converted to welfare-reform FIP.

2. *The Sample of Ongoing Food Stamp-Only Participants.* This sample of 500 control cases and 1,000 treatment cases was selected from among ongoing Food Stamp-only cases in September 1993. These cases were converted to regular or welfare-reform Food Stamps on October 1, 1993.

3. *The Sample of Approved FIP Applicants.* The random assignment of FIP applicants (who may or may not also be applying for Food Stamps) to treatment or control status began on October 1, 1993 and is scheduled to continue for 24 months.[2] The completed sample will consist of 2,000 control cases and 4,000 treatment cases.

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[1]The programs operating under pre-reform regulations are referred to as "regular FIP" and "regular Food Stamps." The programs operating under reform regulations are referred to as "welfare-reform FIP" and "welfare-reform Food Stamps."

[2]As discussed in Chapter IV, experience to date in the sampling of FIP applicants indicates that it may be necessary to extend the sampling period for two additional months in order to achieve the target numbers of treatment and control cases.

4. *The Sample of Approved Food Stamp-Only Applicants.* Construction of this sample also began on October 1, 1993, and is scheduled to continue for 24 months. The completed sample will consist of 1,000 control cases and 2,000 treatment cases.

This report reviews and assesses the designs for these samples, the implementation of the designs, the characteristics of the resultant samples, and the capabilities of the samples to support the analyses required by the evaluation. Our findings are based on our review of design documents, examination of internal DHS implementation documents and tools, interviews with DHS executives and line staff at the state and county levels, and statistical analysis of the cases selected into the samples. This is the only evaluation deliverable that is required to report on the integrity of the participant samples. In contrast, because the construction of the applicant samples will not end before the conclusion of the second waiver year, one or more subsequent deliverables will provide updated reports on the integrity of the applicant samples.

The findings from our review and assessment of the evaluation's samples and the procedures used to construct them are presented in the four chapters that follow. Chapter II reports on our assessment of the participant and applicant samples as designed. Chapter III gives the findings from our statistical analyses of the FIP and Food Stamp-only participant samples. Those analyses consist of comparisons of the characteristics of treatment cases with those of control cases, and comparisons of the characteristics of combined treatment and control cases with those of ongoing FIP and Food Stamp-only cases statewide. Chapter IV presents findings from our multifaceted assessment of the applicant samples.

II. ASSESSMENT OF THE DESIGNS FOR THE SAMPLES OF APPLICANTS AND ONGOING PARTICIPANTS

This chapter presents our assessment of the designs for the FIP and Food Stamp-only samples of ongoing and applicant cases. Subsequent chapters present our assessment of the implementation of those designs. The design assessment is based upon our review of three documents:

1. *DHS's Random Sampling Plan for the Evaluation*. This plan was included in the RFP as Addendum 5. The sampling tables in this document are dated 8/27/93.

2. *DHS's Final Sampling Table for Ongoing Participants*. This table, dated 9/29/93, was included in Section III of DHS's first quarterly progress report to DHHS on the FIP evaluation, dated 4/28/94. This document is reproduced in this report as Appendix A.

3. *DHS's Guidelines for Random Sampling of New Cases in the Field*. These guidelines were also included in Section III of DHS's first quarterly progress report. The sampling tables in this document are dated 9/22/93. This document is reproduced in this report as Appendix B.

We relied upon Document #1 for a general description of the designs of the various samples, and on Documents #2 and #3 for specifics regarding the allocation of the samples across DHS regions and the nine research counties.

The central objectives of the assessment are to identify the populations that the samples are designed to represent and to determine whether those are the most appropriate populations.[1] We primarily consider the needs of the Impact Evaluation in assessing the sample designs.

A. THE SAMPLES OF FIP AND FOOD STAMP-ONLY ONGOING PARTICIPANTS

The samples of FIP and Food Stamp-only ongoing participants were designed so that the percentage distribution of sample cases across the five DHS administrative regions would be the same

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[1]The adequacy of the sizes of the research samples to detect impacts of the size anticipated for welfare reform in Iowa is another important characteristic of the samples. Because this topic is fully addressed on pages II-38 through II-44 of our technical contract proposal, we have chosen not to deal with it further here.

as the percentage distribution across those regions of all cases statewide in the period immediately preceding the selection of the sample. Examination of the ongoing sampling tables in Appendix A confirms this interpretation of the sample designs. Column 2 of Table 1 in the appendix shows the percentage distribution of the existing FIP caseload across the five regions. Column 3 of that table shows the target allocation across the five regions of the 2,500 cases that constitute the control component of the ongoing FIP sample. Simple calculations show that the percentage distribution of the control cases across the DHS regions is as follows:

- SIOUX CITY   11.8% (295/2500)
- WATERLOO   16.4% (411/2500)
- DES MOINES   24.0% (599/2500)
- COUNCIL BLUFFS 11.2% (279/2500)
- CEDAR RAPIDS   36.6% (916/2500)

Thus, the design for the sample of ongoing FIP cases calls for the control cases in the sample to have the same percentage distribution across the five DHS regions as the existing FIP caseload statewide. The same is true of the distribution of the 5,000 treatment cases in the sample.

If one were willing to make or accept the assertion that the nine research counties are "judgmentally representative" of their respective regions, then the sample of ongoing FIP cases could be said to be a self-weighted sample that is representative of all ongoing FIP cases statewide. The only reason for weighting the sample in an analysis would be if it were important to obtain estimates of state-wide aggregates (e.g., total participants or total benefits paid out). Weighting would be unnecessary in most analyses anticipated for the Impact Evaluation, where the outcome measures will typically be mean values or proportions computed at the level of the individual case.

The assertion that the research counties are judgmentally representative of their regions is open to question. The fact that the largest counties from each of four regions were selected suggests that those counties may differ in important ways from the regions in which they are located. Nevertheless, if important regional differences do exist, this sample design is likely to capture them. Absent strong

empirical evidence to the contrary (see Chapter III), we recommend that the ongoing FIP sample be viewed as representative of ongoing FIP cases statewide. Similarly, our assessment of the Food Stamp-only sample design leads us to recommend that this sample be viewed as representative of ongoing Food Stamp-only cases statewide.

A plausible alternative design for the samples of ongoing FIP and Food Stamp-only cases would have resulted in the samples being representative of all ongoing cases in the nine research counties. Self-weighted samples satisfying this criterion could have been obtained by specifying that the sample cases have the same percentage distribution over the nine counties as the total caseload in those counties. That the samples were not designed to achieve this result can be confirmed through simple analyses of the case counts reported in columns 4 and 5 of Tables 1 and 2 in Appendix A. For example, Table 1 shows that 4.9 percent (763/15,543) of the nine county ongoing FIP caseload is in Des Moines County, whereas the design for the FIP ongoing sample calls for 6.8 percent (170/2,500) of sampled control cases to be from that county.

If the objective of this evaluation were to assess the effects of welfare reform in the nine research counties, then the alternative design would be preferred. However, we believe that policymakers want to know the effects of welfare reform in the entire state. Given that objective, research samples that are representative of statewide caseloads are more appropriate. Therefore, we believe that the designs for the FIP and Food Stamp-only ongoing samples as specified in Tables 1 and 2 of Appendix A are preferable to this alternative design.

B. THE SAMPLES OF FIP AND FOOD STAMP-ONLY APPLICANTS

Essentially the same logic that led us to conclude that the designs for the ongoing samples would result in their being representative of ongoing FIP and Food Stamp-only cases statewide also leads us to the same conclusion regarding the designs of the samples of FIP and Food Stamp-only applicants. The only new feature that we must deal with in assessing the applicant samples is the concept of a "sampling interval." In the context of the designs of the FIP and Food Stamp-only

applicant samples, the sampling interval is defined to be the frequency with which applicant cases are assigned to control status. The designs call for the two applicant cases that immediately follow a control applicant to be assigned to treatment status, thus resulting in samples that contain twice as many treatment cases as control cases.

Column 4 of Table 1 in Appendix B shows that the target allocation across the five DHS regions of the 3,024 cases in the FIP applicant sample is as follows:

- SIOUX CITY   13.5% (408/3,024)
- WATERLOO   15.9% (480/3,024)
- DES MOINES   23.8% (720/3,024)
- COUNCIL BLUFFS   11.9% (360/3,024)
- CEDAR RAPIDS   34.9% (1,056/3,024)

Allowing for rounding associated with the need to sample integral numbers of control cases in each month, this percentage distribution of sampled FIP control applicants is the same as the percentage distribution across the five regions of all FIP applicants statewide in the period preceding the commencement of applicant sampling, as reported in column 2 of Table 1. This means that, if the research counties are judgmentally representative of the DHS regions in which they are located, then the FIP applicant sample will be a self-weighting sample that is representative of all applicant cases statewide.

Another useful way to think about the design for the control sample of FIP applicants is that it calls for approximately 1 in every 29.5 applicants to be assigned to control status. Again allowing for rounding, this sampling frequency is constant across the five regions. Note that a constant sampling frequency across the regions logically implies a percentage distribution of the sample across the regions that is identical to that of all applicants statewide, which is precisely the design outcome that we discussed in the preceding paragraph.

Because the research counties differ with respect to the percentage of FIP applicants within their regions that they receive, the constant sampling frequency across regions can be achieved only by

allowing the sampling interval to vary by county, as shown in column 13 of Table 1 in Appendix B. The variable sampling interval by county implies that the percentage distribution of sampled applicant cases across the nine research counties will differ from the percentage distribution of all applicant cases across those counties. The validity of this implication can be confirmed by comparing the percentages corresponding to the monthly counts of sampled control cases in column 7 with those corresponding to the average applications per month in column 5. For example, the design calls for 13.5 percent of sampled control applicants to be in Woodbury County, whereas only 12.3 percent of all applicants in the nine counties are in Woodbury County.

Because the Food Stamp-only applicant sample has the same basic design as the FIP applicant sample, differing only in the total number of cases, the above conclusions are equally valid for the Food Stamp-only applicant sample.

The following briefly summarizes the sample design relationships that have been discussed in this section:

1. *Existing Design.* A constant sampling frequency across regions implies that the percentage distribution of sampled applicants across the regions will be the same as that of all applicants. If the research counties are judgmentally representative of their regions, then this will be a self-weighting sample that is representative of applicants statewide.

2. *Alternative design.* A constant sampling interval across the nine research counties would imply that the percentage distribution of sampled applicants across those counties would be the same as that of all applicants in the research counties. This would be a self-weighting sample that is representative of all applicants in the research counties.

Because we believe that policymakers are most interested in the statewide impacts of welfare reform, we find the existing design for the applicant samples to be preferable to the alternative design.

C. SPECIFICATION OF SAMPLE WEIGHTS, GIVEN THE EXISTING SAMPLE DESIGNS

If implemented as specified, the existing designs for the FIP and Food Stamp-only ongoing and applicant samples would result in self-weighting samples that are representative of their corresponding

populations statewide. Computation of outcome measures that are mean values or proportions of cases would not require the use of sampling weights. Computation of outcome measures that are statewide aggregates, such as the total number of ongoing regular FIP cases that would have earnings if regular FIP were operating fully statewide, would require the use of a weight that is a constant within each sample component. For example, the weight for the sample of ongoing FIP control cases would be computed by dividing the total number of ongoing FIP cases statewide at the time of sample selection by the total number of cases in the sample of ongoing FIP control cases.

III. REVIEW OF SAMPLING OF ONGOING CASES

In this chapter we describe our review of the sampling of ongoing FIP and Food Stamp-only cases by DHS. We first describe the data sampled from the September 1993 and June 1994 IABC (Iowa Automated Benefit Calculation) system. Next we present evidence on the differences between treatment and control cases in the September 1993 file. This comparison enables us to see whether characteristics of the treatment and control samples are consistent with the use of random assignment of households to treatment or control status. After comparing treatment and control groups, we compare the FIP and Food Stamp-only research samples with statewide samples of FIP and Food Stamp-only cases. The purpose of this comparison is to see the extent to which the research sample is representative of the statewide population of cases affected by welfare reform.

A. DESCRIPTION OF THE DATA

We obtained data on treatment and control cases from the IABC system's September 1993 case master file and individual master file. The "control status" variable enabled us to identify individuals in the treatment, control, or nonresearch groups. To distinguish FIP cases from Food Stamp-only cases, we used the "aid type" variable. We identified as FIP cases those households with aid type values of 30-0, 30-2, 30-4, 31-0, 31-4, 31-5, 32-8, 33-8, or 35-0; we identified as Food Stamp-only cases those households with aid type values of 9-0 or 9-1. We sampled all individuals who were in the treatment or control group in September 1993, although we included only cases with valid aid types in the analysis sample.

We extracted several household variables from the IABC system file. These variables included the case number, county number, region number, aid type indicator, control group and sample indicator, and the number of persons in the benefit unit for the applicable program (FIP or Food Stamps). In addition to case-related variables, we extracted information on a representative individual from each household and matched this information to the corresponding case data by case number.

For each household, this individual is the eldest person in the household in whose name public assistance is issued; we refer to this person as the "eldest case name" individual. The variables we extracted on the eldest case name include that individual's date of birth, sex, ethnicity, education, handicap status, and poverty status. Ongoing cases for which no corresponding data on an eldest case name individual was available were excluded from the sample. Together with the exclusion of cases with invalid aid types, this criterion reduced the sample size by 4.3 percent, from 19,275 cases (counting all treatment, control, and sampled nonresearch cases) to 18,452 cases.[1]

B. COMPARSION OF TREATMENT AND CONTROL CASES

1. Variable Creation

In order to compare sample means for treatment and control groups, we created nine variables for each case:

1. The number of persons in the FIP or Food Stamp-only benefit unit

2. Nontransfer income as a percentage of the poverty level

3. The age (in years) of the eldest case name individual as of 12/31/93

4. A dummy variable for female case name individuals

5. A dummy variable for nonwhite case name individuals

6. A dummy variable for married case name individuals

7. A dummy variable for case name individuals who are high school dropouts

8. A dummy variable for case name individuals who have attended college

9. A dummy variable for handicapped case name individuals (including individuals with reported substance abuse problems)

These nine variables convey a wide variety of information on the characteristics of each FIP or Food Stamp-only household, enabling us to compare sample means between the treatment and control

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[1]Of the 823 cases excluded, 790 lacked information on an eldest case name individual, 32 lacked a valid aid type, and 1 lacked both.

groups. Assuming that treatment and control cases have been assigned randomly, there should be

no statistically significant difference in mean values for the respective samples.

2. Methodology for Comparison of Treatment and Control Cases

To test for the statistical significance of differences in mean values between treatment and

control cases, we employed two different procedures, depending on whether the variable in question

is continuous or discrete. For the unit size, poverty, and age variables, we estimated an Ordinary

Least Squares (OLS) regression of the following form:

$$(1) \quad \text{variable} = \alpha_0 + \alpha_1 * (\text{dummy variable for treatment cases}) + \epsilon.$$

For a sample consisting of treatment and control cases, the estimated coefficient α_0 equals the mean

for control cases, while the coefficient α_1 equals the difference between the mean for treatment cases

and the mean for control cases. Under the null hypothesis of equal means for treatment and control

groups, α_1 would be zero. For each of the continuous variables, we tested the null hypothesis of α_1

$= 0$ using a t-test. For the remaining discrete (binary) variables, we used a logistic regression of the

following form:

$$(2) \quad \text{Prob(variable} = 1) = F(\beta_0 + \beta_1 * (\text{dummy variable for treatment cases})),$$

where $F(\ ) = \exp(\ )/[1 + \exp(\ )]$. Under the null hypothesis of equal means for treatment and

control groups, β_1 would be zero. For each of the six discrete variables, we tested the null hypothesis

of $\beta_1 = 0$ using a Wald (chi-square) test.

3. Findings for Ongoing FIP Treatment and Control Cases

Table III.1 presents means for the treatment and control cases in the research sample. We

calculated means for the nine variables defined above, treating FIP and Food Stamp-only cases

separately. The third fourth column of the table presents the difference-of-means for treatment and

TABLE III.1

MEANS FOR ONGOING TREATMENT AND CONTROL CASES

SEPTEMBER 1993

Variable Name	Mean for Treatment Cases	Mean for Control Cases	Difference of Means
FIP Cases			
Benefit household size	2.62	2.61	0.01
income as % of poverty level	9.72	8.78	0.94
age of eldest case name	31.9	32.3	-0.4
eldest case name is female	0.840	0.843	-0.003
eldest case name is nonwhite	0.208	0.221	-0.013
eldest case name is married	0.213	0.240	-0.027***
eldest case name is H. S. dropout	0.187	0.186	0.001
eldest case name attended college	0.060	0.062	-0.002
eldest case name is handicapped	0.241	0.251	-0.010
Food Stamp-Only Cases			
Benefit household size	1.54	1.47	0.07
income as % of poverty level	23.4	21.6	1.8
age of eldest case name	43.8	45.2	-1.4*
eldest case name is female	0.511	0.544	-0.033
eldest case name is nonwhite	0.190	0.197	-0.007
eldest case name is married	0.195	0.184	0.011
eldest case name is a H. S. dropout	0.109	0.103	0.006
eldest case name attended college	0.051	0.030	0.021**
eldest case name is handicapped	0.445	0.479	-0.034

Sample size	Treatment Sample	Control Sample	Total
FIP Cases	4,779	2,380	7,159
Food Stamp-only Cases	1,260	629	1,889

SOURCE: September 1993 Iowa Automated Benefit Calculation (IABC) System file

*Significantly different from zero at the .10 level
**Significantly different from zero at the .05 level
***Significantly different from zero at the .01 level

control cases, with an indication of whether that difference is statistically significant at the .10, .05, or .01 level.

For ongoing FIP cases, the only variable for which the difference-of-means is statistically significant is the marital status variable. The mean share of control cases with married case name individuals is 0.027 larger than the mean for treatment cases, and this difference is statistically significant at the .01 level. About 78 percent of this difference is due to a larger share of single individuals being in the treatment sample, and the remainder is due to a larger share of divorced and separated individuals in the treatment sample. Since marital status is one of the outcome variables for the evaluation of the impact of welfare reform, the systematic difference between ongoing FIP treatment cases and ongoing FIP control cases will complicate the interpretation of program impacts.

4. Findings for Food Stamp-Only Treatment and Control Cases

For Food Stamp-only cases, two of the nine variables have difference-of-means that are statistically significant. The first of these variables, the age of the eldest case name individual, is, on average, 1.4 years lower for treatment cases than for controls, a difference that is statistically significant at the .10 level only. The second variable is the indicator for college attendance, which, on average, is 0.021 higher for treatment cases, a difference that is statistically significant at the .05 level. About 100 percent of the difference in mean levels of college attendance is attributable to higher shares of individuals in the treatment group who have attended, or are currently attending, college but have not obtained a college degree. Further investigation is needed to determine whether welfare reform itself might have affected the shares of current college students in the initial treatment and control samples.

C. COMPARSION OF RESEARCH AND NONRESEARCH CASES

In addition to comparing treatment and control cases to assess the integrity of random assignment, we are interested in seeing the extent to which the research samples, drawn from nine

counties in the state, are representative of the statewide FIP and Food Stamp-only caseloads. Table III.2 presents a breakdown of the distribution of FIP and Food Stamp-only cases by region and by research county. In addition to showing the geographic distribution for treatment and control cases, the table shows the breakdown for a sample of nonresearch cases and for all cases (as reported by the Bureau of Research and Statistics on September 29, 1993).

As might be expected, given our previous finding of few systematic differences between treatment and control cases, the geographic distribution of treatment and control cases also appears to be very similar. A comparison of the distribution of cases by region indicates little difference between the treatment and control samples and the actual caseload. DHS appears to have been very successful in selecting treatment and control cases in such a manner as to maintain the proportionate representation of FIP and Food Stamp-only cases from each of DHS's five administrative regions.

Despite their proportionate representation of cases by region, the treatment and control samples exclude individuals from ninety of Iowa's 99 counties, which contain 55.8 percent of the state's FIP cases and 62.8 percent of the state's Food Stamp-only cases.[2] For this reason, it is prudent to investigate whether the research sample--the combined sample of treatment and control cases--is representative of the respective statewide FIP and Food Stamp-only caseloads.

1. Creation of a Representative Nonresearch Sample

To compare the research and nonresearch populations, MPR drew a random sample of nonresearch cases from the September 1993 IABC system file. Sampling rates were set at levels to make the nonresearch sample (a) similar in size to the corresponding research sample, and (b) representative of the statewide caseload. The sampling rates, which differed by region and by research county status, were formed using information provided by the Bureau of Research and

[2]The treatment and control samples do contain a handful of cases with county identifiers corresponding to nonresearch counties. For ongoing FIP cases, one treatment case was identified as being from Johnson county, and one control case was identified as being from Decatur county. For ongoing Food Stamp-only cases, one case in each of the treatment and control samples was identified as being from Harrison county.

TABLE III.2

REGIONAL REPRESENTATION OF ONGOING CASES
SEPTEMBER 1993

Region or County	Treatment Cases	Control Cases	Nonresearch Cases	All Cases
FIP Cases				
% from Sioux City region	12.0	12.0	11.7	11.8
% from Waterloo region	16.6	16.7	16.5	16.4
% from Des Moines region	23.7	23.8	23.7	24.0
% from Council Bluffs region	11.3	11.3	11.4	11.2
% from Cedar Rapids region	36.5	36.2	36.7	36.6
% from Woodbury County	12.0	12.0	4.4	4.5
% from Black Hawk County	16.6	16.7	7.4	7.3
% from Polk County	23.7	23.8	16.0	16.0
% from Pottawatamie County	11.3	11.3	4.8	4.6
% from Clinton - Linn counties	36.4	36.1	11.6	11.7
Food Stamp-Only Cases				
% from Sioux City region	13.9	14.0	13.9	13.5
% from Waterloo region	20.0	20.2	18.9	19.1
% from Des Moines region	22.2	21.9	22.6	23.7
% from Council Bluffs region	11.3	11.4	11.4	11.0
% from Cedar Rapids region	32.5	32.6	33.1	32.6
% from Woodbury County	13.9	14.0	3.5	3.1
% from Black Hawk County	20.0	20.2	6.2	6.2
% from Polk County	22.2	21.8	14.5	15.0
% from Pottawatamie County	11.3	11.3	3.3	2.8
% from Clinton-Linn counties	32.5	32.6	10.3	10.1

Sample size	Treatment Sample	Control Sample	Nonresearch Sample	Total Caseload
FIP Cases	4,779	2,380	7,478	35,203
Food Stamp-only Cases	1,260	629	1,926	18,557

SOURCES: September 1993 Iowa Automated Benefit Computation (IABC) System file; DHS Bureau of Research and Statistics report, "Final Sampling Table for Ongoing Cases" (9/29/93)

"Clinton - Linn" = Clinton County, Des Moines County, Jackson County, Jones County, Linn County

Statistics in its sampling tables for ongoing FIP and Food Stamp-only cases as of August 27, 1993. A comparison of the last two columns of Table III.2 indicates that the geographic representation of cases in the nonresearch samples is very similar to that of the actual FIP and Food Stamp-only caseloads as of September 1993, while the sizes of the FIP and Food Stamp-only nonresearch samples approximate the sizes of the corresponding research samples.

If the research sample were representative of the statewide caseload, we would expect there to be no major differences between mean values for research cases and mean values for nonresearch cases. Table III.3 reports mean values for the nine variables introduced in Section B, as well as the difference-of-means between the research and nonresearch groups.[3]

2.   Findings for Ongoing FIP Research and Nonresearch Cases

The results presented in Table III.3 indicate that the difference-of-means for research and nonresearch FIP cases is greater than ten percent of the nonresearch group mean for six of the nine variables. The only variables for which the research and nonresearch FIP samples have nearly identical means are household size, age of the eldest case name individual, and gender of the eldest case name individual. The eldest case name individual for ongoing FIP cases in the research sample, compared with the corresponding person in the nonresearch sample, is more likely to be very poor, nonwhite, unmarried, and a high school dropout, but is also more likely to have attended college and less likely to be handicapped than the nonresearch counterpart. A rough characterization of the research sample is that it appears to have more of the characteristics associated with urban areas than does the nonresearch sample. This is not surprising, given that the research sample was selected exclusively from urban counties in four of the five DHS regions.

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[3]Because of the clustering of research sample observations in the nine research counties, the standard errors generated by most statistical software packages would be incorrect for regressions and logits using pooled research- and nonresearch-sample data. Our intention is to use a more sophisticated software package to calculate the correct standard errors, and to report the statistical significance of differences-in-means for the research/nonresearch samples in the Data Interrelationships Report (Task 4a).

TABLE III.3

MEANS FOR ONGOING RESEARCH AND NONRESEARCH CASES
SEPTEMBER 1993

Variable Name	Mean for Research Cases	Mean for Non-research Cases	Difference of Means
FIP Cases			
Benefit household size	2.62	2.56	0.06
income as % of poverty level	9.41	12.74	-3.33
age of eldest case name	32.0	32.0	0.0
eldest case name is female	0.841	0.824	0.017
eldest case name is nonwhite	0.212	0.162	0.050
eldest case name is married	0.222	0.254	-0.032
eldest case name is a H. S. dropout	0.186	0.160	0.026
eldest case name attended college	0.061	0.051	0.010
eldest case name is handicapped	0.244	0.279	-0.035
Food Stamp-Only Cases			
Benefit household size	1.52	1.60	-0.08
income as % of poverty level	22.8	27.5	-4.7
age of eldest case name	44.3	46.6	-2.3
eldest case name is female	0.522	0.517	0.005
eldest case name is nonwhite	0.192	0.139	0.053
eldest case name is married	0.192	0.237	-0.045
eldest case name is a H. S. dropout	0.107	0.091	0.016
eldest case name attended college	0.044	0.027	0.017
eldest case name is handicapped	0.456	0.464	-0.008

Sample size	Research Sample	Nonresearch Sample	Total
FIP Cases	7,159	7,478	14,637
Food Stamp-only Cases	1,889	1,926	3,815

SOURCE: September 1993 Iowa Automated Benefit Calculation (IABC) System file

3. Findings for Ongoing Food Stamp-Only Research and Nonresearch Cases

For ongoing Food Stamp-only cases, the difference-of-means is greater than ten percent of the nonresearch group mean for five of the nine variables analyzed. Ongoing Food Stamp-only cases are likely to have eldest case name individuals who are poorer than their nonresearch counterparts, and who are also more likely to be nonwhite and unmarried. Like the FIP research sample, which had more individuals at the extremes of educational attainment than the nonresearch sample, the Food Stamp-only research sample had higher proportions of both high school dropouts and (current or former) college students than the nonresearch sample. There were four variables for which the difference-of-means was less than ten percent of the nonresearch group mean: the size of the benefit household, the age of the eldest case name individual, the gender of the eldest case name individual, and the handicap status of the eldest case individual. The research sample of Food Stamp-only cases again appears to have more urban characteristics than the nonresearch sample.

D. CONCLUSION

In this chapter we have reported the results of our analysis of the sample of ongoing FIP and Food Stamp-only cases by DHS. Analyzing FIP and Food Stamp-only cases separately, we have performed two types of comparisons: (a) a comparison of treatment cases with control cases, and (b) a comparison of research cases with a nonresearch sample representative of the statewide caseload. Using data from the September 1993 Iowa Automated Benefit Calculation system, we formed values of nine variables to use in comparing the different samples of cases.

The comparison of treatment and control cases found that, in the majority of cases, the difference-of-means for treatment versus control groups was not statistically significant. While systematic differences in marital status for FIP cases give cause for concern, the two areas in which Food Stamp-only cases had statistically significant differences were either significant at the .10 level only or may be explainable as the result of welfare reform policy. On the whole, the treatment and

control samples of ongoing cases were very similar to each other, particularly in the instance of Food Stamp-only cases.

The comparison of research and nonresearch cases was designed to reveal the extent to which the treatment and control samples, taken together, can be considered representative of the statewide population of ongoing cases. A simple frequency distribution of treatment and control cases by county revealed that the regional representation of the research sample is very similar to the regional representation of actual ongoing FIP and Food Stamp-only cases. Tabulation of the significance of difference-of-means revealed many systematic differences between the research and nonresearch samples. For ongoing FIP cases, six of the nine differences-in-means analyzed were larger than ten percent of the nonresearch group mean. For ongoing Food Stamp-only cases, six of the nine differences-in-means analyzed were larger than ten percent of the nonresearch group mean. These differences between research and nonresearch cases make it more difficult to argue that any impact observed for the treatment group relative to the control group would necessarily hold for the statewide population of ongoing FIP and Food Stamp-only cases.

IV. ASSESSMENT OF THE SAMPLES OF APPLICANTS

The random selection of applicants for assistance into samples of FIP and Food Stamp-only treatment and control cases began in October 1993 and is scheduled to continue through September 1995. For a number of reasons, some of which are still under investigation, the selection of cases into these samples has deviated significantly from the designs described in Chapter II. This chapter describes what we currently know about the actual sampling of applicants cases in the field, the sources of deviation from the sample designs, and the implications of those deviations for the capacity of the applicant samples to support the statistical analyses required by the evaluation. We also suggest several ways in which the sampling of applicant cases could be improved to either enhance the integrity of random assignment or to bring the actual samples of applicants more nearly into conformity with the designs for those samples.

The next section of this chapter briefly describes the applicant sampling procedures that DHS has developed for use in its offices in the nine research counties, focusing on the design and use of sampling logs. Section B presents findings from our review of all sampling logs through July 1994. This review focuses more on the procedures being followed than on the characteristics of the resultant sample. Section B also uses findings from telephone interviews with DHS county staff to describe the training that they received in random sampling and the procedures that they actually follow. Section C compares the applicant samples to date with their designs, and assesses the representativeness of the samples. Section D reports on our statistical comparison of the characteristics of treatment and control cases in the samples of FIP and Food Stamp-only applicants.

A. OVERVIEW OF APPLICANT SAMPLING PROCEDURES

The official procedures for the sampling of applicant cases by DHS staff in the nine research counties are included in Appendix A. We provide a brief overview of those procedures here. The *sampling log* is the tool that county staff use to randomly assign applicants for assistance to the

treatment or control samples. Each office maintains a separate log for FIP and Food Stamp-only applicants. In general, the logs reside in the office's reception area and the office receptionist and her backup(s) are responsible for making entries into the logs. The layout of the logs varies somewhat from county to county, but the following information must be provided for each applicant who undergoes sampling:

1. *An applicant sequence number.* The sequence number begins with 1 for the first applicant case in a month and generally increments by 1 for each subsequent applicant processed during the month. In some counties, the sequence numbers cycle within a month, starting with 1 and ending with the county's specified sampling interval. The number of cycles in a month depends on the sampling interval and the number of sampled applicants.

2. *The applicant's name.*

3. *A case identifier.* This may be either the applicant's Social Security number or the case number that DHS assigns to the applicant.

4. *The date of random assignment.* This is the date on which the applicant's name was entered into the log.[1]

5. *A label.* A label of C, T, or N identifies a case as being either treatment, control, or nonresearch. The label C must be assigned to the applicant having the first sequence number and to every i-th case thereafter, where i is the sampling interval. The label T must be assigned to each of the two cases immediately following a treatment case. All other sampled applicants must be assigned the label N.

This information is captured for each sampled applicant on a separate line in the log. A "blank" line in a county's log typically consists of a preprinted sequence number, blanks for the entry of an applicant's name, case identifier, and date, and a preprinted label. The preprinted labels are synchronized with the sequence numbers to be consistent with the county's sampling interval. For example, a county with a sampling interval of six would show the following pattern of sequence numbers and labels in the first twelve lines of its monthly log:

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[1] As discussed later in this chapter, counties differ with respect to the nature of the date information that they enter on the logs.

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Sequence Number	Label
1	C
2	T
3	T
4	N
5	N
6	N
7	C
8	T
9	T
10	N
11	N
12	N

To be eligible for sampling, an applicant must meet two criteria. First, the applicant must not have previously undergone sampling, as documented by the absence of an existing label (C,T, or N) in the IABC system. Second, the applicant must be applying for FIP (with or without Food Stamps) or for Food Stamps-only. Applicants with an existing label or who are applying for a different assistance program or combination of programs are not eligible for random sampling and are not entered into the logs.

B. RANDOM SAMPLING REVIEW AND MONITORING

This section reports on the implementation of random sampling of FIP and Food Stamp-only applicants in the field. Our findings are based on reviews of all county sampling logs for the first ten months of the sampling period, telephone interviews with staff responsible for maintaining the sampling logs in each of the nine research counties, review of training materials and other documents specifying sampling procedures, and telephone discussions with DHS central office staff.

1.   **Review of Sampling Logs**

     a.   **Methodology**

The review of random sampling procedures started with an analysis of the sampling logs from all of the nine research counties to determine the accuracy of the sampling interval and the consistency of the sampling process.

Monthly FIP and Food Stamp-only sampling logs covering the period October 1993 through July 1994 (10 months) from all nine research counties were obtained from DHS. The sampling intervals observed in the logs were compared with both the intervals in the original sampling plan and with the changes in intervals requested by DHS over the ten-month period. Potential problems were identified in the logs and discussed with DHS staff in the counties during telephone interviews. Frequencies of problems were calculated in order to assess which counties were experiencing the greatest difficulty in implementing the sampling procedures.

     b.   **Findings and Conclusions**

The Accuracy of the Sampling Intervals. Sampling began when the welfare reform waivers were initiated in october 1993. The initial sampling intervals that DHS instructed the nine research counties to follow were identical to those specified in the sampling plan (Appendix B). Eight counties used the correct initial sampling interval. In one county, the initial interval was one unit larger than the specified interval (i.e., an interval of 11 when the specified interval was 10).

FIP Sampling Logs. The research counties were required to submit their sampling logs to the DHS central office following the end of each month. As DHS staff reviewed the FIP logs, they discovered that the number of applications recorded on the logs was significantly lower than anticipated as was the percentage of approvals (47 percent, compared with the expected 77 percent). As a result, the number of treatment and control cases selected into the research sample was lower than expected.

DHS responded to the shortfall in approved FIP treatment and control applicants by sending a memorandum to the nine research counties in January instructing them to reduce their FIP sampling intervals effective February 1. In late February, an additional memorandum was sent to counties instructing them to further reduce their sampling intervals effective March 1. Table IV.1 shows the original control group sampling intervals for FIP applicants and the two sets of revised intervals.

TABLE IV.1

OFFICIAL SAMPLING INTERVALS FOR FIP APPLICANTS

County	Original Interval	February 1 Interval	March 1 Interval
Black Hawk	11	4	3
Clinton	9	4	3
Des Moines	10	4	3
Jackson	9	5	3
Jones	12	5	3
Linn	10	4	3
Polk	19	6	3
Pottawattamie	12	5	3
Woodbury	11	5	3

The March 1 uniform sampling interval of 3 remained in effect through July and continues to be in effect as of the date of this report.

A comparison of actual revised FIP sampling intervals as observed in the sampling logs with the official revised intervals shown in the last two columns of Table IV.1 revealed only one implementation error by the nine counties. An unauthorized sampling interval change from 3 to 5 occurred in Jones county in July 1994. The county stated that this change occurred unintentionally as a consequence of staff turnover.

Food Stamp-Only Sampling Logs. DHS's review of the monthly sampling logs for Food Stamp-only applicants also revealed that both the number of applications recorded on the logs and the

percentage of approvals were lower than anticipated (58 percent, compared with the expected 75 percent). Thus, the number of treatment and control cases selected into the research sample was lower than expected.

DHS sent a memorandum to the nine research counties in January, instructing them to reduce their Food Stamp sampling intervals effective February 1 (see Table IV.2). A second DHS memorandum, dated April 15, instructed the counties to further reduce their Food Stamp sampling intervals to a uniform value of 3 effective immediately. By August 1994, cumulative assignments to control and treatment groups approached the projected numbers and counties were instructed, on August 9, to increase sampling intervals as soon as possible. The August sampling intervals are generally about one-third the size of those specified in the sampling plan (see Table 2 in Appendix B), although there are several deviations from this pattern. Table IV.2 shows the original Food Stamp-only sampling intervals for each county, and the three sets of revised intervals.

TABLE IV.2

OFFICIAL SAMPLING INTERVALS FOR FOOD STAMP-ONLY APPLICANTS

County	Original Interval	February 1 Interval	April 15 Interval	August 9 Interval
Black Hawk	34	19	3	12
Clinton	33	16	3	11
Des Moines	31	19	3	11
Jackson	28	9	3	9
Jones	19	11	3	9
Linn	33	16	3	11
Polk	60	33	3	20
Pottawattamie	33	14	3	8
Woodbury	25	13	3	8

The implementation of the April 15 reduction in the Food Stamp intervals was delayed in Jones, Linn, and Polk counties. However, these counties reported to ISED that they changed their intervals

as soon as they received the memorandum. ISED's review of the memorandum revealed that no implementation date was specified; rather, counties were requested to implement the new intervals "as soon as possible."

Quality of the Data. Irregularities in the sampling logs include applicant names that are whited out, written over, crossed-out, and left blank. For example, several logs contain entries where names have been whited out and new names written over. In telephone interviews, local workers stated that, in the majority of cases, whiteouts with names written over were immediate changes to correct clerical errors.

In other instances, entries are missing, whited out and then left blank, or crossed out. This is observed infrequently, but it raises concerns about sampling reliability. There are eleven such entries in the sampling logs for Polk County. Polk County staff reported that they had been initially instructed to cross out names that had been inappropriately recorded in the logs without replacing those names. Based on our interviews, it appears that there are no clear procedures for making corrections to the logs. Usually the staff person in charge of the logs notifies the income maintenance supervisor of a problem with an entry. The supervisor then determines how to resolve the problem.

Two of the nine research counties followed DHS's instructions and recorded in the date field of a sampling log the date an application was entered on the log.[2] The seven other counties recorded the date an application was received. To increase the reliability of random assignment and to allow the integrity of random assignment to be monitored, we recommend that the following procedures be followed:

1. The date that an application is received should be entered in the date field of the sampling logs.

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[2] DHS's instructions regarding the entry of dates in the sampling logs are provided in its "Guidelines for Random Sampling of New Cases in the Field." See Appendix B of this report, page 2, final paragraph.

2. Applications should be entered on the sampling logs in the order that they are received.

3. The best way to ensure that #2 is followed is to enter applications on the logs at the time they are received.

If applications are not entered at the time that they are received, there is a greater risk that they will mixed-up and entered out of sequence, thus jeopardizing the integrity of the random assignment process. Recording the date of application on the logs will facilitate monitoring whether applicants are being assigned sample labels (C, T, or N) in the order of application.

However, recording the date of application occasionally results in nonsequential dates of application on the sampling logs. Applications may not be entered in the order received for various reasons. For example, an application may be overlooked by a clerical worker and therefore not undergo immediate random assignment. In such a case, the application may not be entered on the log until after entries have been made for later applicants. Consistent protocols are needed so that errors such as this, when they occur, will be resolved in a consistent manner across the nine research counties. The evaluators will continue to monitor the occurrence of nonsequential dates on the sampling logs and will develop protocols for dealing with out-of-order assignments. Deliverable 3B will present findings from the on-going monitoring of random assignment, as well as the recommended protocols.

Numbering on the logs is done in one of two ways. The logs in some counties have a continuous sequence of numbers down the left side of the page and the appropriate control, treatment, and nonresearch codes down the right side of the page. The logs in other counties have a repeating sequence of numbers that ends with the sampling interval (e.g., 1, 2, 3, 4, 5, 1, 2, 3, 4, 5) down the left side of the page and the appropriate control, treatment, and nonresearch codes down the right side of the page. On some of the logs that employ continuous sequential numbering, the staff person who logs-in applicants also writes the next sequential number in the left-hand column. This was only a problem in Linn county, where errors were sometimes made in the sequence of

numbers. Incorrect numbering did not appear to affect the sample totals nor the assignment of control, treatment, and nonresearch codes.

In Jackson and Linn Counties an applicant who had applied in the current month was placed on the previous month's log. In each of these cases, the applicant was the final entry on the log (e.g., the name of a March 1 applicant was entered on the February log). Each of these applicants should have been the first entry in the current month's log and, as such, each would have been assigned to the control group.

Summary. Our review of the sampling logs and follow-up discussions with county staff have identified three areas in which more specific protocols should be developed and followed: (1) correction of a log entry following a clerical error; (2) specification of the implementation date for changes in sampling intervals, with follow-up confirmation that the new intervals have been implemented; (3) entering the names of applicants into the sampling logs at the time and in the order of application. In addition, when multiple persons are responsible for the sampling logs, the frequency of errors increases. Therefore, we recommend that the larger counties specify a lead person to supervise and monitor entries.

2. Review of Sampling Training and Procedures

a. Methodology

Telephone interviews were conducted with front-line office staff in all nine research counties to obtain explanations of problems identified while reviewing the sampling logs and to determine:

- The staff responsible for the logs
- The format of instructions and training for the staff responsible for the logs
- The procedures used by staff responsible for the logs
- Staff level of comfort with keeping the logs
- Staff perceptions of the importance of the logs

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Telephone calls were made through DHS channels in the following order: (1) Regional Benefits Administrator, (2) Human Service Area Administrator, (3) income maintenance supervisor, and (4) front-line staff in each county who actually maintain the sampling logs. Front-line staff were interviewed most extensively. The ISED staff who conducted those interviews made handwritten notes while the interviews were in progress and subsequently transcribed those notes into a more formal document.

b. Findings and Conclusions

Staff Responsible for the Logs. The DHS central office conducted its own survey of the nine counties to ascertain information regarding staff responsibilities for random sampling. Summaries of the information obtained were provided to ISED for review, along with the completed survey forms. The accuracy of this information was confirmed by ISED during its interviews with county staff. In all counties, a staff person, who may be a clerk-typist, receptionist, word processor, or secretary, is in charge of the logs and enters names into them. In smaller counties, this is typically a single person, who may have a back-up. In larger counties, multiple persons may fill this role.

Format of Instructions and Training for Staff Responsible for the Logs. Supervisors and staff directly working with the logs in most counties were trained through telephone conferences with DHS central office staff and/or on the job. This was followed up with handouts and/or charts provided by the DHS central office or developed by each county office. Staff in the Polk County offices reported that they received no formal training in sampling procedures; the training that they did receive was on the job.

Procedures Used by Staff Responsible for the Logs. In all counties, staff are aware of and follow, for the most part, the correct procedures for recording applicants on the logs. In most cases, a receptionist forwards all applications to a clerk typist. For all FIP and Food Stamp-only applicants, the clerk typist checks the IABC screens to determine whether the applicant has previously been assigned a code (C, T, or N). If the applicant does not have a code, the clerk-typist records his or

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her name on next empty line in the log and copies onto the front of the application the code that appears on that line of the log. The applications is then sent to an income maintenance worker, who enters the code into the IABC system. In Des Moines and Pottawattamie Counties, a receptionist does the work of the clerk-typist. In Linn County, word processors do the entire procedure outlined above. In Polk County's Carpenter Street office, a separate clerk-typist is responsible for entering the code on the IABC system.

If the clerk-typist (or equivalent staff person) responsible for the logs has a question about sampling procedures, he or she seeks clarification from an income maintenance worker or supervisor. For instance, many interviewees commented that caretaker cases can be tricky to handle, but since they are aware of this, they are careful to double check the system and/or talk with an income maintenance worker familiar with a specific problem case.

Staff Level of Comfort With Keeping the Logs. While many staff working with the logs commented that the log sampling were somewhat confusing and burdensome at first, they now believe that they understand and are comfortable with them. This is due primarily to the constant processing of applications and having access to handouts with examples of potential scenarios. The availability of co-workers and supervisors to answer questions also adds to their level of comfort.

Staff Perceptions of the Importance of the Logs. The interviews revealed that most front-line county staff view the proper maintenance of the sampling logs as being important. They mentioned that maintaining the logs is a priority and they are concerned about following proper procedures.

3. Differences Between the Anticipated and Actual Numbers of Sampled Applicants

Early in the two-year random sampling period, the DHS central office recognized that the numbers of applicants being assigned to treatment and control groups in the nine research counties were considerably lower than the numbers anticipated in the sampling plan. As discussed above, DHS changed the sampling intervals several times in order to get on a course that would allow it to achieve the federally-specified sample sizes by the end of the sampling period. Internal DHS documents

indicate that the Department is now projecting a need to continue the sampling of FIP applicants for two additional months (October and November, 1995) in order to obtain 2,000 approved control cases and 4,000 approved treatment cases. DHS is not projecting an extension of the sampling of Food Stamp-only applicants.

We are investigating why the actual numbers of sampled applicants are much smaller than the numbers anticipated in the sampling plan. At this time, we have identified several potential explanations:

1. There has been a decrease in the number of applicants.

2. The definition of an applicant underlying the sampling plan is different from that used in keeping the logs, resulting in an overestimate of number of applicants. For example, some recertifications may have been considered applicants when the sampling plan was developed.

3. The approval rate is lower than anticipated.

4. Some applicants are not entered on the logs because they are reentering FIP or Food Stamps after spells off the programs. If they previously were assigned a treatment, control, or nonresearch code, then they would not go through random sampling again. This explanation may be considered a subset of (2), above.

5. Somehow, applicants who should be entered on the logs are not being entered.

In order to explore these explanations, we requested from DHS data on the number of applicants in each county by month. DHS informed us that it does not have this data, but it may be possible to obtain it from some of the research counties for the period October 1993 through July 1994. We also requested a detailed explanation of how, absent this data, DHS computed the anticipated number of applicants for the sampling plan. A telephone conference call was scheduled to provide this information. We will continue to gather information on the disparity in the anticipated and actual numbers of sampled applicants. Deliverable 3B (Ongoing Sampling Change Reports) will provide our findings on this issue.

We have also requested that a method be developed for identifying and reporting on the number of FIP and Food Stamp-only applicants in each research county during each remaining month in the sampling period. This would provide a basis for assessing the completeness of the sampling logs.

C. COMPARISON OF APPLICANT SAMPLES AS IMPLEMENTED WITH THEIR DESIGNS

In Chapter II, we reviewed the designs of the FIP and Food Stamp-only applicant samples and concluded that those designs would result in self-weighting samples that are representative of applicants statewide.[3] Section B of this chapter documents a number of deviations of actual random sampling procedures in the research counties from the formal prescribed procedures that might result in applicant samples that differ in some respects from their designs. In this section, we document differences between the applicant samples as designed and as implemented and assess their implications for the representativeness of the samples.

1. The Sample of FIP Applicants

Section IV.B notes that the numbers of sampled treatment and control applicants have generally been smaller than anticipated during the first three quarters of random assignment. The shortfall in sampled cases has been greater for the FIP sample than for the Food Stamp-only sample. For both samples, DHS has taken steps not envisioned in the sample designs to reduce and ultimately eliminate the cumulative shortfall in sampled cases. Here we investigate the shortfall in sampled FIP applicants through a sequence of tables that present data on actual sampling activity compared with the activity that was anticipated in the sample design.[4]

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[3]This conclusion required the assumption that the research counties are "judgmentally representative" of their regions.

[4]DHS's design for the sample of FIP applicants is summarized in Table 1 of Appendix B.

TABLE IV.3A

NINE COUNTY ANALYSIS OF ALL FIP APPLICANTS
OCTOBER 1993 - MARCH 1994

| | | Anticipated Total Applicants | | Actual Total Applicants | | Percentage Difference: Actual - Anticipated |
| | | (1) | (2) | (3) | (4) | (5) |
REGION	COUNTY	# Apps./ Mo.	# Apps./ 6 Mos.	# Apps./ Mo.	# Apps./ 6 Mos.	(4)-(2)
SIOUX CITY						
	Woodbury	193	1158	93.2	559	-51.7%
WATERLOO						
	Black Hawk	214	1284	63.7	382	-70.2%
DES MOINES						
	Polk	560	3360	190.2	1141	-66.0%
COUNCIL BLUFFS						
	Pottawattamie	176	1056	68.5	411	-61.1%
CEDAR RAPIDS						
	Clinton	84	504	34.3	206	-59.1%
	Des Moines	83	498	28.0	168	-66.3%
	Jackson	28	168	9.2	55	-67.3%
	Jones	23	138	10.2	61	-55.8%
	Linn	212	1272	81.2	487	-61.7%
	5 Co. Subtotal	430	2580	162.8	977	-62.1%
TOTAL		1573	9438	578.3	3470	-63.2%

TABLE IV.3B

NINE COUNTY ANALYSIS OF FIP CONTROL APPLICANTS
OCTOBER 1993 - JUNE 1994

REGION	COUNTY	Anticipated Total Applicants		Anticipated Control Applicants		Actual Control Applicants		Percentage Difference: Actual - Anticipated
		(1) # Apps./ Mo.	(2) # Apps./ 9 Mos.	(3) # Apps./ Mo.	(4) # Apps./ 9 Mos.	(5) # Apps./ Mo.	(6) # Apps./ 9 Mos.	(7) (6)-(4)
SIOUX CITY	Woodbury	193	1737	17	153	19.3	174	13.7%
WATERLOO	Black Hawk	214	1926	20	180	12.4	112	-37.8%
DES MOINES	Polk	560	5040	30	270	32.8	295	9.3%
COUNCIL BLUFFS	Pottawattamie	176	1584	15	135	12.9	116	-14.1%
CEDAR RAPIDS	Clinton	84	756	9	81	7.3	66	-18.5%
	Des Moines	83	747	8	72	5.6	50	-30.6%
	Jackson	28	252	3	27	1.9	17	-37.0%
	Jones	23	207	2	18	2.2	20	11.1%
	Linn	212	1908	22	198	16.4	148	-25.3%
	5 Co. Subtotal	430	3870	44	396	33.4	301	-24.0%
TOTAL		1573	14157	126	1134	110.9	998	-12.0%

TABLE IV.3C

NINE COUNTY ANALYSIS OF FIP APPROVED CONTROL APPLICANTS
OCTOBER 1993 - JUNE 1994

REGION	COUNTY	Anticipated Total Applicants		Anticipated Control Applicants		Anticipated Approved Control Applicants		Actual Approved Control Applicants		Percentage Difference: Actual - Anticipated	
		(1) # Apps./ Mo.	(2) # Apps./ 9 Mos.	(3) # Apps./ Mo.	(4) # Apps./ 9 Mos.	(5) # Apps./ Mo.	(6) # Apps./ 9 Mos.	(7) # Apps./ Mo.	(8) # Apps./ 9 Mos.	(9) (8)-(4)	(10) (8)-(6)
SIOUX CITY											
	Woodbury	193	1737	17	153	13.1	118.2	8.0	72	-52.9%	-39.1%
WATERLOO											
	Black Hawk	214	1926	20	180	15.5	139.0	7.1	64	-64.4%	-54.0%
DES MOINES											
	Polk	560	5040	30	270	23.2	208.6	14.6	131	-51.5%	-37.2%
COUNCIL BLUFFS											
	Pottawattamie	176	1584	15	135	11.6	104.3	6.2	56	-58.5%	-46.3%
CEDAR RAPIDS											
	Clinton	84	756	9	81	7.0	62.6	4.6	41	-49.4%	-34.5%
	Des Moines	83	747	8	72	6.2	55.6	2.3	21	-70.8%	-62.2%
	Jackson	28	252	3	27	2.3	20.9	1.2	11	-59.3%	-47.3%
	Jones	23	207	2	18	1.5	13.9	0.6	5	-72.2%	-64.0%
	Linn	212	1908	22	198	17.0	153.0	7.3	66	-66.7%	-56.9%
	5 Co. Subtotal	430	3870	44	396	34.0	305.9	16.0	144	-63.6%	-52.9%
TOTAL		1573	14157	126	1134	97.3	876.0	51.9	467	-58.8%	-46.7%

TABLE IV.3D

REGIONAL ANALYSIS OF FIP APPROVED CONTROL APPLICANTS
OCTOBER 1993 - JUNE 1994

REGION	COUNTY	Anticipated Total Applicants			Anticipated Control Applicants		Anticipated Approved Control Applicants			Actual Approved Control Applicants		
		(1) # Apps./ Mo.	(2) # Apps./ 9 Mos.	(3) Percent of Total	(4) # Apps./ Mo.	(5) # Apps./ 9 Mos.	(6) # Apps./ Mo.	(7) # Apps./ 9 Mos.	(8) Percent of Total	(9) # Apps./ Mo.	(10) # Apps./ 9 Mos.	(11) Percent of Total
SIOUX CITY	Woodbury	498	4482	13.4%	17	153	13.1	118.2	13.5%	8.0	72	15.4%
WATERLOO	Black Hawk	582	5238	15.6%	20	180	15.5	139.0	15.9%	7.1	64	13.7%
DES MOINES	Polk	877	7893	23.6%	30	270	23.2	208.6	23.8%	14.6	131	28.1%
COUNCIL BLUFFS	Pottawattamie	457	4113	12.3%	15	135	11.6	104.3	11.9%	6.2	56	12.0%
CEDAR RAPIDS	Clinton Des Moines Jackson Jones Linn	1308	11772	35.1%	44	396	34.0	305.9	34.9%	16.0	144	30.8%
TOTAL		3722	33498	100.0%	126	1134	97.3	876.0	100.0%	51.9	467	100.0%

The Number of Applicants.[5] The sample design envisioned that 1,573 cases per month would apply for FIP in the nine research counties. The anticipated allocation of these applicants across the research counties is displayed in column 1 of Table IV.3A. DHS's review of county sampling logs found that only 578 applicants per month actually underwent random sampling during the first two quarters of Waiver Year 1 (column 3 of Table IV.3A). This represents a 63 percent shortfall of actual applicants relative to anticipated applicants. The shortfall of applicants ranged from 52 percent in Woodbury County to 70 percent in Black Hawk County. Several factors that may have contributed to this shortfall are noted at the end of Section IV.B.3.

The dramatic shortfall of FIP applicants meant that the FIP applicant sample would be filled up much more slowly than envisioned in the sample design unless adjustments were made in the design parameters or in the field implementation of those parameters.

The Number of Control Applicants. DHS compiled data from county sampling logs on the number of applicants who were assigned to control group status during the first nine months of Waiver Year 1. DHS's worksheet for this compilation is reproduced in this report as Appendix C. This subsection and the two that follow are based on our analysis of these data.

In its design for the FIP applicant sample, DHS assumed that 126 applicants per month would undergo sampling in the nine research counties and be assigned to control status. Column 3 of Table IV.3B provides county-level detail on this assumption, while column 5 shows the actual number assigned to control status per month. In the aggregate, there were 12 percent fewer control applicants than anticipated. This shortfall is dramatically smaller than the 63 percent shortfall in all applicants. The difference is due to the adoption of successively smaller sampling intervals in February and March of 1994, as discussed in Section IV.B. In October through January, no more than one out of nine applicants was being assigned to control status; whereas in March through July,

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[5]At the time this report was prepared, data on the number of applicants in the nine research were available for only the first two quarters of Waiver Year 1. Data on applicants that were assigned to control status were available for the first three quarters of Waiver Year 1.

one out of every three applicants was being assigned to control status. This reduction in sampling intervals largely offset the shortfall in applicants, resulting in an aggregate number of applicants assigned to control status that is only 12 percent less than anticipated.

While the reduction in the sampling interval was fairly effective in buffering the aggregate number of controls against the dramatic shortfall in total FIP applicants, it may have had some undesirable distributional impacts that could adversely affect the representativeness of the applicant sample. In Chapter II we explained that the varying sampling rates across the research counties were designed to yield a sample of applicants that is distributed across the five DHS administrative regions in the same proportion as all applicants. The sample design assigned the largest sampling interval, 19, to Polk County. Thus, when all sampling intervals were reduced to 3 in March, the reduction for Polk County was the most dramatic. In contrast, Table IV.3A shows that Polk County's percentage shortfall in FIP applications was about average. The combination of an average shortfall in applications and a dramatic reduction in the sampling interval resulted in a 9 percent *excess* of actual applicants assigned to control status in Polk County relative to the anticipated number of applicants assigned to control status. In the context of the 12 percent overall shortfall of applicants assigned to control status, the 9 percent excess in Polk County means that a larger percentage of the total sample of control applicants is from Polk County (and from the Des Moines Region) than anticipated.[6] The implications of this discrepancy for the representativeness of the sample of applicants are addressed in the following two subsections.

The Number of Approved Control Applicants. The federal waivers for Iowa welfare reform specify that the completed sample of FIP applicants must include at least 2,000 *approved* control cases. To satisfy this requirement, DHS's design for this sample calls for the selection of slightly more than 3,000 control applicants (126 cases per month, as shown in column 3 of Tables IV.3B and C).

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[6]From column 6 of Table IV.3B, we can compute that Polk County accounts for 29.6 percent (295/998) of actual control applicants versus 23.8 percent (270/1,134) of anticipated control applicants.

The 50 percent oversampling was intended to offset a projected approval rate of 77.25 percent for FIP applicants, as well as other unspecified factors that might reduce the final sample size.

To assess progress in building the sample of approved FIP control applicants, we use the projected 77.25 percent approval rate to convert the design targets from numbers of control applicants per month to numbers of approved control applicants per month. The target numbers of approved control applicants per month are shown in column 5 of Table IV.3C. This column shows that the aggregate monthly target implicit in the sample design is 97 approved control applicants per month. Column 7 of Table IV.3C shows that over the first three quarters of random sampling, only 52 approved control applicants were sampled per month, on average. The actual sampling performance falls short of the target by 46.7 percent (column 10).

The reason why the shortfall in approved control applicants was large, whereas the shortfall in all control applicants was modest (12 percent), is the actual approval rate was well below the anticipated rate. Only 46.8 percent of control applicants were approved during the first three quarters of Waiver Year 1 (467 approvals out of 998 control applicants); whereas an approval rate of 77.25 percent was anticipated.

In assessing the progress of random sampling, DHS computes the percentage difference between the number of approved control applicants and the anticipated number of all control applicants.[7] This percentage difference is reproduced in column 9 of Table IV.3C. We recommend against the use of this percentage to assess progress in the sampling of FIP applicants. It would be preferable to use the percentage difference between the number of approved control applicants and the

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[7]See Section III of DHS's first quarterly FIP progress report to DHHS, dated 4/28/94. More specifically, see the final column of the table titled "New FIP Control Applications Sampled in the Field," dated 3/30/94.

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anticipated number of approved control applicants, as shown in column 10.[8] Comparison of actual

approved control applicants with all anticipated control applicants (without regard for approval/denial

status) exaggerates the shortfall in sampling and may lead to reductions in sampling intervals of

unnecessary size and/or duration. The degree of exaggeration can be seen in Table IV.3C by

comparing the percentages in column 9 with those in column 10.

A brief review of Tables IV.3A-C may be useful. Table IV.3A shows that there has been a 63

percent shortfall in FIP applicants in the nine research counties. Table IV.3B shows that DHS's

response to the shortfall in FIP applicants--sharp reductions in the sampling intervals--was effective

in keeping the shortfall in FIP applicants who were assigned to control status relatively small, just 12

percent. However, that strategy significantly shifted the distribution of the sample across the research

counties relative to the distribution specified in the sample design. Table IV.3C shows that a

substantially lower than anticipated approval rate for FIP applicants largely negated the gains

achieved by the reduction in sampling intervals, resulting in a sample of approved control applicants

that is 47 percent smaller than anticipated after three quarters of sampling.

The Regional Distribution of the Sample. Our previous discussion of the reduction in the FIP

applicant sampling interval to a uniform value of 3 across all nine research counties indicated that

the reduction would probably distort the regional distribution of the applicants sample relative to the

distribution envisioned in the sample design. We especially noted that the very large reduction in the

sampling interval for Polk County would likely skew the distribution of the applicant sample toward

the Des Moines Region. This subsection documents that these distributional shifts in the applicant

sample have in fact occurred.

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[8]A strong case could also be made for comparing the actual number of approved control
applicants with the minimum required number of approved control applicants. The federal waiver
requirements specify that the sample of approved control applicants should include at lest 2,000 cases.
The monthly counterpart to this target is 83.3 cases (2,000/24). If sampling were proceeding as
planned, then we would expect 750 (83.3×9) approved control applicants after three quarters. The
actual number of approved control applicants after three quarters is 467, which is 283 less than the
minimum target number. This is a shortfall of 37.7 percent (283/750).

Column 3 of Table IV.3D show the anticipated percentage distribution of all FIP applicants statewide across DHS's five administrative regions. Column 8 shows that the sample of approved control applicants was designed to very closely mimic that distribution. As discussed in Section A of Chapter II, the correspondence between these two distributions implies that the FIP applicant sample as designed is a self weighting sample that is representative of FIP applicants statewide (assuming that the research counties are "judgmentally representative" of their regions).

As expected, based on our discussion of sampling intervals, the distribution of the sample actual approved control applicants, as shown in column 11 of Table IV.3D, does differ from the design distribution. Not surprisingly, the Des Moines Region accounts for about 4 percentage points more of the total sample than was anticipated; while the Cedar Rapids Region accounts for about 4 percentage points less. The proportions of the actual sample from the Sioux City and Waterloo Regions deviate in opposite directions from the design by about 2 percentage points. These differences will grow as sampling continues over time as long as the sampling intervals remain set at a uniform value across the research counties. The discrepancy between the regional distribution of the sample of control applicants and the anticipated distribution of all applicants statewide implies that the current sample would only be representative of FIP applicants statewide if it were weighted. The disproportionate clustering of the sample in certain regions and the associated need for weighting would result in a loss of statistical precision relative to that which we assumed in computing the minimum detectable impacts that are reported in Tables II.6 and II.7 of our technical contract proposal.

To minimize the degree of misallocation of the applicant sample across regions, while achieving the federally required minimum sample size, we recommend that DHS implement as quickly as possible a new set of sampling intervals that are a constant proportion of the original intervals. For example, if intervals one-half the size of the original intervals were adopted, the interval for Polk County would be 9 rather than the original 19 and the interval for Linn County would be 5 rather

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than the original 10. Any constant proportion of the original intervals would be acceptable so long as it did not result in an interval of less than 3 for any county. If the smallest feasible proportion meant that it would be necessary to extend the sampling period for several months beyond the anticipated 24 months in order to achieve a completed sample of 2,000 approved control applicants, we would continue to support the adoption of that proportion.

In concluding this discussion of the regional distribution of the sample of FIP applicants, we acknowledge that it would have been preferable to compare the regional distribution of sampled applicants with that of all applicants statewide during the sampling period. However, DHS does not archive electronic or hard-copy reports on applicants by county or region and, consequently, is unable to provide us with the data that we would need to conduct the preferred assessment. Therefore, we have relied on DHS's historical analysis of FIP applicants, as reported in the design for the FIP applicant sample (Appendix B), which was based on data from the IABC system for the pre-reform period.

2. The Sample of Food Stamp-Only Applicants

The shortfall in applicants that has been so troublesome to DHS in its selection of the sample of FIP applicants has been less severe among Food Stamp-only applicants and more effectively offset by reductions in the sampling intervals. Consequently, there currently is no shortfall in the aggregate number of approved sampled Food Stamp-only applicants, but the distribution of these cases across the DHS administrative regions does differ from the anticipated distribution. Here we document these findings through a series of four tables analogous to those just presented for FIP applicants.

The Number of Applicants. The nine research counties received 5,681 applications for Food Stamps only during the first two quarters of Waiver Year 1. Column 5 of Table IV.4A shows that this is 50.4 percent less than the 11,448 applications that were anticipated in the design for the

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TABLE IV.4A

NINE COUNTY ANALYSIS OF ALL FOOD STAMP APPLICANTS
OCTOBER 1993 - MARCH 1994

| REGION | COUNTY | Anticipated Total Applicants | | Actual Total Applicants | | Percentage Difference: Actual - Anticipated |
		(1) # Apps./ Mo.	(2) # Apps./ 6 Mos.	(3) # Apps./ Mo.	(4) # Apps./ 6 Mos.	(5) (4)-(2)
SIOUX CITY	Woodbury	178	1068	76.3	458	-57.1%
WATERLOO	Black Hawk	307	1842	158.5	951	-48.4%
DES MOINES	Polk	724	4344	361.5	2169	-50.1%
COUNCIL BLUFFS	Pottawattamie	167	1002	65.2	391	-61.0%
CEDAR RAPIDS	Clinton	98	588	46.3	278	-52.7%
	Des Moines	93	558	48.3	290	-48.0%
	Jackson	28	168	10.0	60	-64.3%
	Jones	19	114	10.3	62	-45.6%
	Linn	294	1764	170.3	1022	-42.1%
	5 Co. Subtotal	532	3192	285.3	1712	-46.4%
TOTAL		1908	11448	946.8	5681	-50.4%

NOTE: Actual applicants for Woodbury Co. (columns 3 and 4) include one month (October 1993) for which data are not available. A value of 0 has been imputed for that month.

TABLE IV.4B

NINE COUNTY ANALYSIS OF FOOD STAMP CONTROL APPLICANTS
OCTOBER 1993 - JUNE 1994

REGION	COUNTY	Anticipated Total Applicants		Anticipated Control Applicants		Actual Control Applicants		Percentage Difference: Actual - Anticipated
		(1) # Apps./ Mo.	(2) # Apps./ 9 Mos.	(3) # Apps./ Mo.	(4) # Apps./ 9 Mos.	(5) # Apps./ Mo.	(6) # Apps./ 9 Mos.	(7) (6)-(4)
SIOUX CITY								
	Woodbury	178	1602	7	63	10.7	96	52.4%
WATERLOO								
	Black Hawk	307	2763	9	81	14.2	128	58.0%
DES MOINES								
	Polk	724	6516	12	108	18.2	164	51.9%
COUNCIL BLUFFS								
	Pottawattamie	167	1503	5	45	5.9	53	17.8%
CEDAR RAPIDS								
	Clinton	98	882	3	27	5.3	48	77.8%
	Des Moines	93	837	3	27	4.4	40	48.1%
	Jackson	28	252	1	9	1.7	15	66.7%
	Jones	19	171	1	9	1.2	11	22.2%
	Linn	294	2646	9	81	9.7	87	7.4%
	5 Co. Subtotal	532	4788	17	153	22.3	201	31.4%
TOTAL		1908	17172	50	450	71.3	642	42.7%

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TABLE IV.4C

NINE COUNTY ANALYSIS OF FOOD STAMP APPROVED CONTROL APPLICANTS
OCTOBER 1993 - JUNE 1994

REGION	COUNTY	Anticipated Total Applicants		Anticipated Control Applicants		Anticipated Approved Control Applicants		Actual Approved Control Applicants		Percentage Difference: Actual - Anticipated	
		(1) # Apps./ Mo.	(2) # Apps./ 9 Mos.	(3) # Apps./ Mo.	(4) # Apps./ 9 Mos.	(5) # Apps./ Mo.	(6) # Apps./ 9 Mos.	(7) # Apps./ Mo.	(8) # Apps./ 9 Mos.	(9) (8)-(4)	(10) (8)-(6)
SIOUX CITY											
	Woodbury	178	1602	7	63	5.3	48.7	5.8	52	-17.5%	6.8%
WATERLOO											
	Black Hawk	307	2763	9	81	6.8	62.6	9.0	81	0.0%	29.4%
DES MOINES											
	Polk	724	6516	12	108	9.0	83.4	8.8	79	-26.9%	-5.3%
COUNCIL BLUFFS											
	Pottawattamie	167	1503	5	45	3.8	34.8	4.1	37	-17.8%	6.4%
CEDAR RAPIDS											
	Clinton	98	882	3	27	2.3	20.9	3.2	29	7.4%	39.0%
	Des Moines	93	837	3	27	2.3	20.9	2.4	22	-18.5%	5.5%
	Jackson	28	252	1	9	0.8	7.0	1.0	9	0.0%	29.4%
	Jones	19	171	1	9	0.8	7.0	0.4	4	-55.6%	-42.5%
	Linn	294	2646	9	81	6.8	62.6	6.2	56	-30.9%	-10.5%
	5 Co. Subtotal	532	4788	17	153	12.8	118.2	13.3	120	-21.6%	1.5%
TOTAL		1908	17172	50	450	37.7	347.6	41.0	369	-18.0%	6.1%

TABLE IV.4D

REGIONAL ANALYSIS OF FOOD STAMP APPROVED CONTROL APPLICANTS
OCTOBER 1993 - JUNE 1994

REGION	COUNTY	Anticipated Total Applicants			Anticipated Control Applicants		Anticipated Approved Control Applicants			Actual Approved Control Applicants		
		(1) # Apps./ Mo.	(2) # Apps./ 9 Mos.	(3) Percent of Total	(4) # Apps./ Mo.	(5) # Apps./ 9 Mos.	(6) # Apps./ Mo.	(7) # Apps./ 9 Mos.	(8) Percent of Total	(9) # Apps./ Mo.	(10) # Apps./ 9 Mos.	(11) Percent of Total
SIOUX CITY	Woodbury	588	5292	13.0%	7	63	5.3	47.5	14.0%	5.8	52	14.1%
WATERLOO	Black Hawk	776	6984	17.2%	9	81	6.8	61.0	18.0%	9.0	81	22.0%
DES MOINES	Polk	1119	10071	24.8%	12	108	9.0	81.3	24.0%	8.8	79	21.4%
COUNCIL BLUFFS	Pottawattamie	481	4329	10.7%	5	45	3.8	33.9	10.0%	4.1	37	10.0%
CEDAR RAPIDS	Clinton Des Moines Jackson Jones Linn	1551	13959	34.4%	17	153	12.8	115.2	34.0%	13.3	120	32.5%
TOTAL		4515	40635	100.0%	50	450	37.7	338.9	100.0%	41.0	369	100.0%

sample of Food Stamp-only applicants.[9] This shortfall, while large, is substantially smaller than the 63 percent shortfall in FIP applicants over the same period.

The Number of Control Applicants. As documented in Section IV.B, DHS acted to offset the reduction in Food Stamp-only applications by reducing the sampling intervals by even larger amounts than for FIP applicants. The intervals, which initially ranged from 19 in Jones County to 60 in Polk County, were reduced in February 1994 by approximately 50 percent, and then again in April to a uniform value of 3.[10] This had the intended effect of increasing the number of control applicants from roughly 30 to several hundred per month.[11] Over the first three quarters of sampling, the number of control applicants actually exceeded the target number by 42.7 percent, as shown in column 7 of Table IV.4B.

The Number of Approved Control Applicants. Food Stamp-only applicants assigned to control status were approved at a rate of 57.5 percent rather than 75.32 percent, as anticipated in the sample design. The lower approval rate meant that, despite the large excess of control applicants, the aggregate number of approved control applicants exceeded the target number by only 6 percent (column 10 of Table IV.4C) after three quarters of random sampling.[12]

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[9]DHS's design for the sample of Food Stamp-only applicants is summarized in Table 2 of Appendix B.

[10]In August 1994, DHS increased the sampling intervals to approximately one-third of their original values. The effects of this increase are not reflected in the findings presented here, which are based on sampling activity through June.

[11]See Appendix C for DHS's compilation of data from county sampling logs on which the findings reported in this and the following two subsections ar based.

[12]An anomalous feature of the design for the Food Stamp-only applicant sample (Table 2 in Appendix B) is that the assumed approval rate of 75.32 percent, when applied to the target sample size of 1,200 control applicants, yields a sample of just 904 approved control applicants. The federal waivers require at least 1,000 such cases. Therefore, a 10 percent excess of actual over anticipated approved control applicants would be ideal. We recommend that DHS monitor its progress in the sampling of Food Stamp-only applicants by comparing the actual number of control applicants with the number of such cases that would be necessary to be on track towards achieving the target sample size of 1,000 over 24 months. At the end of nine months of sampling that number would be 375 [9 × (1,000/24)]. The 369 actual approved control applicants is very close to this target number.

The Regional Distribution of the Sample.[13] The temporarily uniform sampling interval, along with deviations of county application and approval rates from anticipated values, have resulted in a percentage distribution of approved control Food Stamp-only applicants that differs somewhat from the anticipated distribution, as shown in columns 8 and 11 of Table IV.4D. The percentage of cases is higher than anticipated from the Waterloo Region (22.0 percent actual versus 18.0 percent anticipated) and lower than anticipated from the Des Moines Region (21.4 percent actual versus 24.0 percent anticipated). The August 1994 replacement of a uniform sampling interval of 3 with sampling intervals that are approximately one-third the value of the original (October 1993) intervals may lead to a gradual reduction in these differences. With one exception, we recommend that the August sampling intervals be maintained indefinitely and the size and distribution of the sample monitored on an ongoing basis. The exception is Jones County. The current sampling interval for Jones County is larger relative to the original interval (9 currently versus 19 originally) than for any other research county. This is true despite the fact that the sample of approved control applicants includes only 4 cases from Jones County instead of the anticipated 7 cases (columns 6 and 8 of Table IV.4C). We recommend that the sampling interval for Jones County be reduced from the current 9 to 6. The revised interval would then be about one-third of the original October 1993 interval, as is currently true for most of the other counties.

D. STATISTICAL ASSESSMENT OF THE APPLICANT SAMPLES

In this section we describe our statistical assessment of the samples of FIP and Food Stamp-only applicants. We first describe how we distinguished applicant cases from ongoing cases in the June 1994 IABC system file. Next we present our findings from a comparison of mean values for

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[13]This analysis, like the corresponding analysis of FIP applicants, is based not on contemporaneous data on Food Stamp-only applicants statewide, but on data from the pre-reform period from the IABC system, as reported by DHS in its design for the Food Stamp-only applicant sample (Appendix B).

treatment and control cases in the applicant sample. We conclude with some implications of our findings for the evaluation of welfare reform.

1. Description of the Applicant Data

To obtain data on applicants for the FIP or Food Stamp-only programs, we extracted information on all treatment and control cases in the June 1994 IABC system case master file. A case's program status was determined using the same aid type indicator used to distinguish FIP and Food Stamp-only cases in the September 1993 IABC file. As with the research sample of ongoing cases, the sample of applicants included data on each household's eldest case name individual, extracted from the corresponding individual master file. To distinguish applicants from ongoing cases, treatment and control cases in the June 1994 file were matched, by case number, with treatment and control cases in the September 1993 file. June 1994 cases that matched with cases from September 1993 were labelled as ongoing cases, while June 1994 cases that did not match, i.e., that had no corresponding case in the September 1993 research sample, were labelled as applicants. A total of 4,252 applicant cases were identified, of which 3,158, or 74 percent, had both valid aid types and corresponding information on an eldest case name individual.[14]

2. Comparison of Treatment and Control Cases Among Applicants

Methodology. If applicants were assigned randomly to treatment and control groups, we would expect, prior to the impact of welfare reform, to find no statistically significant differences between the treatment and control samples. As in the comparison of ongoing cases, we analyzed the difference-of-means for nine variables: household size; nontransfer income as a percentage of poverty level; age of eldest case name individual; and dummy variables for eldest case name

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[14]543 of the applicant cases lacked a valid aid type; 506 had no corresponding information on an eldest case name individual; and 45 lacked both a valid aid type and corresponding information on an eldest case name individual.

TABLE IV.5

MEANS FOR APPLICANT TREATMENT AND CONTROL CASES
JUNE 1994

Variable Name	Mean for Treatment Cases	Mean for Control Cases	Difference of Means
FIP Cases			
Benefit household size	2.20	2.04	0.16**
income as % of poverty level	11.3	12.3	-1.0
age of eldest case name	30.2	29.9	0.3
eldest case name is female	0.820	0.827	-0.007
eldest case name is nonwhite	0.246	0.205	0.041*
eldest case name is married	0.332	0.288	0.044**
eldest case name is a H. S. dropout	0.097	0.093	0.004
eldest case name attended college	0.041	0.050	-0.009
eldest case name is handicapped	0.496	0.502	-0.006
Food Stamp-Only Cases			
Benefit household size	1.31	1.42	-0.11
income as % of poverty level	6.93	6.26	0.67
age of eldest case name	35.4	35.8	-0.4
eldest case name is female	0.386	0.426	-0.040
eldest case name is nonwhite	0.228	0.212	0.016
eldest case name is married	0.217	0.232	-0.015
eldest case name is a H. S. dropout	0.079	0.074	0.005
eldest case name attended college	0.044	0.060	-0.016
eldest case name is handicapped	0.618	0.614	0.004

Sample size	Treatment Sample	Control Sample	Total
FIP Cases	1,211	643	1,854
Food Stamp-only Cases	856	448	1,304

SOURCE: June 1994 Iowa Automated Benefit Calculation (IABC) System file

*Significantly different from zero at the .10 level
**Significantly different from zero at the .05 level
***Significantly different from zero at the .01 level

individuals who are female, nonwhite, married, high school dropouts, college students (current or former), and handicapped. Table IV.5 presents means for the treatment and control groups of FIP applicants and Food Stamp-only applicants. Differences-of-means are reported in the fourth column, with an indication, where applicable, of the statistical significance of that difference. We used regression-based procedures to test for statistically significant differences between treatment and control samples, as described in Chapter III, Section B.

Findings for FIP Applicants. The results presented in Table IV.5 indicate that, for six of the nine variables analyzed, there are no statistically significant differences between treatment and control cases in the sample of FIP applicants. The three variables for which statistically significant differences were detected include household size, the indicator for nonwhite eldest case name individuals, and the indicator for married eldest case name individuals. Among FIP applicants, treatment cases are, on average, larger households than control cases, and they are also more likely to have nonwhite and married case name individuals than corresponding control cases. American Indian, Asian, black, and Indochinese individuals are each represented in higher proportions in the treatment group than in the control group. Single, divorced, and widowed individuals are each represented in lower proportions in the treatment group than in the control group.

It is possible that the statistically significant differences in household size and marital status are the result of welfare reform, which is designed to encourage the formation of two-parent households. A more troubling explanation for these differences is that the assignment of applicant cases to treatment and control groups may have not been entirely random. If assignment procedures are less than entirely random, there might be between-county variation in the degree of randomness, and consequent differences by county in the statistical significance of differences-of-means.

To determine whether particular counties manifest statistically significant differences-of-means, we performed the regression-based analyses described above separately for applicants in each of the nine research counties. The difference-of-means for the household size variable was statistically

significant for FIP applicants in only one county, Woodbury County, where the mean household size was 1.88 for 259 treatment cases, but only 1.22 for 108 control cases. The difference-of-means for the nonwhite ethnicity variable was statistically significant for FIP applicants in two counties: Polk County and Black Hawk County. In Polk County, 28.9 percent of 298 treatment cases were nonwhite, while only 21.3 percent of 74 control cases were nonwhite. In Black Hawk County, 39.8 percent of 161 treatment cases were nonwhite, while only 29.3 percent of 92 control cases were nonwhite. Black Hawk County was also the only county in which differences in marital status were statistically significant: 30.4 percent of the treatment cases had married eldest case name individuals, compared with only 19.6 percent of the control cases. These findings suggest that there is between-county variation in the randomness of the assignment of FIP applicants to treatment and control groups.

Findings for Food Stamp-Only Applicants. In contrast to the sample of applicants for FIP, the sample of Food Stamp-only applicants had no statistically significant differences-in-means for the nine variables subject to the analysis. The absence of systematic differences between treatments and controls suggests that the impact of welfare reform on Food Stamp-only applicants can be analyzed while maintaining the assumption of the randomness of the assignment of treatment and control cases in the nine research counties.

3. Conclusion

In this section we have described how we identified applicant cases in the June 1994 IABC file. We have also presented evidence on differences-of-means for treatment and control cases in FIP and Food Stamp-only samples of applicants. The findings for FIP applicants suggest that there are some systematic differences between treatment and control cases in the area of household size and the ethnicity and marital status of the eldest case name individual. It is not certain whether changes in household size and marital status are the consequence of welfare reform, but the sign of the differences is consistent with the shift in incentives created by welfare reform. When treatment and

control cases are compared separately by county, these same differences-of-means are only statistically significant for three counties. This finding suggests that future impact analyses could focus on a subset of the nine research counties in order to reduce any biases arising from the nonrandom assignment of treatment and control cases in specific counties. For the Food Stamp-only applicants, there is no statistically significant evidence of differences-in-means for treatment and control cases in the nine counties.

APPENDIX A

FINAL SAMPLING TABLE FOR ONGOING PARTICIPANTS

MEMORANDUM

TO: Division of Economic Assistance

ATTENTION: Deb Bingaman

FROM: Dave Engels, Bureau of Research and Statistics

DATE: September 29, 1993

SUBJECT: Final Sampling Table for Ongoing Cases

I am attaching a copy of the final tables used to draw the ongo-
ing FIP and Food Stamps only samples, September 17. The number
of cases shown in column one indicates the number of active cases
in the universe statewide and for each individual region and se-
lected counties on that date. the remaining columns show the
number of control and experimental cases drawn from each area.

Subsequent to drawing the sample, I looked at the representative-
ness of the sample. In terms of geographic distribution, the
sample was very representative of the universe. For example,
11.% of the cases were from the Sioux City region, and 11.8% of
the cases in the sample were from Sioux City.

I want to take this opportunity to thank my two staff members,
Larry Johnsen and Jan Conrad, who helped me on the sampling plan
and drawing the sample.

cc: Gloria Conrad
    Jan Conrad
    Larry Johnsen

IOWA DEPARTMENT OF HUMAN SERVICES
TABLE 1: FIP CONTROL GROUP SAMPLING PLAN FOR PARTICIPANT CASES

REGION	COUNTY	REGION CASELOAD (1) Region No.Cases	(2) % of State Total	(3) # of Cases Needed	COUNTY FIP CONTROL SAMPLE (4) County No.Cases	(5) % of Cases in Counties	(6) # of Cases Needed	FIP EXPERIMENTAL SAMPLE SIZE (7) # of Cases Needed	TOTAL RESEARCH SAMPLE SIZE (8) # of Cases
SIOUX CITY		4,158	11.8%	295				590	885
	Woodbury				1,601	100%	295	590	885
WATERLOO		5,781	16.4%	411				822	1,233
	Black Hawk				2,564	100%	411	822	1,233
DES MOINES		8,433	24.0%	599				1,198	1,797
	Polk				5,648	100%	599	1,198	1,797
COUNCIL BLUFFS		3,930	11.2%	279				558	837
	Pottawattamie				1618	100%	279	558	837
CEDAR RAPIDS		12,901	36.6%	916				1,832	2,748
	Clinton				935	22.7%	208	416	624
	Des Moines				763	18.6%	170	340	510
	Jackson				227	5.5%	51	102	153
	Jones				152	3.7%	34	68	102
	Linn				2035	49.5%	453	906	1359
	Five-County Total				4,112	100%	916	1,832	2,748
STATE TOTALS:		35,203	100%	2,500	15,543		2,500	5,000	7,500

Assumptions: Over Sample: 25%   Sample Size   2500   Min.Sample Req.:   2,000

IOWA DEPARTMENT OF HUMAN SERVICES
TABLE 2: CONTROL GROUP SAMPLING PLAN FOR PARTICIPANT FOOD STAMP-ONLY CASES[a]

REGION	COUNTY	REGION CASELOAD (1) Region No.Cases	(2) % of State Total	(3) # of Cases Needed	COUNTY FOOD STAMP-ONLY CONTROL SAMPLE (4) County No.Cases	(5) % of Cases in Counties	(6) # of Cases Needed	FOOD STAMP-ONLY EXPERIMENTAL SAMPLE (7) # of Cases Needed	TOTAL RESEARCH SAMPLE SIZE (8) # of Cases
SIOUX CITY		2,508	13.52%	90				180	270
	Woodbury				575	100%	90	180	270
WATERLOO		3,552	19.14%	128				256	384
	Black Hawk				1,143	100%	128	256	384
DES MOINES		4,398	23.70%	158				316	474
	Polk				2790	100.00%	158	316	474
COUNCIL BLUFFS		2,043	11.01%	73				146	219
	Pottawattamie				524	100%	73	146	219
CEDAR RAPIDS		6,056	32.63%	215				430	645
	Clinton				371	19.76%	42	84	126
	Des Moines				373	19.86%	43	86	129
	Jackson				157	8.36%	18	36	54
	Jones				61	3.25%	7	14	21
	Linn				916	48.78%	105	210	315
	Five-County Total				1,878	100%	215	430	645
STATE TOTALS:		18,557	100%	664	6,910		664	1,328	1,992

Assumptions: Over Sample: 33%   Sample Size: 667   Min. Sample Req.: 500

[a] These are Food Stamp-Only cases.

APPENDIX B

GUIDELINES FOR RANDOM SAMPLING
OF NEW CASES IN THE FIELD

GUIDELINES FOR RANDOM SAMPLING OF NEW CASES IN THE FIELD

Background

According to the "Terms and Conditions" of Iowa's welfare reform waivers, random samples of cases must be drawn from the nine selected counties. There must be separate samples for FIP and Food Stamp only cases. For each of the programs, FIP and Food stamps only, there must be separate samples of ongoing and new cases. Some of the cases that are sampled are what researchers call control cases and some are called experimental cases. The control and experimental cases in the nine selected counties make up the research sample. The purpose of having control and experimental samples is to allow for an comparative evaluation of the old and new welfare policies. Control cases receive the prewaiver policies while experimental cases receive the waiver policies. The Bureau of Research and Statistics has already drawn the sample of ongoing cases for both FIP and Food Stamps only. __The sample of new cases will have to be selected in the field.__ Many ongoing cases of course did not fall into either the control or experimental ongoing samples; these cases will also participate in the new policies. Cases not included in the nine selected counties will also receive the new policies. The ongoing cases that have already been sampled are identified on IABC with the following codes:

C control case (regular)- prewaiver FIP and Food Stamp policies
T treatment sample case (experimental) - waiver FIP and Food
   Stamp policies
N treatment case that was not selected in the sample, - waiver
   FIP and Food Stamp policies

The material prepared by the Division of Economic Assistance indicates what aid types should be included in the FIP and Food Stamp only samples.

The following table shows all the samples involved in the evaluation. The actual sample size used in the evaluation are slightly larger due to an allowance for oversampling.

	FIP		Food Stamp Only	
	Control	Treatment	Control	Treatment
New Case	2000	4000	1000	2000
Ongoing Case	2000	4000	500	1000

The purpose of this note is to give some guidance on how cases should be sampled in the field. PLEASE NOTE HOWEVER THAT IT CAN NOT BE ASSUMED THAT ALL NEW CASES WILL GO THROUGH THE PROCESS OF RANDOM SAMPLING IN THE FIELD. READ AND FOLLOW THE PROCEDURES PREPARED BY THE DIVISION OF ECONOMIC ASSISTANCE BEFORE PUTTING A CASE THROUGH THE PROCESS OF RANDOM SAMPLING. THESE PROCEDURES, IN SOME INSTANCES, SCREEN OUT CASES FROM THE PROCESS OF RANDOM SAMPLING.

Sampling New Cases

The sampling process for new cases in the field has been designed on the assumption that first a decision will be made as to the type of program being applied for (FIP or Food Stamps) and ONLY then will the sampling decision be made. This sequence of decisions will minimize the time the staff has to take to explain programs to prospective clients. Workers will not have to explain both prewaiver and waiver policies to the same case. Thus, once it has been determined that a case is not to be screened out of the random sampling process, the first step is to determine the program for which the application is being made.

Sampling Logs

For the purpose of randomly sampling new cases, a separate sampling log for FIP and a separate log for Food stamps only will have to be kept. These logs are separate from any logs or lists currently used to assign cases to workers. Any lists etc. used to assign cases to workers should be completed after information has been entered in the sampling log. Each site should decide how to keep a sampling log for each program; it could be a clipboard, 3-ring notebook, a special form etc. All cases that pass the screening requirements, whether they come from a worker, in the mail or walk-in through the front door, should be entered on the sampling logs in the order in which they are received.

The sampling log should show the sequence number assigned to the case, the name of the case, the date the name is entered in the log, and its sampling label. Ideally, the sequence number should start with one upon implementation and continue in sequential fashion through the end of the twenty-four month period. If this is not possible, then each month the sequence number should start again with one. As shown above, each case should have a "C","T" or "N" label. Under the terms of the waiver agreement, the integrity of the sampling process must be monitored for the next 24 months. Therefore, all sampling logs should be saved. Periodically, the Bureau of Research and Statistics will ask to have a log sent to central office for examination.

EXAMPLE FIP SAMPLING LOG

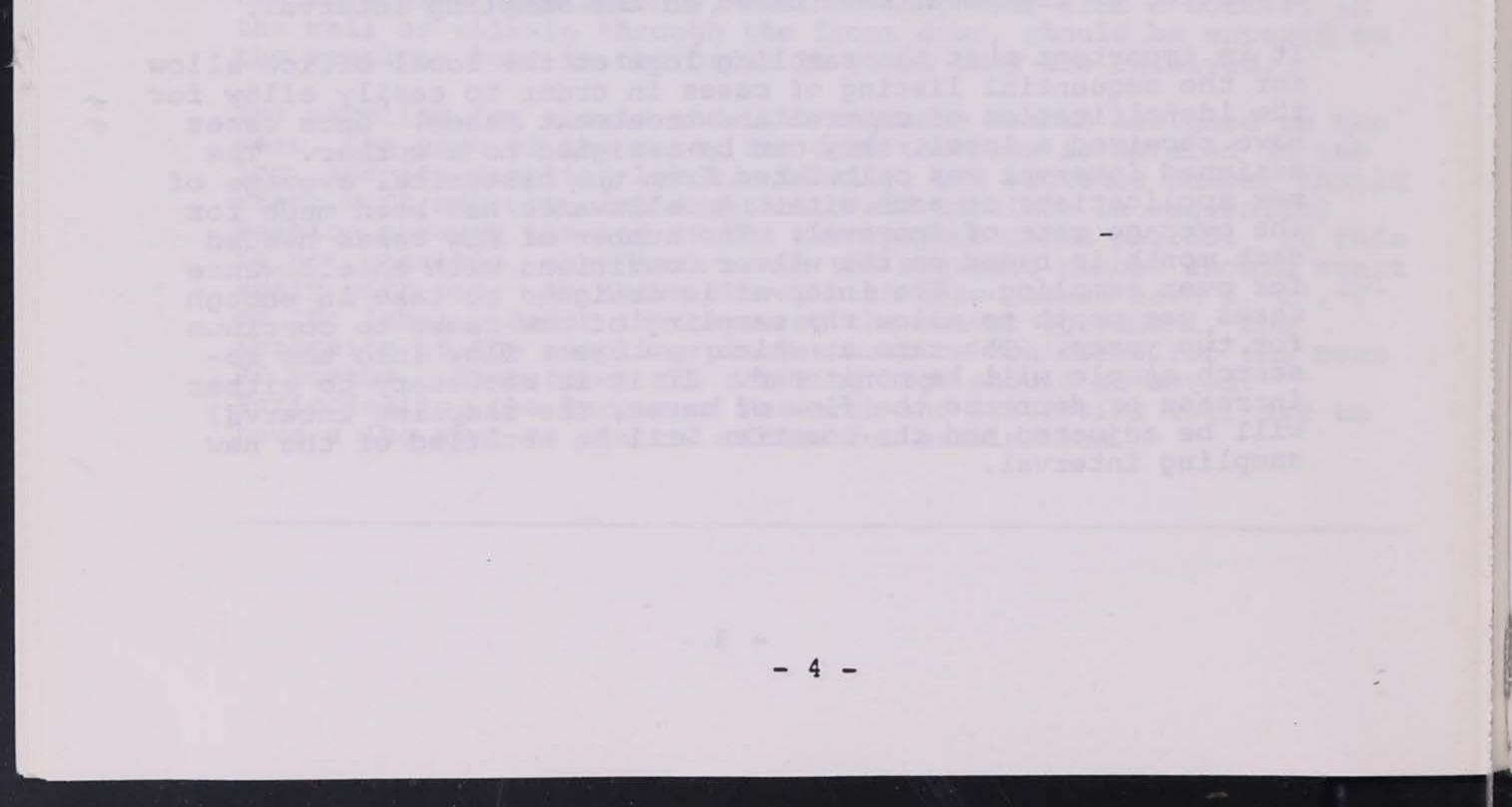| Sequence No.	Case Name	Date	Label
1.	Manon de Street	10/1/93	C
2.	Wally Mart	10/1/93	T
3.	Kae Mart	10/2/93	T
4.	Richard Roe	10/4/93	N
5.	John Doe	10/4/93	N
6.	Reasonable Man	10/4/93	C
	etc.		

Sampling Interval

The last column of the attached tables show the sampling interval for each of the nine counties. The interval number indicates what cases are to be included in the sample of new cases and which cases are excluded from the sample. Begin assigning cases to the control group with the first case on the list. The number shown for the interval indicates the number of cases that must be skipped in between selected control cases. In the example above, the interval is five. Thus the first case and the sixth case are sampled as control cases as indicated by the "C" in the label column. Note that cases two and three are labeled "T" for treatment case. According to the terms of the waiver, for each new sampled control case there must be two treatment cases. Finally, cases four and five are labeled "N"; these cases will receive the waiver policies, but are not part of the research sample of control and treatment cases.

Thus the second step in the random sampling process is to determine whether the case will be assigned to the research sample as a control or treatment case based on the sampling interval.

It is important that the sampling logs at the local office allow for the sequential listing of cases in order to easily allow for the identification of control and treatment cases. Once cases have received a label, they can be assigned to a worker. The assigned interval was calculated from the historical average of new applications at each site. An allowance has been made for the average rate of approval. The number of new cases needed each month is based on the waiver conditions with an allowance for over sampling. The interval is designed to take in enough cases per month to allow the sampling of new cases to continue for two years. The rate at which new cases flow into the research sample will be monitored. If it is necessary to either increase or decrease the flow of cases, the sampling interval will be adjusted and the counties will be notified of the new sampling interval.

It would be especially helpful to have each site chose one person to be responsible for the sampling in their county. This person would serve as the site sampling coordinator. This coordinator could take responsibility for assigning a label to every case on the sampling log. All questions about the statistical aspects of the sampling should be directed by the coordinator to Dave Engels by phone at (515) 281-6094 or by Officevision.

TABLE 1

IOWA DEPARTMENT OF HUMAN SERVICES

FIP CONTROL GROUP SAMPLING PLAN FOR AFDC APPLICANTS OVER 24 MONTHS

		REGION CONTROL SAMPLE				COUNTY CONTROL SAMPLE				FIP SAMPLE		RESEARCH SAMPLE SIZE		SAMPLING
		(1) Region Avg. Apps./ Month	(2) % of Total/ State	(3) # of Cases/ Month	(4) # of Cases/ 24 Mos.	(5) County Avg. Apps./ Month	(6) % of Cases in Selected Counties	(7) # of Cases/ Month	(8) # of Cases/ 24 Mos.	(9) # of Cases/ Month	(10) # of Cases/ 24 Mos.	(11) # of Cases/ Month	(12) # of Cases/ 24 Mos.	INTERVAL (13)
REGION	COUNTY													
SIOUX CITY		498	13.37%	17	408					34	816	51	1,224	
	Woodbury					193	100.0%	17	408	34	816	51	1,224	11
WATERLOO		502	15.63%	20	480					40	960	60	1,440	
	Black Hawk					214	100.0%	20	480	40	960	60	1,440	11
DES MOINES		877	23.57%	30	720					60	1,440	90	2,160	
	Polk					560	100.0%	30	720	60	1,440	90	2,160	19
COUNCIL BLUFFS		457	12.29%	15	360					30	720	45	1,080	
	Pottawattamie					176	100.0%	15	360	30	720	45	1,080	12
CEDAR RAPIDS		1,300	35.15%	44	1,056					88	2,112	132	3,168	
	Clinton					84	19.5%	9	216	18	432	27	648	9
	Des Moines					83	19.3%	8	192	16	384	24	576	10
	Jackson					20	6.5%	3	72	6	144	9	216	9
	Jones					23	5.3%	2	40	4	96	6	144	12
	Linn					212	49.3%	22	520	44	1,056	66	1,584	10
	Five-County Total					430	100.0%	44	1,056	88	2,112	132	3,168	
STATE TOTALS:		3,722	100%	126	3,024	1,573		126	3,024	252	6,048	378	9,072	

Assumptions: Over Sample:50%   Sample/Month: 125   Approval Rate: 77.25%   Min.Sample Req.: 108

TABLE 2

IOWA DEPARTMENT OF HUMAN SERVICES

FOOD STAMP CONTROL GROUP SAMPLING PLAN FOR APPLICANTS OVER 24 MONTHS

		REGION CONTROL SAMPLE				COUNTY CONTROL SAMPLE				FOOD STAMP SAMPLE		RESEARCH SAMPLE SIZE		SAMPLING INTERVAL
		(1) Region Avg. Apps./ Month	(2) % of Total/ State	(3) # of Cases/ Month	(4) # of Cases/ 24 Mos.	(5) County Avg. Apps./ Month	(6) % of Cases in Selected Counties	(7) # of Cases/ Month	(8) # of Cases/ 24 Mos.	(9) # of Cases/ Month	(10) # of Cases/ 24 Mos.	(11) # of Cases/ Month	(12) # of Cases/ 24 Mos.	(13)
REGION	COUNTY													
SIOUX CITY		588	13.03%	7	168					14	336	21	504	
	Woodbury					178	100%	7	168	14	336	21	504	25
WATERLOO		776	17.19%	9	216					18	432	27	648	
	Black Hawk					307	100%	9	216	18	432	27	648	34
DES MOINES		1,119	24.78%	12	288					24	576	36	864	
	Polk					724	100%	12	288	24	576	36	864	60
COUNCIL BLUFFS		481	10.65%	5	120					10	240	15	360	
	Pottawattamie					167	100%	5	120	10	240	15	360	33
CEDAR RAPIDS		1,551	34.35%	17	408					34	816	51	1,224	
	Clinton					98	18.42%	3	72	6	144	9	216	33
	Des Moines					93	17.48%	3	72	6	144	9	216	31
	Jackson					28	5.26%	1	24	2	48	3	72	28
	Jones					19	3.57%	1	24	2	48	3	72	19
	Linn					294	55.26%	9	216	18	432	27	648	33
	Five-County Total					532	100%	17	408	34	816	51	1,224	
STATE TOTALS:		4,515	100%	50	1,200	1,908				100	2,400	150	3,600	

Assumptions: Over Sample: 20%   Sample/Month: 50   Approval Rate: 75.32%   Min.Sample Req.: 41

a-These are NPA or Food Stamp only cases.

APPENDIX C

**SUMMARY OF DATA FROM COUNTY SAMPLING LOGS
ON APPLICANTS ASSIGNED TO CONTROL STATUS**

FOOD STAMP RANDOM SAMPLING

County	Sample Interval	Oct. 93		Nov. 93		Dec. 93		Jan. 94		Feb. 94			Mar. 94		Apr. 94			May-94		Jun-94		Jul-94		Aug. 94			Sep. 94		TOTAL	
		Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Sample Interval	Logs	Appr'vd	Logs	Appr'vd	Sample Interval	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Sample Interval	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd
Woodbury	25	5	3	5	3	4	2	4	2	13	8	5	7	4	3	13	4	22	11	28	18	29		8					125	52
Black Hawk	34	6	5	6	1	5	2	5	3	19	8	7	7	6	3	23	13	31	19	37	25	51		12					179	81
Polk	60	8	8	8	4	8	2	8	5	33	14	4	13	11	3	10	7	11	3	84	35	109		20					273	79
Pottaw.	33	2	2	3	1	2	3	3	2	14	4	2	5	2	3	3	3	13	9	18	13	22		8					75	37
Clinton	33	2	1	2	0	1	0	2	1	16	3	0	3	2	3	8	4	12	9	15	12	6		11					54	29
Des Moines	31	2	1	2	2	2	1	2	1	19	2	0	2	3	3	6	3	12	5	10	6	9		11					49	22
Jackson	28	1	1	1	0	1	1	1	0	9	2	0	1	1	3	2	0	3	3	3	3	4		9					19	9
Jones	19	1	1	1	0	1	0	1	1	11	2	0	1	1	3	1	0	1	0	2	1	1		9					12	4
Linn	33	6	5	5	2	5	5	6	4	16	13	8	11	10	3	7	4	7	5	27	13	32		11					119	56
Unknown									1												1	2								
TOTAL		33	27	33	13	29	17	32	19		56	26	50	40		73	38	112	65	224	128	263	0		0		0	0	905	369

FIP RANDOM SAMPLING

County	Sample Interval	Oct. 93		Nov. 93		Dec. 93		Jan. 94		Feb. 94			Mar. 94			Apr. 94		May-94		Jun-94		Jul-94		Aug. 94		Sep. 94			
		Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Sample Interval	Logs	Appr'vd	Sampling Interval	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd	Logs	Appr'vd
Woodbury	11	11	3	7	2	7	3	10	3	5	17	9	3	37	8	26	14	25	15	34	15	30						204	72
Black Hawk	11	10	5	7	2	6	3	3	4	4	14	8	3	22	3	15	19	15	5	20	15	25						137	64
Polk	19	14	11	12	2	10	5	11	1	6	27	5	3	67	18	41	27	54	27	69	35	55						350	131
Pottaw.	12	7	7	7	0	5	2	7	1	5	10	3	3	19	11	18	13	20	12	23	7	17						133	56
Clinton	9	6	4	5	3	3	4	4	3	4	6	5	3	11	4	10	8	7	4	14	6	14						80	41
Des Moines	10	5	0	4	0	3	2	3	0	4	5	1	3	7	3	6	5	9	4	8	6	9						59	21
Jackson	9	1	0	1	0	1	0	2	0	5	2	0	3	2	3	4	2	2	3	2	3	4						21	11
Jones	12	1	1	1	0	1	0	2	0	5	1	1	3	5	1	3	0	3	1	3	1	1						21	5
Linn	10	9	2	8	1	7	6	8	2	4	19	3	3	25	17	25	13	25	15	22	7	20						168	66
Unknown									1													1							
TOTAL		64	33	52	11	43	25	50	14		101	36		185	68	148	101	160	86	195	96	175	0	0		0	0	1173	467

"Log" means control cases shown on sampling logs
"Approved" are those control cases approved on IABC