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## Food Stamp Program Operations Study

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# Synthesis Report

## **SYNTHESIS REPORT**

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## CHAPTER 1

### INTRODUCTION

The Food Stamp Program provides benefits to nearly 20 million people throughout the United States. The program is authorized under federal law, with the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture having overall responsibility administering the program. Most day-to-day program operations, however, are carried out by the States.<sup>1</sup>

The States operate the Food Stamp Program (FSP) under a common set of national regulations and guidelines. In many areas, however, these general rules leave the States considerable discretion. As a result, operating procedures vary from State to State, sometimes slightly and sometimes dramatically, as State program managers seek the most effective and efficient adaptations of the general structure to their particular environment.

Although FNS routinely maintains substantial information on States' operating procedures, it would be infeasible to maintain comprehensive, current data on all operating details. The Program Operations Study (POS) was initiated in order to fill some of the gaps in routinely available information--particularly, gaps in descriptive information about what States are doing--for selected areas of program operations.

The POS has been conducted in three phases. Phase I consisted of censuses of State operations in six areas: automated certification systems; computer matching; monthly reporting; claims collection; quality control; and job search. Each "census"--so-called because all State FSAs were covered, not just a sample--gathered exhaustive descriptive data on the conduct of program operations in that area. The censuses were conducted over the telephone in 1986 and provide a detailed portrait of program operations at that point in time. However, because changes in program operations have undoubtedly taken place in most State FSAs in the last several years, census results in some

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<sup>1</sup>Throughout this report, we use the term "States" to refer in general to the 50 States, the District of Columbia, Guam and the Virgin Islands.

areas may be out-of-date and should be considered with that limitation in mind.

In Phase II, surveys of local agencies were conducted in two of the program operations areas, computer matching and claims collection. These surveys, also conducted in 1986, were designed to gather descriptive information analogous to that gathered from the State censuses, but on the local level. Again, because of the 1986 data collection period, some of the local survey results may be out-of-date, and should be viewed with caution.

Phase III built on the research from Phases I and II. One way of building on this research was through in-depth assessments of specific aspects of program operations. These in-depth assessments include, for example, case studies of selected issues in computer matching and claims collection, a study of the National Disqualification Reporting Network (DRIPS), and a study of the expedited service and performance evaluation features in automated certification systems.

Another way of building on the earlier research was through organizing the POS information in forms helpful to food stamp managers. This was done through developing databases and summaries intended to make the basic POS information more accessible to managers. While these databases and summaries have proved useful, it was felt that the information gathered from the POS could also be summarized more analytically to shed light directly on management issues.

This is the rationale for the current report. It goes beyond descriptive summaries and database creation to synthesize the POS information --as well as information available from other sources--around management issues of current or potential concern within the Food Stamp Program. The report assesses the adequacy of currently available information on these issues and makes suggestions for future research priorities on this basis.

The report covers nineteen key management issues in five of the POS topic areas (job search was not covered because the area is no longer pertinent to food stamp operations). The criteria for selecting issues were that they fell within the research mandate of the POS and that they were issues of particular interest to food stamp managers (federal, State and/or local). FNS staff made final selections from a list of potential issues suggested by the POS researchers.

## Report Organization

The report is divided into chapters, one chapter for each of the five operations areas. Chapters 2-4 deal with the three case management topics of Computer Matching, Claims Collection, and Monthly Reporting. An important theme in all three of these areas is the use of automated systems, a theme which is considered at a more general level in Chapter 5: Automated Certification Systems. Chapter 6 discusses issues in State operations of the Quality Control system.

The first section of each chapter introduces the topic area and the management issues for that area. The subsequent sections of each chapter cover the management issues for the topic area. Each issue discussion is organized in the following way. First, the issue is framed in terms of the data needed to make a reasonably informed decision among competing alternatives. Second, the available research, both from the Program Operations Study and other sources, is summarized in light of the data needs just identified. Third, future research priorities are delineated on the basis of the shortfall between needed data and available research. Each chapter ends with a list of the studies and reports used as references in the issue discussions.

Although the specific issues are different for each of the five program operations areas, some common themes did emerge. These reflect the limitations of the research conducted for the POS, and suggest some directions for future research needs, as outlined below.

## Strengths and Limitations of POS Data

The POS data, especially data from the censuses and surveys, are mainly descriptive in nature. As such, they provide an invaluable source on the details of program operations in the areas covered. The data are particularly useful in clarifying the options available to food stamp managers confronting different program issues. It is in this spirit that the POS studies have found an appreciative audience among staff at the federal, State and local level.

However, clarifying options is different from guiding choices among options. Here the POS data are quite limited. Choosing among options typic-

ally requires a sense of the relative effectiveness of the different options in terms of meeting program goals. Judging relative effectiveness depends, in turn, on having estimates--at least rough ones--of the benefits and costs associated with different options. By and large, the POS data do not provide us with such estimates.

### Developing Benefit-Cost Data

The POS studies should therefore be viewed as a first step in the process of decision-making on key management issues. Moving beyond this first step requires the development of adequate benefit-cost information on the different management options identified by the POS. One way to do this is through collection of data specifically designed to measure the benefits and costs of alternative policies. Throughout this report, we have indicated the places where such data collection is particularly appropriate and necessary.

However, given constraints of time, resources and money, it is unrealistic to expect that benefit-cost studies can be performed for every issue. This suggests the desirability of having other sources of benefit-cost information. Even if these sources provide only rough estimates of benefit and costs, rough estimates are substantially preferable to no estimates at all.

The logical source of such alternative information is data already collected by FNS, State agencies and/or local agencies. This would include data collected for previous studies, data collected on an ongoing basis for statistical reporting and data available through automated systems. FNS may wish to consider, for key areas of operations, systematically reviewing existing data systems to develop an "inventory" of cost and benefit measures that may be used as particular issues arise.

### Impact of New Technologies

Probably the greatest single factor shaping the management challenges discussed in this report is the impact of new technologies. For issue after issue, one of the key questions is how to handle efficiently the increased automation that has penetrated all areas of program operations. Which functions to automate, the level at which they should be automated, the proper staff mix to handle the automation--these are all questions that come up repeatedly in the issue discussions.

Furthermore, given the rate at which computer systems are currently growing in power and sophistication, the impact of automation seems likely to increase substantially in the future. This indicates that efficient use of automation's potential will become an ever more central part of the food stamp managers' decision-making. And yet, as the discussions in this report will show, this is an area where remarkably little is known about the relative benefits and costs of different management approaches. This suggests that estimating the benefits and costs of different automation options might be the most important focus for future FNS research on Food Stamp Program operations.

## CHAPTER 2

### COMPUTER MATCHING

Computer matching is a form of computer-assisted verification that has been developed to detect potential fraud or error in public assistance programs. The basic idea underlying such procedures is simple. With the aid of a computer, two separate sources of parallel information about individuals or households are compared in order to reveal discrepancies between the two. During the match, a computerized list of persons receiving or applying for assistance is compared to some external computerized database containing information on individuals' income or resources. Based on some identifying data, typically the Social Security Number (SSN), the computer looks on the external file for any information about each individual on the assistance list.

When a "hit" occurs (which may be simply a match on the identifier or may involve a more complicated criterion) the information is returned to the eligibility worker. This information can then be compared to the information supplied by the client, to detect possible discrepancies. A discrepancy is not necessarily evidence of misreporting, but merely indicates that there is a reason for further investigation. This may occur through contact with some third party (such as an employer) or by asking the client to provide additional documentation. If the investigation confirms that the client-provided information is wrong, appropriate action is taken to adjust the client's benefits, or, if necessary, to deny the application or terminate an ongoing case.

Computer matching as just described can take place at a number of different points in food stamp case processing. When it occurs prior to an applicant's initial benefit award, it is referred to as "applicant" or "front-end" matching. When matching occurs while the client is on the rolls, or at recertification, it is referred to as "recipient" or "ongoing" matching.

The use of computer matching in the FSP goes back to 1980, when the Food Stamp Act Amendments (P.L. 96-249) authorized the use of computer matching of wage information in the program. The Food Stamp and Commodity Distribution Amendments of 1981 made such wage matching mandatory. Since then, the use of computer matching in the FSP has expanded dramatically.

There are two reasons for this dramatic expansion. The first has to do with current program requirements for computer matching. These are traceable to the Deficit Reduction Act of 1984, which mandated that each State set up an Income Eligibility Verification System (IEVS). The IEVS systems were required to include computer matching against wage, unemployment compensation, SSI, Social Security and IRS data (though it was not required that the matching be online or that it return results in time for use in the certification process).

The second reason for expanded computer matching is that technological advances allow faster and more efficient operation. As States' automated case management systems have grown more sophisticated, they have routinely included more extensive capacity for computer matching, with the matching functions more tightly integrated with other certification functions.<sup>1</sup> The number of external databases that exist in a form susceptible to computer matching has also increased. Thus States can access a wider array of data faster and more efficiently than in the past. This makes it possible for them to go far beyond current program requirements in their computer matching activities.

For these reasons, computer matching has become an integral part of the food stamp verification system throughout the country. Moreover, there is potential for further expanding these computerized verification systems, as more databases become available and computer systems grow in power and sophistication. This means that food stamp managers will confront an ever-wider array of possible uses for computer matching in the verification process. Given limited resources, they will have to decide which of these possible uses can be most effectively deployed within their verification systems. Thus, the five issues addressed in this chapter are:

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<sup>1</sup>This trend has been noted by numerous program operators and is mentioned in some research (e.g., David Greenberg and Regina Yudd, 1988. Computer Matching: A Review of Exemplary State Practices. Washington, DC: The Urban Institute). Analysis of the State census data from the Program Operations Study, however, did not show any clear relationship between the character of States' automated certification systems and the intensity and form of their computer matching activities.

- Which databases are most important and useful for applicant or front-end matches? Which are most important and useful for recipient or ongoing matches?
- Should the number of databases accessed in computer matching be limited? If limitation is desirable, what criteria should be used to arrive at an optimal number of databases?
- Should Computer matching include accessing other States' databases and, if so, to what extent?
- Should cases be pre-selected for computer matches or is it better to match all applicants/recipients uniformly? If pre-selection is desirable, what selection criteria should be used?
- Which hits should be followed up ("prioritization") and what followup procedures are most useful for doing this?

These questions are addressed in turn in the following five sections. A list of sources is presented at the end of the chapter.

Which databases are most important and useful for applicant or front-end matching? Which databases are most important and useful for recipient or ongoing matching?

Recently, there has been an explosion of databases available for computer matching, as well as a dramatic increase in the speed and capacity of computer systems. While program requirements have also expanded in this time --IEVS, for example, mandates at least some recipient matching using wage, unemployment, Social Security, SSI and IRS data--it is fair to say that technical capabilities for computer matching have outstripped program requirements.

This raises the question of whether and how much States should expand their computer matching programs, beyond meeting basic requirements. States probably cannot employ all available databases for both applicant and recipient matching, due to the limitations of staff and other resources. Given this, it is critical for States to be able to concentrate their resources on the databases that are most important and useful to the FSP matching process.

A State manager deciding on this issue should have the following information. First, the manager should have a thorough description of which databases are currently being used for matching within the FSP, so the full range of possible choices can be considered. Second, it would be important to have some kind of accounting of the benefits to be derived from using these databases, including both quantifiable benefits (e.g., cost savings) and any more qualitative ones (e.g., improved staff morale). Finally, the manager should have an estimation of the costs associated with using these databases, so that a judgement could be made on the relative cost-effectiveness of using the different databases.

#### Databases Used for Matching

The POS Phase I census of State computer matching operations (Nightingale, et al., 1987) discusses the range of databases employed to do matching within the FSP. As that report documents, the range is enormous. Almost all databases that could conceivably be used to verify client-reported information have been used at some time by at least one State. However, some databases are far more common than others. The most common widely used

databases are unemployment insurance (UI) benefits (91 percent of States), employer-reported wages (85 percent), SSI benefits (64 percent) and Social Security benefits (60 percent). This pattern is confirmed by results from the local agency survey of computer matching, conducted in Phase II of POS.

### Benefits of Matching

The fact that certain databases are widely used does not necessarily mean that they are the "most important and useful" for applicant and recipient matching. It is possible, for example, that an infrequently used database, like Department of Motor Vehicles (DMV) records, might actually be more valuable than the more widely used databases, but has access difficulties that inhibit usage (hardware, software, organizational problems, etc.).

The POS Phase II study of computer matching in local food stamp agencies (Nightingale and Yudd, 1987) does indirectly refer to the issue of the relative benefits of using different databases. Respondents at local agencies were asked to specify which of their computer matching systems they found most effective and second most effective, with effectiveness defined in terms of reducing the Quality Control error rate. Error rate reductions may be viewed as a proxy for benefit savings, although not an exact equivalent.<sup>1</sup>

Among the systems judged "most effective" for applicant matching, the following databases were most commonly used: UI benefits (used in 51 percent of the effective systems); employer-reported wages (44 percent); SSI benefits (16 percent); AFDC benefits (15 percent); other State assistance benefits (11 percent); Social Security benefits (9 percent); and duplicate food stamp benefits (also 9 percent). The pattern was similar for recipient matching: UI benefits (50 percent of effective systems); employer-reported wages (49 percent); SSI benefits (15 percent); Social Security benefits (12 percent); and AFDC benefits (10 percent).

By and large, these lists of most effective databases correspond closely to the list of most widely used databases. The one difference is the mention of AFDC and other assistance files as among the most effective

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<sup>1</sup>Computer matching may result in the recovery of prior overpayments as well as the avoidance of future ones. Only the latter effect would change the error rate.

databases. This would suggest that a "short list" of UI benefits, wages, SSI benefits, Social Security benefits and public assistance files would constitute a reasonable list of the most important and useful databases to use in computer matching.

There are problems with accepting this list, however. First, those databases which were present within many systems had more chance of being present with the "most effective" systems than uncommonly used databases. This problem can be corrected by considering only systems in which a particular database is present, and asking what percentage of those systems were rated "most effective". This procedure does not lower the relative ratings for any of the databases already listed, but it results in the addition of the motor vehicle records database (over three-fifths of systems with DMV records are also designated "most effective").

Even with this adjustment procedure, the presence of multiple databases within systems makes it difficult to assign responsibility for a given system's "effectiveness" to any one database. Further, the effectiveness assessments themselves are open to question because they are based on subjective judgements concerning relative impacts on error rates. Lacking quantitative data on error rate reductions due to particular systems or databases, the respondents made their best guesses as to which systems/databases do the most good.

Finally, it is important to note that error rate reductions, even if quantitative data are available, are only an imperfect proxy for benefit savings from computer matching. The actual benefit savings are dependent on the amount of prior overissuance recovered as a result of a detected error and the amount of future overissuance that would have been paid if the error had not been detected. Thus, benefit savings, while associated with error detection and error rate reduction, are not fully predictable from these data.

#### Costs of Matching and Cost-Effectiveness

The benefits of using a given database should always be considered in the context of the costs associated with using that database. Thus, in addition to estimating the benefit savings discussed above, there also needs to be an estimation of the computer and labor costs associated with attaining these savings. On this basis, a cost-effectiveness ratio can be computed,

which shows the amount of savings attributable to computer matching on a given database for every dollar spent on such matching.

Fortunately, there is some limited data on the relative cost-effectiveness of computer matching with different databases within the FSP. This comes chiefly from a study of food stamp applicant matching in nine sites (Puma, 1988). This study was able to measure directly the costs and benefits associated with using different databases by collecting data from case records and local agency personnel. The study found that employer-reported wages, UI benefits and public assistance records were all strongly cost-effective, with savings to cost ratios ranging from two and one half to over eight.<sup>1</sup> However, two of the most widespread (and "most effective") databases identified in the POS study--SSI and Social Security benefits--were found to be much less cost-effective. For Social Security benefits, savings were just about balanced by costs, while, for SSI benefits, the costs far outweighed the savings, producing a savings to cost ratio of only 0.15.

Also of interest, two databases identified by the POS as not in widespread use--real estate property and DMV records--appear to be among the most cost-effective databases currently available to the FSP. The savings to cost ratio for real estate records was over three and one half, while the ratio for DMV records was an impressive six and two-thirds. (This latter result is consistent with the adjustment of the "most effective" systems results, which showed that systems with DMV databases tended to be rated among the most effective.) The DMV ratio means that, for every dollar spent on DMV computer matching, about \$6.66 was saved--although relatively few State FSPs utilize this database in their computer matching procedures.

It should be noted that these figures concern applicant matching, and that quite different ratios might be observed in matches with ongoing recipients. In a study of wage matching for AFDC and food stamp recipients, Greenberg and Wolfe (1988) found smaller benefits for ongoing matching than applicant matching. If costs are similar for the two types of matching, then

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<sup>1</sup>Savings were measured as avoided benefit payments and administration costs from the time of the match until the next occasion on which similar information would be available. Costs were measured as the operating costs of worker time and computer processing (not including development costs). Savings and costs included were AFDC and Medicaid as well as food stamps.

some databases found to have positive ratios by the Puma study might show smaller or negative net benefits for ongoing matches.

Two other sources of benefit-cost information on databases are the POS Phase III study of the National Disqualification Reporting Network (DRIPS) (Menne and Hamilton, 1989) and the study of the (SAVE) Systematic Alien Verification for Entitlements system (Urban Institute, 1988). SAVE is a special database and verification system being created by the U.S. Immigration and Naturalization service; the database would be accessed through normal computer matching procedures. The DRIPS system, which records information on individuals who are disqualified for violating program rules, is maintained at the national level by the Food Stamp Program, with some States integrating matches with these data into their normal matching process and others treating DRIPS as a stand-alone information source.

The Menne and Hamilton study suggests that the DRIPS database can be modestly cost-effective if used relatively intensively<sup>1</sup> (benefit-cost ratios

the study is confined to three States, and that one of the States showed negative cost-effectiveness (.03:1) indicates these results should be treated with caution.

In contrast, the Urban Institute study suggests that the SAVE system is not likely to be cost-effective. While the marginal costs of using SAVE in addition to normal recertification procedures are low, the marginal benefits are even lower. It is possible that changes in circumstances could increase the benefits derived from using SAVE, but it appears unlikely that this increase would be enough to make the SAVE system cost-effective.

#### Research Needs

here). Possibly, the SSI and Social Security records are overutilized, since they return little on the investment of time and effort; while DMV, real estate, and possibly DRIPS records, which generate relatively strong returns, are underutilized. Therefore, if one were to construct a list of the "most important and useful" databases to use in computer matching, it would start with employer-reported wages, UI benefits and public assistance records and then add DMV, real estate and, more tentatively, DRIPS records.

This summarizes the state of current research on the relative utility of databases used in computer matching. The most important weakness of this research is incomplete coverage of the full range of databases as they are used in both the applicant and recipient matching contexts. Most of the database-specific cost-effectiveness analysis of computer matching is confined to applicant matching; and some databases have not been analyzed in either context.

Therefore, the primary research need is for more cost-effectiveness analysis of specific databases used in computer matching, especially those used in recipient matching. There is currently little direct evidence on the utility of databases used in recipient matching. The Puma study is generally the best source for database-specific cost-effectiveness analysis, but was confined to applicant matching.

Furthermore, the most careful studies specifically on recipient matching, summarized by David Greenberg and Douglas Wolf, in their book Using Computers to Combat Welfare Fraud (1987) were confined to wage matching only. They show that the use of wage data is cost-effective in matching recipients, but provide no means of comparison to the cost-effectiveness of other databases. It would be necessary to replicate or extend the Puma study to recipients in order for such comparative judgements to be made.

In addition, there are a number of databases for which absolutely no data on cost-effectiveness is available, in either the recipient or applicant matching contexts. For databases such as child support, school records and interstate data files, no data have ever been collected and therefore little is known about relative benefits and costs. In order to form judgements about the usefulness of these databases, and others that may become available, new data collection efforts may be necessary. GAO (1986b) provides guidelines for conducting cost-benefit analyses for computer matching.

A less pressing research need is to gather more information on the usefulness of computer matching beyond detecting errors and achieving the consequent benefit savings. There are at least three other ways in which computer matching on various databases may be useful: (1) improving the morale of eligibility workers by helping them establish the integrity of their cases; (2) improving the delivery of services to clients by expediting the verification process; and (3) deterring misreporting by clients who are afraid of being detected by the computer matching system.

All of these benefits of computer matching are much more difficult to quantify than benefit savings through error detection, but may nonetheless be very important to State and local FSPs. It would be useful to develop a methodology for deciding which databases provide the most of these benefits, and how such qualitative benefits can be linked with benefit savings when considering the overall utility of a database. However, given the serious limitations of existing quantitative benefit-cost information, studies of qualitative benefits should be postponed until these limitations are addressed.

Should the number of databases accessed in computer matching be limited? If limitation is desirable, what criteria should be used to arrive at an optimal number?

As computer systems serving the FSP become increasingly powerful, and as the number of databases available for matching continues to increase, FSP managers are likely to confront a situation of data abundance. That is, it will be technically possible to access a vast array of data for the purposes of computer matching. FSP managers will have to decide whether it is feasible to incorporate this abundance of data into the matching process or whether resource limitations, especially in terms of staff time and capabilities, require that some limit be set on the amount of data accessed for matching.

To make an informed decision on this matter, a food stamp manager should have the following information. First, the manager should have accurate information on database availability, both currently and in the future, so that the extent of this data abundance can be assessed. Second, it would be desirable to have an accounting of the resource costs associated with using these databases, as well as the overall level of resource availability for computer matching, especially in terms of computer capacity and staff time. Finally, the manager should have an assessment of the marginal costs (and benefits) of adding additional databases as the number of databases increases.

#### Database Availability

The POS Phase I State Census (Nightingale, et. al., 1987) discovered that a wide range of databases are currently available for computer matching within the FSP. Twenty-six different types of databases were identified. Since many of these database types are categories that include more than one database (e.g., "State non-assistance files" include vital statistics files, lottery files and numerous other files), the actual number of databases potentially available to a given State considerably exceeds 26.

Of course, this 26+ figure refers to potential, rather than actual, database availability in States. In any given State, a number of these databases would probably be unavailable due to technical or jurisdictional problems even if the State FSA wished to use them. At this time though, we

have no specific accounting of the extent of database availability in different States. We only know which databases are currently in use.

However, given the pace at which computerization and data access are evolving, it seems likely that most technical and jurisdictional problems will be ironed out over time (compare, for example, the situation today with the situation in 1980). This suggests that most States, within several years, will be able to access (if they wish) the full range of 26+ databases. This number will be further inflated by new, specialized databases coming into use (such as the SAVE database for alien verification). Exactly how high this number will be is difficult to predict, since no specific estimations of future database availability have ever been performed.

### Resource Costs and Availability

Whether this multiplicity of databases can be used in full for computer matching, or whether a limit must ultimately be set, depends a great deal on the resource costs associated with using these databases. Looking first at computer costs, studies have shown that the computer resources expended in using a given database are generally very small. For example, data from the Puma applicant matching study (1987) indicate that the average number of input/output transactions (where "transaction" is defined as a telecommunicated database inquiry between a remote terminal and a central mainframe computer) ranges from a low of about one (unemployment compensation files) to a high of a little over five (case history files). Since computer transactions are relatively cheap--the Puma study sets a lower bound of \$.025 per transaction and an upper bound of \$.26--this component of matching cost does not amount to a large expense.

It could still be argued that, while the ongoing computer costs for matching a given database are relatively low, the costs of putting that database or the matching system into place may be high. This would include the costs of developing the capacity to do the matching, as well as the specific software and hardware necessary to conduct the database inquiries.

In terms of computer capacity, it is difficult to disaggregate the development costs for computer matching from overall development costs for an automated system. Generally the capacity to do computer matching was developed as an outgrowth of capacity developed for other, broader purposes.

As for the costs of developing matching software and hardware, sources in the Puma study generally saw these costs as modest, sometimes entailing little more than a small expenditure of programming time and a "connect" link to another computer (e.g., a Department of Labor computer for wage data). Assuming the existence of a relatively extensive automated certification system, including an established network linking local offices to the central State system, the development costs associated with computer matching on a given database would not appear to be high. No hard data are available on this point, however.

The largest resource cost involved with using a given database tends to be the staff time involved. The Puma study of applicant matching found that, on average, staff time accounted for over three-fifths of the costs of computer matching as a whole. This staff time included the time required to match applicants against a database and to review the results and follow up on any discrepancies. However, even this staff time resource cost is not high. The Puma study found that the average staff time involved in conducting all applicant matching activities for a case, from screening to followup, was only about 6.2 minutes<sup>1</sup> (since batch recipient matching does not include time spent in screening, the average time spent on this type of matching is probably substantially less). Since the average number of databases matched in study States was over six, this meant that per database staff times averaged a minute or two at most. For example, in North Carolina, only case history matching averaged close to two minutes, while other database matching activities took far less time, usually under a minute (case history matching generally takes longer because of the large number of screens that must be accessed to do the matching).

Even if resource costs tend to be low, as these data suggest, limited resource availability could still pose barriers to the use of the full

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<sup>1</sup>Note, however, that this low average combines many matches requiring almost no worker effort and some that need substantial time. Greenberg and Yudd (1988) identify a large number of problems that may lengthen the work time needed in following up a match, such as difficulty in obtaining corroborating information from third parties or the need for a home visit. Moreover, followup time depends on the extent to which clients are given the responsibility for reconciling the discrepancy rather than having eligibility workers do it.

range of databases available. Unfortunately, no hard data exist to describe the extent of resource availability for computer matching.

Qualitative data suggest, however, that computer capacity, both in terms of storage and processing, typically exceeds demands from computer matching. The applicant matching study (Puma, 1988) found, for example, that the load on computer systems from matching was considered light by data processing managers.

This is because once a reasonably large computer system is in place, the additional burden imposed by database inquiries is relatively small. These transactions take up very little computer time and, given adequate hardware capacity, can be handled easily even at high volume. If there is a limit, it may be in terms of the number of databases that can be addressed by the system, though no such limitations have been noted in studies.

It may also be true that, at present, States with older, less advanced systems would run into capacity problems if they tried to do matching on a relatively large number of databases. Again, existing research does not address this possible problem. However, given the pace at which these older systems are being replaced, this problem may not be important in the future even if it is a constraint currently.

Availability of staff time for computer matching is probably much more important than computer capacity. Unfortunately, it is here that virtually no hard or soft data is available. Anecdotal evidence from various studies suggests that local food stamp managers feel that staff time available for computer matching is subject to serious limitations.

However, it seems likely that food stamp managers are thinking of this problem in terms of their current staffing levels and tasks that need to be performed. In principle, if additional matching activities were deemed worthwhile, more staff could be hired or shifted from other tasks to make the necessary staff time available. Thus, the question of staff time limits may ultimately hinge on how worthwhile food stamp managers find the additional matching activities.

### Marginal Cost-Effectiveness

The discussion of resource costs above is based on a static analysis of existing computer matching systems. We do not know how or whether these resource costs change as more databases are added to a system. It is certainly possible that, at the margin, staff time costs go down as the number of databases increases. Other things equal, this would increase the number of databases that can be added to a matching system before encountering resource limits.

Similarly, we do not know how or whether benefits change as more databases are added to a system. It is plausible that benefits will decrease as the number of databases increases, since the chances of information being redundant also increase. Also, the additional databases are more likely to be highly specialized, with low hit rates and, consequently, lower benefit savings. To the extent that these factors are significant, it would impose limits on the number of databases that could usefully be added to a system. No data is available from the POS or other sources to address this question, however.

### Research Needs

Overall, existing data indicate that State FSPs have available, or are likely to have in the near future, large numbers of data sources for computer matching. The most important limitation on using these databases is likely to be available staff time, though this limitation can perhaps be surmounted by sufficiently motivated food stamp managers. However, since marginal effects on costs and benefits are not known, it cannot be assumed, even in the absence of serious resource limitations, that State FSAs can necessarily support matching on large numbers of databases.

This summarizes the state of current research pertinent to the issue of limiting the number of databases used in computer matching. The most important weakness of this research is a lack of clarity on the relative worth of adding large numbers of databases to a system, whatever the resource constraints.

Thus, the primary research need on this issue is to examine how the marginal costs and benefits of using a database change as the number of databases in use increases. It is very risky to make a judgement on the desirability of database limitations, no matter what the resource constraints, since no information on this topic is available. For example, if the staff time involved in using a database goes down substantially as the size of the system increases, then the question of a limit becomes much less pressing. However, if the benefits of matching go down dramatically as the number of databases increases, then the question of a limit becomes more crucial. Information on these marginal costs and benefits would have to be gathered through a new data collection initiative, perhaps through an experiment in a single State where the number of databases used in matching could be varied across offices.

It would also be desirable to have more precise data on the resource constraints associated with using large numbers of databases, including computer capacity and staff time (at least staff time as currently configured). However, since the marginal cost-effectiveness of using additional databases ultimately determines the salience of resource constraints, research on these constraints cannot be justified until better data on marginal cost-effectiveness is obtained.

Should computer matching include accessing other States' databases and, if so, to what extent?

One of the most striking developments in contemporary computer technology is the growth of networking among computers. Networks, supported by rapidly advancing telecommunications technology, allow computers to transmit and receive data from other systems across long distances. Already, this technology has allowed some computer matching to take place across State lines. As these networks spread and develop, it seems likely that more States will have the capacity to do such interstate matching, if they wish.

Given this scenario, FSP managers will have to make judgements about the relative worth of doing interstate matching, as well as the best method for doing such matching, if it is judged desirable. An FSP manager making a decision about this issue should have the following information. First, the manager should have a thorough description of current interstate matching practices, as well as States' likely future capabilities for doing such matching. Second, it would be important to have a reasonable accounting of the benefits to be derived from interstate matching. Finally, the manager should have an estimation of the costs associated with doing this matching, so that the cost-effectiveness of interstate matching could be assessed.

#### Current Interstate Matching Practices

The POS Phase I State census (Nightingale, et. al., 1987) contains data on the current extent of interstate matching. According to this report, 11 percent of States currently do some matching on neighboring States' public assistance files. In addition, six percent access neighboring States' wage files, while the same proportion matches on neighboring States' UI files. No other data source seems to be matched between States.

Most of this interstate matching appears to be batch, where States exchange tapes and run their caseloads against the data on the tapes. Only two States report doing online matching, where a neighboring States's data files can be accessed directly from a remote terminal. Both of these States do their online interstate matching with wage/UI files. Thus, it appears that interstate matching is not presently widespread, especially in the technically advanced form of online access.

Little systematic information is available about States' plans for developing interstate matching capabilities. There are indications, however, that the extent of interstate networks could increase dramatically, and with it the capabilities for interstate matching. For example, Puma (1988) reports that a multistate network was being planned that would link the computer systems of Kansas, Missouri, Iowa, Nebraska and Oklahoma. This network would allow online matching to take place across State lines not only on wage, UI and public assistance files, but also on motor vehicle, driver's license, tax revenue and child support files. Greenberg and Yudd (1988) note that a well-developed professional network exists among persons responsible for computer matching in the various States. This is likely to facilitate the implementation of interstate matching as well as the transfer of matching technology.

### Benefits of Interstate Matching

Not much is known about the benefits of doing interstate matching. The Phase II POS study (Nightingale and Yudd, 1987) contains data on whether different data sources are included in the "most effective" matching systems designated by States. Very few interstate data sources are included in the most effective matching systems. In fact, no interstate data source--wage, UI or public assistance--is used in more than .5 percent of these systems.

It must be stressed, however, that these data do not provide a good basis upon which to assess the benefits of interstate matching. Besides the obvious problem posed by the relative rarity of interstate matching, the assessments of "most effective" systems are not database-specific and are based on subjective judgements of systems' effects on error rates. One would prefer to see quantitative data on the benefit savings derived specifically from using interstate data sources.

Unfortunately, no such data exist. The Puma study (1988) included one State (Kansas) where online wage/UI interstate inquiries (to Missouri) were done, but it was not possible to disaggregate the benefits derived from looking at interstate wage/UI data from those derived from matching on Kansas' own wage/UI data. However, personnel in the local food stamp agency where interstate matching was routinely done (Wyandotte County), spoke very highly of the efficacy of the match. They claimed that since their local urban area overlapped two States (Kansas City, Kansas and Kansas City, Missouri),

interstate matching played a critical role in detecting unreported income earned or received in the neighboring State. This seems plausible, but there are no empirical data that pertain to the extent of these benefits.

The Puma study also included some States that do episodic batch matches with other States. Again, no hard data are available on the benefits derived from these matches. Anecdotal evidence gathered in the study is mixed, with some personnel claiming the matches are quite useful, and others believing the matches are not worthwhile and should be phased out.

### Costs of Interstate Matching and Cost-Effectiveness

There are some limited data on the costs of interstate matching. The Puma study found that, where routine online interstate matching is done, the basic labor costs associated with interstate matching were similar to those involved in matching on the analogous in-state database--and, therefore, quite low. Similarly, computer costs associated with interstate matching appeared to be no different than those associated with in-state matching--that is, very low.

No cost data are available on interstate batch matches. It should also be noted that no cost data are available on discretionary (i.e., discretion of caseworker) online matching, rather than routine online matching. Since it seems unlikely that a State involved in a five State network (as described above) would want to access routinely all of the other States' databases for each client, the lack of cost data on discretionary interstate matching is a problem.

In terms of estimating cost-effectiveness, however, the chief problem is not the sparseness of cost data, but rather the non-existence of benefit data. Right now, lacking such benefit data, no estimate of interstate matching cost-effectiveness can be made. This makes it very difficult to form a judgement on whether such matching should be encouraged or not.

### Research Needs

Overall, existing data suggest that interstate matching is uncommon, especially online interstate matching, but that this type of matching may increase dramatically in the future. Little is known about the benefits of

interstate matching, though anecdotes indicate that it can be strongly effective in certain areas. The costs of interstate matching appear to be low, though the cost-effectiveness of such matching cannot be assessed in the absence of benefit data.

The chief weakness of this research is a lack of clarity on the relative benefits and costs of such matching. Therefore, the primary research need on this issue is for a careful study of the cost-effectiveness of interstate matching. A particularly important need is getting an estimate of the benefits derived from this type of matching, since a rough cost estimate could be generated from existing data. Since these benefits seem likely to be highest where a high rate of interstate mobility exists, it would be useful to study both an area that might be expected to have a presumably high hit rate (e.g., DC-Maryland-Virginia) and a likely low hit rate (e.g., South Dakota-North Dakota-Montana). It would also be desirable to gather information on the benefits of different levels of use of interstate matching--i.e., batch, discretionary online, routine online.

It would also be useful to do a systematic survey of States' plans for developing interstate matching capabilities. Right now, very little is known of these plans and, hence, the context within which decisions about implementing interstate matching will be made. The need for basic cost-effectiveness data would presumably make such a study a low priority.

Should cases be pre-selected for computer matches or is it better to match all applicants/recipients uniformly? If pre-selection is desirable, what selection criteria should be used?

No data source is equally useful for all types of cases. For example, certain types of cases are more likely to have earned income, so it follows that matching on wage data is most likely to provide useful information for these types of cases. This raises the possibility that matching on a particular data source should be concentrated on those cases where relevant information is most likely to be obtained.

This practice of pre-selection has been the subject of controversy. Some argue that pre-selection increases the efficiency of the match process, saving eligibility workers the trouble of sifting through masses of useless data. Others argue that uniform matching is better, since pre-selection inevitably misses some cases where matching data are pertinent, and irrelevant information can easily be passed over.

The latter position is consistent with some program regulations, such as the IEVS rules, which generally call for uniform matching. However, IEVS-mandated matches only cover recipient matching on a relatively small number of databases. This leaves a large area of computer matching where pre-selection is a possibility. Furthermore, given projected increases in available data sources and computer capabilities, it seems likely that the question of pre-selection will apply to an ever-broader array of computer matching databases.

To make an informed decision on this matter, a food stamp manager should have the following information. First, the manager should have an assessment of how extensively pre-selection is used under current matching procedures, and what strategies are being used to implement it. Second, it would be important to have a reasonable estimate of the benefits to be derived from pre-selection. Finally, the manager should have comparative information on the efficacy of pre-selection versus uniform matching, and of different strategies for pre-selection.

### Current Pre-Selection Practices

The POS Phase I State census (Nightingale, et al., 1987) contains some descriptive information about pre-selection. About 12 percent of front-end matching systems and 13 percent of ongoing matching systems employ pre-selection. The specific strategies used are not well-defined, since almost all matching systems are described as using "worker option" or "other" as their basis for selecting cases (the only exception is a handful of ongoing

### Relative Cost-Effectiveness of Pre-selection

The cost-effectiveness of pre-selection as opposed to uniform matching is a subject about which essentially nothing is known, because all data on cost-effectiveness are confined to the cost-effectiveness of uniform matching. No data have ever been collected on the cost-effectiveness of pre-selected matching, especially data comparing the costs saved from not matching cases to the issuance savings lost from not matching those cases. No controlled studies have ever been done comparing pre-selection and uniform matching on the same databases in the same circumstances.

Similarly, no such information is available comparing different strategies for selecting cases to match. There are many potential criteria for selecting these cases and, at this point, nothing is known about their relative cost-effectiveness, especially in terms of avoiding lost issuance savings. This means that judgements on the relative efficacy of different methods are, at this point, necessarily arbitrary and ad-hoc.

### Research Needs

Overall, existing data indicate that pre-selection is relatively uncommon in computer matching today, though its precise extent is unclear. Anecdotal evidence suggests that pre-selection can produce substantial paperwork reduction benefits, but no hard data exist on these or other benefits. Related to this, no data currently exist upon which the relative cost-effectiveness of pre-selection and uniform matching, or of different methods of pre-selection, can be evaluated.

This summarizes the state of existing research relevant to the issue of pre-selection computer matching. The most serious weakness of this research is that it provides no guidelines for deciding whether and how to do pre-selection in a given computer matching context.

Therefore, the primary research need is for data comparing the benefits and costs of pre-selection versus uniform matching, as well as the benefits and costs of different strategies for pre-selection. Right now, no such data exist. While it would be possible to do some rough estimates of the possible cost-effectiveness of pre-selection, using existing data and varying

assumptions about the efficiency of pre-selection (i.e., the extent to which pre-selection actually picks up all the cases for which matching information is relevant), it would be preferable to collect data on pre-selection as it is practiced in actual food stamp offices.

It would be especially useful to gather data on the relative efficacy of pre-selection versus uniform matching, when used on the same databases in equivalent circumstances. The relative efficacy of different selection strategies could also be investigated in this way. Key data here would be the hit rates in different circumstances (pre-selection versus uniform; between different selection strategies) and the extent to which pre-selection misses cases where matching would have produced benefit savings. These data would provide the best basis for deciding whether and how to pre-select for a particular database.

It would also be useful to have a thorough survey on the extent of pre-selection on different databases used in computer matching today, and, especially, of the different strategies used to do this pre-selection. Right now, information is confined to matching systems, which makes it difficult to get database-specific estimates. Furthermore, the information on the methodologies and criteria used in pre-selection is scanty. Whether such descriptive research could be justified when the cost-effectiveness of the procedure has not yet been established is an open question.

Which hits should be followed up ("prioritization") and what followup procedures are most useful for doing this?

Computer matching generates an enormous amount of information, not all of which is equally useful. That is, some information, when followed up is much more likely to yield substantial benefit savings than other information. For example, data that suggest a \$100 discrepancy between client's reported and actual income are more likely to yield results than data that suggest a \$5 discrepancy.

This raises the possibility that certain hits should be prioritized for followup, especially where the resources (staff time, etc.) available for followup are limited. In fact, where resources are limited, prioritization will probably become an increasingly important issue, due to projected increases in the amount of matching information available on cases.

In order to resolve the prioritization issue, an FSP manager should have the following information. First, the manger should have a thorough description of which types of hits are currently prioritized for followup, and the methodologies used for this followup. Second, it would be important to have a reasonable estimate of the relative cost-effectiveness of prioritizing different hits. Finally, the manager should have an assessment of the relative usefulness of different procedures used for following up hits.

#### Current Prioritization Practices

The POS Phase I State census (Nightingale, et al., 1987) and Phase II local survey (Nightingale and Yudd, 1987) contain useful descriptive information on hit prioritization. To begin with, the Nightingale and Yudd study reports that local agencies generally follow up almost all hits returned by computer matches. Specifically, eighty-eight percent of local agencies say they follow up on 100 percent of hits produced by front-end matching, while eighty-four percent say they follow up on 100 percent of the hits (for active cases) identified by ongoing matching.

Within this context of almost all hits being followed up, there is a modest level of prioritization. Data in the Nightingale, et al. study indicate that about eight percent of States' front-end matching systems prioritize followup on hits, while 11 percent of States' ongoing systems prioritize hits.

The study also reported that the most common criterion for hit prioritization is the extent to which a given discrepancy criterion is exceeded.

The Nightingale and Yudd local survey reports a somewhat higher level of hit prioritization. According to this study, 27 percent of both front-end and ongoing matching systems prioritize hit followup. (The higher number in the local survey may reflect an increase in prioritization between the surveys. Alternatively, it might be explained by either a difference in data collection focus--only the systems judged effective were considered in the local survey--or in sampling, where States that do prioritization had larger numbers of local respondents.) For these matching systems in local FSAs, the most common criteria for prioritizing hits are the status of the case, including expedited/non-expedited and active/inactive status, the amount exceeding a discrepancy criterion and the benefit amount involved.

These data suggest that prioritization of hits is not widespread, but may be more common in matching systems that are deemed most effective by local personnel. Unfortunately, at this point, we do not know which databases are most frequently involved in hit prioritization. This is because of the system-level nature of these data, which does not specify the databases whose hits are being prioritized.

#### Current Follow-up Methods

The Nightingale and Yudd study contains some descriptive data on the different methods used in followup, once a hit has been prioritized. According to the study, 15 percent of local agencies believe that 90-99 percent of hits require no followup in addition to a review of the case file. Over 60 percent of local agency personnel believe that at least half of all hits require no additional followup beyond the review.

When followup beyond the case file review is required, the most commonly used methods are third party contacts and in-office interviews, followed by telephone interviews and home visits. Unfortunately, no detail on the substance of these methods beyond this very general level is given. Also, there is no specification of which methods are most commonly used with which databases.

The case studies in the Puma applicant matching study (1988) shed some further light on the followup methods used for different databases. For example, unemployment compensation hits are generally accepted as their own verification, since they come from official State records, so followup may be confined to reviewing the case file. In contrast, wage hits that suggest a discrepancy are often followed up by sending a verification letter to the employer listed on the match information. Finally, for property or motor vehicle hits that suggest a discrepancy, eligibility workers generally contact the client directly, through a letter or phone call. It should be stressed that these examples are based on a limited number of case studies and cannot be assumed to be the most common methods throughout the FSP.

### Cost-Effectiveness of Prioritization and Prioritization Procedures

Almost nothing is known about the relative cost-effectiveness of prioritizing different types of hits, or of different methods used in prioritizing hits. In fact, it is not known whether prioritization, broadly speaking, is any more cost-effective than uniform followup, nor is there any suggestive anecdotal evidence that speaks to these matters.

Similarly, there is very little data on the relative usefulness of different procedures used in following up hits. No systematic, hard data exist which would allow selection of one procedure over another for a given database. Anecdotal evidence from the Puma study suggests that the methods described above are found appropriate and effective by the personnel who employ them, but we know little about how and why these methods were originally selected for use.

### Research Needs

Overall, existing data indicate that almost all hits are followed up in some manner. Prioritization of followup on hits is relatively uncommon across all FSP computer matching systems, but it may be more common within systems judged most effective by local personnel. Data indicate that a large proportion of hits are unlikely to need followup beyond a review of the case file. If followup beyond reviewing the file is needed, the most common methods are third party contacts and in-office interviews, though it is not known which methods apply most commonly to which databases. The cost-

effectiveness of prioritizing different hits is not understood, nor is the overall cost-effectiveness of prioritization. Finally, there is little data on the relative usefulness of different followup procedures.

This summarizes the state of existing research on prioritization of hit followup and followup procedures. The obvious weakness of this research is a lack of clarity on whether prioritization is, in fact, worth doing.

Thus, the primary research need is to assess the general cost-effectiveness of prioritization and, secondarily, the relative cost-effectiveness of prioritizing on different databases. At this point, it is not known whether prioritization has any comparative advantage over uniform followup. It is also not known where prioritization can be most effectively concentrated.

It seems doubtful that existing data will permit even rough estimations of prioritization effectiveness to be made, so the collection of new data will probably be necessary. This could be done in a single State by varying prioritization and prioritization procedures across offices.

It would also be useful to have a thorough description of followup procedures currently in use, as well as an evaluation of which procedures work the best for which databases. Information on followup procedures is currently sketchy, especially at the level of particular databases, as is information about the relative usefulness of different procedures. However, in the absence of basic cost-benefit data about the utility of prioritization, it would be difficult to justify a project of this nature.

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## CHAPTER 3

### CLAIMS COLLECTION

Food stamp households do not always receive the correct amount of benefits, due to food stamp agency error, client error or fraud. Over-issuances occur when food stamps are provided to ineligible households or when eligible households receive a higher level of benefits than that to which they are entitled under program regulations. When an agency discovers that a household is receiving more food stamps than it is eligible for, the agency is required, by law and regulations, to establish a claim against that household and attempt to collect that claim. Within broad programmatic guidelines, States have considerable discretion in how they organize the actual establishment and collection of claims.

Generally speaking, the claims collection process can be broken down into six steps: (1) claims referral; (2) claims investigation; (3) claims establishment; (4) claims collection; (5) followup activities on delinquent claims; and (6) claims suspension and termination. This sequence of activities may be summarized as follows.

In the initial claims referral step, the overissuance is detected and action is taken to set up a claim against the household. This is followed by the claims investigation step, where the nature of the error leading to the overissuance is determined, the amount of the overissuance is calculated, and an inquiry into the circumstances of the overissuance is performed. In the subsequent step, claims establishment, the agency makes the formal decision to lodge the claim against the household, and, if that decision is made, notifies the household of the claim (procedures here differ depending on whether the case involves nonfraud error or suspected fraud). This is followed by the actual claims collection step, where arrangements are made with the household to pay the claim. Where households do not make satisfactory arrangements, or fail to follow through on their agreed-upon arrangements, the next step is following up delinquent claims typically involving identification of delinquent claims and alternative collection methods. For households that continue to be delinquent, the final step is suspension and termination of actions to followup the claims, entailing identification of eligible claims and initiation of suspension/termination actions.

Clearly, this is a complex process, involving many steps, sub-steps and decision points. It confronts local and State agencies with multiple challenges because, at each step and decision point, agencies must look towards maximizing the proportion of recovered overissuances, while minimizing the burden on agency personnel and resources. And these challenges cannot be taken lightly, as the amount of money involved is substantial (\$162.9 million in FY 1987).

As a rule, claims established considerably exceed claims collected. The ratio is usually around 3:1 (it was a bit less in FY 1987), so a substantial proportion of the claims established are never collected or only partially collected. As computerization and automation continue to advance, food stamp managers will have to decide how and whether these new technologies can improve the level of claims collection or reduce associated costs (or both). This entails finding the best staff and organizational arrangements for integrating these new technologies and management methods for improving the overall efficiency of the claims collection process. Thus, the four issues addressed in this chapter are:

- What kind of staff should be responsible for investigating potential claims? In particular, should these staff reside at the State or local level?
- How can the effectiveness of automated support functions for claims collection be determined? Which automated support functions are most effective for claims collection?
- How can the effectiveness of management systems for establishing and managing claims be determined? Which management systems are most effective in helping establish claims and managing the resultant caseload?
- What goals should be set for claims collection, in terms of results? Given these goals, how should cases be selected for suspension and termination, and what procedures are best for doing this?

These questions are addressed in turn in the following four sections. The studies discussed here are listed at the end of the chapter.

It is important to note at the outset some caveats emphasized by the authors of the POS reports on claims collection. Claims collection activities are complicated, and their organization and implementation varies tremendously

within individual States as well as across States. It was often difficult for study respondents to give an unambiguous answer to an apparently straightforward question. As a result, general statements and summary statistics may give an impression of greater simplicity in the operating environment and greater precision in the data than actually exists.

Largely because of these issues, the POS efforts were restricted to descriptive research only, with no attempt to address issues of cost effectiveness. Throughout the following sections, therefore, we note the absence of such information as a major limitation to informed decision making.

**What kind of staff should be responsible for investigating potential claims? In particular, should these staff reside at the State or local level?**

The claims collection process is a time-consuming one, and potentially burdensome for eligibility workers involved in the day-to-day certification process. Also, because of its complexity, it can be difficult for eligibility workers to learn and administer the procedures efficiently, given all their other responsibilities. These factors argue for using at least some specialized staff in claims collection work, which raises the further question of how to strike a balance between specialized and regular staff in the process.

A related issue is the level of responsibility for claims collection. The same factors that suggest using specialized staff in the claims collection process tend to argue for centralization. That is, given the potential burden of claims collection on local offices, there are plausible motivations for centralizing some of the responsibility for claims collection at higher levels of State FSPs. Again, the question is whether such centralization should be implemented and, if so, the balance to be struck between different levels of the FSP in allocating responsibility.

In order to make an informed decision on this issue, a food stamp manager would need to have the following information. First, the manager should have a thorough description of the extent to which specialized staff and centralization of responsibility are currently used in the claims collection process. Second, it would be useful to have an estimation of the relative cost-effectiveness of using specialized versus regular staff and centralized versus local allocation of responsibility. Third, the manager should have some assessment of the relative usefulness of the different methods States have developed to use specialized staff and centralized responsibility in the claims collection process.

#### **Current Use of Specialized Staff**

The POS Phase I State census (Long, 1987) contains much useful descriptive material on both specialized staff and centralization in the claims collection process. In terms of specialized staff, all States report that such staff are used at some stage of the collection process. Specialized

staff are of two basic types: (1) claims/collection staff, who handle both nonfraud and fraud cases; and (2) fraud/investigation staff, who handle only fraud cases.

The use of specialized claims/collection staff is very widespread. Eighty-four percent of States say that such staff operate at some level of the State FSP. Of this group, 53 percent have such staff operating at the local/county level, 16 percent at the district/region level and 74 percent at the State level.

The use of specialized fraud/investigation staff is only slightly less common, with about four-fifths of States reporting use of such staff at some level. Of this group, 32 percent employ fraud/investigation staff at the local level, 12 percent at the district/region level and 71 percent at the State level.

The role of specialized staff also varies by stage of the claims collection process. Generally speaking, the later stages of the process (followup of delinquent claims, suspension/termination of claims) are more likely to have specialized staff than the early stages (claims referral and investigation). Because of this, a good measure of a State's tendency to use specialized staff is whether they employ such staff in the middle stages of establishment and collections. Every State uses specialized staff at some stage of the process, while about three-quarters of States use specialized staff in these two stages.

The exact configuration of specialized staff responsibilities and functions varies quite widely across States. For example, in some States (e.g., New Mexico and Utah) specialized claims staff handle only collection of payments and followup activities, while in others (e.g., Colorado and New Hampshire), they take full responsibility for the entire process following referral. Along the same lines, fraud staff duties may be confined to assisting caseworkers on difficult cases (e.g. Alabama, Hawaii and Wisconsin) or may include handling essentially the entire process for all fraud claims (e.g., Alaska and Florida). Finally, specialized staff may consist of individual workers within a local office, or a separate unit of specialized workers at any level of the FSP.

### Locus of Claims Collection Responsibility

Turning to levels of responsibility, the first stage of the process, claims referral, generally is handled by local offices. Beyond this, however, the way in which responsibility is allocated across levels of the FSP varies widely across States. It runs the gamut from some States (12 percent) where all claims collection activities remain at the local level, to some States (10 percent) where everything after claims referral is centralized at the district or State level. As might be expected, all of the former States have State-supervised, county-administered programs, while all of the latter have State-administered programs.

The degree of centralization is substantially higher in the later stages of the collections process. After the claims establishment stage (i.e., for collections, followup and suspension/termination), almost half of the States have the claims process centralized at the district or State level. This includes one State with a county-administered program.

Overall, the level of centralization of the claims process is fairly high after the claims referral stage. A composite measure developed in the Long study estimates the average percentage of the claims process centralized at the district or State level (after claims referral) at approximately 64 percent.

Cross-classifications reported in the the Long study indicate that

relatively high level of automation does not seem to promote centralization or specialization of claims work -- or at least the effect is not visible within the limited available data.

### Cost-Effectiveness of Specialization and Centralization

Data on the relative effectiveness of using specialized staff and of centralizing responsibility for claims collection are sparse. No data comparing the benefits and costs of using specialized staff to those of using regular staff are available. Nor are any data available that compare the benefits and costs of having responsible staff lodged at the local versus the district/State level.

The Long study does analyze a rough indicator of claims collection effectiveness in relation to measures of centralization and specialized staff use. This is done by taking two measures of claims collection effectiveness--dollars collected per hundred dollars of claims established and dollars collected per hundred dollars of overissuances--and classifying States by whether they are above or below the median values on each of these measures. States with both measures above their median value ("high effectiveness") can then be compared to States with neither measure above the median value ("low effectiveness"). (By this criterion, 20 percent of States were high effectiveness and 24 percent were low effectiveness.)

The analysis is inconclusive. The comparison shows an average of 66 percent of the claims process centralized in high effectiveness States and 58 percent in low effectiveness States. In terms of specialized staff, 70 percent of high effectiveness States use such staff in the establishment or collections stage compared to 92 percent of the low effectiveness States. Since none of these figures are significantly different (at the 0.1 level) from the averages among States not included in the low or high effectiveness groups, these data do not suggest that centralization or use of specialized staff promotes higher levels of claims collection.

It should be stressed, however, that the measures of effectiveness used in this comparison are very rough, and the analysis obviously does not control for many other factors that could be responsible for effectiveness variation across States. Nor do these measures say anything about cost-effectiveness since they do not incorporate any information about cost. Thus,

the question of the general cost-effectiveness of centralization and specialized staff use is not fully addressed, and certainly not settled, by these data.

Specific ways of implementing specialization and centralization are also not directly addressed by available data. For example, should specialized staff be in a separate unit or with other caseworkers in the local office? If they are in a separate unit, should the unit be at the local, district or State level? Should this specialized unit handle just followup of delinquent claims and suspension/termination or should their duties be more broadly defined? Available research does not allow us to judge the relative effectiveness of these different approaches.

### Research Needs

Overall, existing data indicate that all States use specialized staff in the claims collection process and almost all have specialized staff of both the claims/collection and fraud/investigation types. In addition, the later stages of the collection process are the most likely to have specialized staff involved and to have these staff located at the State level. The degree of centralization in the claims collection process is fairly high--particularly high in State-administered programs--and tends to increase at later stages of the collection process. At this point, the cost-effectiveness of using specialized staff and of centralizing claims collection responsibility is unclear, as is the relative efficacy of different methods of specialization and centralization.

This summarizes the state of existing research about the type of staff that should be used in the claims collection process, and the level at which these staff should reside. The most serious weakness of the research is a lack of cost-effectiveness information on the specialization of staff and centralization of responsibility.

Therefore, the primary research need is for a careful study of the costs and benefits of using specialized staff and of allocating claims collection responsibility at different levels of the FSP. In terms of data collection, the need is most pressing for cost information. Essentially no data currently exist on the cost side (e.g., time spent per claim by specialized staff, associated wage rates, etc.). Some rough benefit data

could conceivably be developed from existing information on claims collection rates and dollar amounts.

It would also be desirable to have some assessment of the relative efficacy of the different ways in which States organize their use of specialized staff and allocation of claims responsibility among different levels of the FSP. However, given the lack of basic cost-benefit information on specialization and centralization, such a specialized study should be deferred at the present time.

**How can the effectiveness of automated support functions for claims collection be determined? Which automated support functions are most effective for claims collection?**

As computer technology has advanced in recent years, it has had a tremendous effect on all areas of the FSP, including claims collection. In general, this has meant that more areas of claims collection are now susceptible to higher levels of automation. As technology continues to advance and automated certification systems are redesigned, State managers will have to decide which features of claims collection can be most productively automated, and the best ways to implement such automation.

The following information is desirable as a basis for State managers' decision-making. First, it would be useful to have a detailed description of which aspects of claims collection are currently automated and the extent of this automation. Second, there should be a reasonable estimation of the benefits to be derived from automation. Finally, there should also be an assessment of the costs associated with different automation options and a comparison of the cost-effectiveness of different options.

#### Types of Automation

The POS Phase II report, combining information from the State census and local survey (Long and Wray, 1987), contains detailed descriptive information on the extent of claims collection automation. According to the study, automation of at least some aspects of claims collection is almost universal throughout the FSP. Ninety-six percent of States report some automation at the State and/or local level.

Of the States with at least some automation, most (about four-fifths) have automation at both the State and local level. This compares to about 12 percent which have automation only at the State level and eight percent which have automation only in some local FSAs. All told, automated claims collection is operative in local FSAs covering 83 percent of the FSP caseload.

Automation may occur at any stage of the claims process, where large amounts of information have to be processed and/or stored. It may be used to support the establishment of claims, the collection of claims and, of course, the tracking of claims actions through the maintenance of claims histories.

In terms of claims establishment and collection, the extent of automation across States varies widely by type of function. Automation is most common for deduction of the recoupment amount from issuance (77 percent), followed by calculation of recoupment amount (62 percent). Automation of demand letter generation is substantially less common, only existing in a little more than two-fifths of the States. The least commonly automated function is calculation of the overissuance amount, with only 17 percent of States having this function automated.

This picture changes somewhat when looked at from the perspective of percent of caseload covered by local FSAs with the relevant automated function. Based on data from the local survey, Long and Wray estimate that about 45 percent of the FSP caseload is covered by local FSAs with automated calculation of overissuances, while only about 20 percent is covered by local FSAs with automated issuance of demand letters. (The percentage figures for calculation and deduction of recoupment remain about the same.)

Most States have some automated tracking for maintaining the history of a claim's progress. Claims payment through recoupment is generally tracked by automated means, with automated histories maintained by 87 percent of States. This is followed by claims payments through other methods besides recoupment (about three-quarters of States maintain histories) and actions taken on overissuances and claims (two-thirds of States).

These figures are lower, however, when considered in terms of the percentage of caseload covered by local FSAs with the relevant automated history capability. For example, just over half the caseload (54 percent) is covered by local FSAs with automated maintenance of recoupment history, while only 31 percent of the caseload resides in local FSAs with automated history data on other forms of claims payments.

Based on the State-level data, the Long and Wray study developed composite measures of the extent to which States automate both claims collection functions and claims collection histories. The composite for claims collections functions is simply the percentage of the following four routine functions that are automated: calculation of overissuance amount; calculation of recoupment amount; deduction of recoupment amount from issuance; and generation of demand letters. The average of this functional composite is about half (48 percent).

The history composite is the percentage of the following three types of standard claims histories maintained by the automated system: case actions taken on overissuances and claims; claims payments through recoupment; and claims payments through methods besides recoupment. The average of this history composite is almost 70 percent--substantially higher than the functional composite average. Analysis conducted for this report shows that these two automation measures are strongly related, with a correlation of .38, significant at the .01 level.

This analysis also showed that automation of claims functions was positively related to functional automation in other areas, especially monthly reporting (correlation of .54, significant at the .001 level). In addition, the analysis suggested that automation of claims histories is moderately related (correlation of .29, significant at .05 level) to the intensity of the computer matching system (i.e., how often cases are matched).

By combining information from the functional and history composites, an overall measure of claims collection automation was developed. This measure classified States as "highly automated", "partially automated" and "manual". Highly automated States were those that had 100 percent of their claims histories automated and at least 75 percent of their claims functions. Those States that had some automation of either histories or functions, but did not qualify as highly automated, were classified as partially automated. Those States with zero levels of automation in both categories were classified as manual. This measure yields a breakdown of 28 percent of States with highly automated claims collection, 66 percent partially automated, and only 6 percent with manual processing.

Moving beyond these general patterns, Wray (1990) provides a more detailed examination of two special aspects of automated claims systems: claims "aging" and the tracking of reclassified claims. Aging systems organize information on the chronological age of the claim and the actions taken on it in order to determine when claims should be suspended or terminated. Timely suspension and termination of claims avoids wasting resources on uncollectible claims. Reclassification refers to a process of switching claims between "fraud" and "inadvertent household error" status (suspected fraud cases usually must be treated as inadvertent household error cases until the fraud is formally established). Tracking reclassifications is important

to make sure that States' administrative costs are reimbursed at the appropriate rate.

The Wray study describes a number of key features of these automated systems. Automated aging features include: distinguishing among the different classifications of fraud and nonfraud claims; generating demand letters, billing notices, and reports that vary according to classification and payment history; and monitoring delinquent claims as alternate collection activities are pursued. The reclassification systems' key features are: identifying and reporting on cases that are pending fraud determination; transferring and reconciling accounts following establishment of fraud; and integrated claims and accounting systems.

### Benefits and Costs of Automation

The benefits of claims collection automation are, on a theoretical level, reasonably clear. Automation of functions and history maintenance should reduce the staff time involved in claims collection and increase the speed and efficiency with which claims collection is pursued. Unfortunately, few data are available at this point that demonstrate the existence of these benefits, much less their magnitude.

The Long and Wray study does compare the high effectiveness and low effectiveness claims collection States (as indicated by rather limited data -- see the previous section) in terms of the composite measures of function and history automation. This comparison shows an average of 50 percent functional automation in the high effectiveness States and 52 percent in the low effectiveness States. In terms of history automation, high effectiveness States average 73 percent automation, compared to 75 percent automation in low effectiveness States. Not only are these figures not significantly different from the averages of other States in the sample, they are virtually indistinguishable from one another. Certainly these data provide no indication that higher levels of automation produce higher levels of claims collection.

Wray (1990) reports that officials in some of the study States credited their automated systems with significant increases in collections and worker productivity. For example, West Virginia staff reported that the number of monthly collections doubled after the system was introduced. Arkansas reported both an increase in collections and a reduction in staff.

However, the study also reports that other factors, such as cooperation between various government departments, play a sufficiently important role in claims collection that it is impossible to estimate the true effect of the claims system.

Data on the costs of claims collection, with or without automation, are not available. Given this, it is difficult to judge the overall cost-effectiveness of automating the claims collection process. More troubling perhaps, since there are no cost or benefit data on the different automation options, there is no way of judging the relative cost-effectiveness of these options and, therefore, distinguishing among them on this basis.

### Research Needs

Overall, existing data indicate that almost all States have some level of automation of the claims collection process, and that most of these States are automated at both the State and local level. The level of automation is generally fairly high, though some aspects of claims collection are substantially more automated than others. Automation is reported anecdotally to increase collections and worker productivity, but quantitative evidence is lacking. Little is known about costs of automating claims collection or the relative cost-effectiveness of different automation options within claims collection.

This summarizes the state of existing research on automation of claims collection. Easily the most problematic aspect of this research is a lack of clarity on whether and to what extent automation produces a better and more efficient claims process.

Thus, the primary research need on this issue is for a thorough examination of the benefits associated with claims collection automation. Given the scarcity of existing data, this would probably entail collection of new data from several States. These data should cover the following possible benefits: increased reliability within the claims process (detection of overissuances and establishment of claims, notice generation, etc.); savings of staff time; reducing errors in claims processing; increased collection rates; and staff perceptions of automation benefits (especially since many of the quantitative benefits may prove difficult to measure).

It would also be desirable to have some information on the costs associated with automated claims collection, particularly development and maintenance costs associated with automated claims features. However, as with the analogous costs for computer matching systems, this information may be difficult to determine.

Finally, it would be useful to develop information on the range of claims collection automation options that are likely to become available in the near future. Given the rapid level of increased computerization in State FSPs, it seems reasonable to assume that the range of options will expand rapidly. As an illustration of the strength of this trend, between the Food Stamp Automation Survey of 1985 and the POS State census in 1986, the number of States reporting automation of claims collection increased by almost 60 percent. However, a careful examination of current automation benefits should precede such a future-oriented study.

How can the effectiveness of management systems for establishing and managing claims be determined? Which management techniques are most effective in helping to establish claims and manage the resultant claims load?

The claims collection process is obviously a very complex one, involving a tremendous amount of data, an elaborate sequence of procedural steps and a variety of personnel, frequently at different levels of the FSP. Partially because of this complexity and partially because of new options opened by increased automation, there are a variety of different methodologies available to FSP personnel responsible for managing the claims collection process. It seems unlikely that all of these methodologies are equally applicable to all State FSPs, so managers will need to decide which of these techniques are most worth implementing or emphasizing in their FSPs.

A manager making an informed judgement on this issue would like to have the following information. First, the manager would wish to have a good description of the different management techniques currently used for claims collection within the FSP. Second, it would be useful to have an estimate of the relative cost-effectiveness of these different techniques. Finally, the manager would like to have an assessment of the most useful ways of implementing the different methodologies available.

#### Management Techniques in Use

The POS Phase II report (Long and Wray, 1987), combining results from the State census and local survey, contains descriptive data on a number of the most important management techniques used in claims collection. (It should be noted that the techniques covered by the study are not, and were not intended to be, a definitive list of management factors which may influence the effectiveness of claims collection. Also, the techniques covered were not mutually exclusive, so a given State could use all, some or none of them.) These techniques may be broken down into two areas: process management techniques; and techniques used to monitor individual cases.

Process management techniques ensure smooth functioning of the claims collection process, in particular the participation of personnel within it. These include (but are not limited to): the use of internal reports, including both summary and individual case reports; the use and content of staff training; the availability of manuals on the policies and procedures of

the claims process; and the use of time limits to control the processing of overissuance and claims. The many opportunities for snags within the complex web of claims procedures--especially in terms of staff action--make such techniques critical to claims collection success.

In terms of these process management techniques, the most common was staff training specifically for claims collection, used in 96 percent of States (and covering 97 percent of the caseload through local FSAs). Of these States, most (78 percent) have training at both the State and local level. This training generally concentrates on two areas: improving the detection of overissuances; and increasing the worker's understanding of the rules, regulations and procedures of the claims collection process.

The next most common process management technique is the provision of written manuals specifically on the claims process. These are provided in 92 percent of State FSPs (covering 98 percent of the caseload). In States where there is no specific claims manual, States' issuance manuals provide some kind of a general overview of the claims process.

The use of routine reports is slightly less common. These can be produced in two ways. Routine reports summarizing the progress of claims collection are produced in 91 percent of States, while routine reports on the status of individual overissuances or claims cases are produced in 74 percent of States. States' routine summary reports can cover any or all of the six stages of the claims process, though the most common report issued by these States covers the collection stage (96 percent). More than one-quarter of States, however, do issue reports covering all six stages of the process. In contrast, routine status reports issued by States are confined to three stages of the process--referral, establishment and followup on delinquent claims--with establishment reports the most common among these States (97 percent).

The final process management technique is the setting of time limits on the length of time used by workers to investigate, establish and collect on a claim. Though this technique is the least common, it is still used fairly frequently. Time limits of some sort exist in 70 percent of States, though they are only at the local level in 38 percent of these States. Generally, these limits are set for earlier stages in the collections process, with the most common being time limits on establishment of a claim (used in 81 percent of States that set time limits). No data are available on the length of time commonly set for these time limits.

Techniques used to monitor individual cases are methodologies which make sure that individual claims are properly followed up and do not get "lost" in the system. These techniques include (but are not limited to): systems for tracking the status of an overissuance or claim; systems for signaling staff that a particular case requires further attention ("flagging"); and systems for sorting or reporting case actions based on the chronological age of the claims. The way in which individual claims are pursued makes such monitoring systems essential to effective pursuit of claims collection since many take multiple months to collect, and can be subject to appeals.

The most common technique used to monitor individual cases is the use of tracking systems to follow overissuances and/or claims through the claims process. Such tracking systems are used in some form in all States (covering 93 percent of the caseload through local FSAs), and almost all (87 percent) are automated. These systems may cover any and all of the stages of the collections process, though the most common are establishment and collection (96 and 98 percent of States, respectively).

The Phase III intensive assessment of claims collection (Wray, 1990) contains descriptive information on a particular class of tracking systems. A particular concern of this report is the tracking of claims cases that are reclassified from Inadvertent Household Error (IHE) to Fraud (agencies received enhanced funding for the pursuit of fraud). Telephone interviews with a purposive sample of 20 States indicated that half the States studied have systems for tracking these reclassified claims.

The second most common technique is the use of a system of flags to signal a worker when a claims case may require further attention. These flags may take the form of a notation in the household's file, a "clip" or color code attached to the file folder, a master listing (automated or manual) of the relevant cases or computer messages from the State's automated certification system. A flagging system of some kind is used in virtually all States (96 percent), a little less than half of which have fully automated flagging systems operative (though 70 percent of the caseload resides in local FSAs where the flagging system is automated). A variety of different types of claims may be flagged by States, but the most commonly flagged are active claims (88 percent of these States).

The least common technique (though still fairly common) used to monitor individual cases is the use of an aging system for sorting and reporting on overissuances and claims by their chronological ages. Aging claims serves several purposes. First, it helps evaluate the timeliness with which the various stages of the claims process are negotiated. Second, it helps determine when "prompting" is necessary for pending cases (for example, cases involved in the legal system). Finally, where time requirements are pertinent (for example, elapsed time in suspension before termination is permitted), aging claims helps keep track of a claim's relationship to these requirements.

An aging system of some kind is present in 62 percent of the States, though covering only 15 percent of the caseload through local FSAs. Of these States, while 64 percent have some automation of the aging system, only 8 percent of the caseload is covered by local FSAs with automated aging systems. A variety of different types of claims may be aged by States, but the most common are delinquent and suspended claims, aged in almost 70 percent of these States.

The Wray (1990) study also contains some descriptive information on aging systems. A focus of the study is how aging claims can be a tool for managing caseloads of uncollected claims that may be eligible for suspension and termination, thereby effectively reducing States' backlogs of uncollected claims. Telephone interviews with a purposive sample of 20 States showed that 30 percent of these States have aging systems that automatically suspend cases, and 35 percent have systems that automatically turn suspensions into terminations. The study includes detailed descriptions of exemplary aging systems in three States.

Based on data from the State census and local survey, the Long and Wray (1987) study developed composite measures of the extent to which these process management and individual case monitoring techniques are used by State FSPs. The process management composite shows that the average percentage of these techniques used by States is 73 percent. The individual case monitoring composite tells roughly the same story, with States averaging 71 percent of these techniques used to monitor claims cases.

Based on these two composites, an overall measure of management technique use was developed. This measure classified States as having

"substantial use" of these management techniques if they used 80 percent or more of the process management methods and 67 percent or more of the individual case monitoring methods, while States that did not meet this criterion were classified as having "more limited use". According to this measure, about two-fifths of States qualified as having substantial use of management techniques.

#### Cost-Effectiveness of Management Techniques

As the above discussion makes clear, there are a variety of process management and case monitoring methods that States may avail themselves of in organizing their management of the claims collection process. While there is no necessary reason why States could not use all these techniques in claims management, to the extent that States have resource limitations or particular problems, they may wish to select from these techniques the ones best suited to their needs. Selecting the appropriate techniques would be facilitated by hard data explicitly comparing the benefits and costs of these different techniques. Unfortunately, no such data currently exist.

The Long and Wray study does compare the high effectiveness and low effectiveness claims collection States (described previously) in terms of the composite measures of general management and monitoring method use. This comparison shows an average of 76 percent use of general management methods in the high effectiveness States and 75 percent in the low effectiveness States. In terms of monitoring methods, high effectiveness States average 70 percent use of monitoring methods, exactly the same figure as in low effectiveness States. These figures are not significantly different from the averages of other States in the sample, and, in fact, are virtually identical to one another. Clearly, these do not suggest that higher levels of general management and monitoring method use are related to higher levels of claims collection.

The Wray (1990) study does contain some anecdotal information on management technique effectiveness. For example, staff in States whose aging systems included automatic suspension/termination indicated that this management technique had considerable positive impact on their backlogs of uncollected claims. Similarly, staff in States with tracking systems for reclassified claims generally indicated confidence in the effectiveness of these systems.

There are many different ways of implementing these techniques, from routine reports to tracking systems, given all the cross cutting variables of level of automation, stages of the collections process, types of claims, State and local coverage, etc. Given that State FSAs may wish to use all the management techniques discussed here, choosing among different ways of implementing a given technique may be the pertinent question for many State managers. Unfortunately, no information is available that sheds light on the relative usefulness of different implementation approaches.

### Research Needs

Overall, existing data indicate widespread usage of a number of different management techniques within the claims collection process, with the most common being staff training and the use of tracking and flagging systems (usually automated) for individual claims. Other management techniques, such as time limits for stages of the claims collection process and systems for aging claims, are substantially less common. Little is known about the benefits and costs of these different techniques, or the relative usefulness of different ways of implementing them.

This summarizes the state of existing research on management techniques used for claims collection in the FSP. The most serious problem with this research is a lack of cost-effectiveness information that would allow the relative usefulness of these techniques to be clarified.

Therefore, the primary research need on this issue is an examination of the benefits and, especially, the costs associated with these management techniques. Essentially no data exist on the cost side (e.g., report generation costs, manual development costs, labor costs for training, development costs for case monitoring systems, etc.) while rough estimates of benefits could perhaps be developed from system claims collection data (collection rates, termination rates, etc.), as well as anecdotal data on staff perceptions of technique effectiveness. Cost data on different methods of implementing management techniques might also be helpful, since implementation choices may be most relevant for some States.

It would also be useful to have a detailed assessment of the claims collection management techniques that are currently available, and that are likely to become available in the future. As mentioned previously, current

data cover only a limited number of the management techniques currently in use by State FSPs. As the Long and Wray study reports, no information was collected on such important management techniques as direct supervision of claims collection personnel (e.g., supervisory case reviews, accountability of eligibility claims workers). This suggests the desirability of having information on a full roster of claims collection management techniques currently in use within the FSP.

Furthermore, given the importance of automation to many of these management techniques, it seems likely that the increased levels of computerization will increase the range of available management options. Therefore, an assessment of management techniques which are likely to come online in the future would help set the terrain of available choices. It must be noted, however, that the lack of data on technique cost-effectiveness may preclude such a descriptive study at the present time.

**What goals should be set for claims collection, in terms of results? Given these goals, how should cases be selected for suspension or termination, and what procedures are best for doing this?**

For various reasons, not all overissuances result in the establishment of a claim. Furthermore, as one would expect, not all claims can be fully or even partially collected. Therefore, deciding on a reasonable goal for claims collection is a critical management question. The goal should neither be so high that scarce resources are wasted trying to collect claims which cannot be paid, nor so low that reasonable opportunities to collect money are not followed up.

Selecting cases for suspension and termination of claims has a direct connection to claims collection goals. According to federal regulations, a claim for which collection actions have been initiated and the required number demand letters sent can be suspended (i.e., placed in an inactive status) when (1) the household cannot be located or (2) the costs associated with further action on the claim are likely to exceed the amount that can be recovered. A claim may then be terminated (i.e., removed from the books and any possibility of further action) once it has been suspended for three years and designated as uncollectible.

It follows that an excessively stringent goal for claims collection will tend to discourage selecting cases for suspension and termination, since almost all cases will be viewed as potentially collectible. A reasonable goal for claims collection, however, will tend to encourage selecting cases for suspension and termination, since it recognizes the impossibility of collecting all claims. Thus, setting a reasonable claims collection goal also requires FSP managers to decide among available procedures for suspending and terminating claims.

Resolution of these issues would be facilitated by obtaining the following information. First, it would be useful to have an assessment of States' current success in pursuing claims collection, and the relationship between this success and future goals. Second, it would be desirable to have a description of current methods for suspending and terminating cases and some assessment of their relative cost-effectiveness.

## Current Claims Collection Success and Future Goals

The POS Phase II report (Long and Wray, 1987) contains some estimates of the success of claims collection procedures, with reference to overissued benefits, claims establishment, etc. The first type of estimate is supplied by professionals in State FSPs, and is not based on hard data. These professional estimates produced the following median success rates for different stages of the collection process: 95 percent of identified overissuances result in claims referrals; and 98 percent of general claims referrals result in established claims (70 percent for suspected fraud). Of established claims, 65 percent result in at least some collections, although not necessarily for the full amount of the claim; half of established claims eventually become delinquent.

Professional estimates were also given on the existence of a backlog of overissuances and claims to be processed at the various stages of claims collection. Ninety-four percent of States say they have a backlog of claims to be processed. They generally attribute this to a shortage of staff and/or resources devoted to claims collection and the relatively low priority put on claims collection within FSPs.

The other type of estimate reported in the Long and Wray study is based on data from FY 1985 FNS-209 forms, combined with QC error rate data. From these data, it is possible to compare overissuances in a given year, with claims established in a given year, and to compare each of these figures with claims collected in that year. Of course, this is not the same as knowing the proportion of a given set of overissuances that led to claims establishment and collection over a given time period (i.e., statistics based on a "cohort" of claims established within a particular period). Rather, it simply compares the dollar amount of claims activity taking place in different categories during a fiscal year.

This rough measure of claims collection success yields the following median estimates across States: \$14.64 in claims established per \$100 of food stamps in error; \$37.97 in claims collected per \$100 of claims established; and \$5.36 in claims collected per \$100 of food stamps issued in error. Thus, according to these estimates, collected claims account for approximately 38 percent of established claims. This relationship seems stable over time, since data from the 1988 State Tables of Activity Ranking, Plus (US Department

of Agriculture, Food and Nutrition Service), also based on FNS-209 forms, shows FY 1987 claims collections as 37.8 percent of claims established, virtually identical with the 1985 median figure.

Existing data on claims collection success can be a useful starting point for considering reasonable future goals for claims collection. However, it should first be stressed that these data do not provide the achievement measures one would prefer. As implied above, measures of the collection rates for cohorts of claims are needed, not the yearly cross sectional figures to which we are currently limited.

With this rather important caveat, the data described above could be used to develop reasonable goals for future claims collection, depending on assessments of States' current collection efforts. If it is believed that States are doing all they can, then setting the success rate for overissuance collection at the median (\$5.36 collected for every \$100 of overissuances) might be appropriate. If it is believed that States could do substantially more, then the success rate might be set higher--for example, at the 75th percentile (\$7.69 collected per \$100 in overissuances). The same procedure could be used to develop goals for the different stages of the claims collection process (e.g., claims established per \$100 in overissuances).

#### Claims Suspension and Termination

Federal regulations specify the following about claims suspension and termination. A claim for which collection actions have been initiated and the required number of demand letters have been sent can be suspended (i.e., placed in an inactive status) when either: (1) the household cannot be located; or (2) the cost of further collection actions is likely to exceed the amount that can be recovered. Claims can then be terminated after they have been suspended for three years and are deemed uncollectible.

Clearly, these criteria, especially the second one, give States a substantial amount of flexibility in determining their policies for suspension and termination. The Long and Wray study indicates that almost all States (92 percent) have developed a policy for suspending cases. Of these States, 73 percent have a claims review process to determine which claims are eligible for suspension and about two-fifths have claims suspension decisions reviewed by higher level staff. Generally speaking, States report that the review

process is manual and very time-consuming. This problem is exacerbated by a shortage of staff.

Almost all States (92 percent) also have a policy for terminating claims. Of these States, almost two-fifths choose to keep suspended claims on the books for longer than the minimum three years and approximately the same proportion have claims termination decisions reviewed by higher level staff. States generally ascribe keeping claims on the books for long periods of time to shortages of staff and/or resources for a generally low priority activity.

The Wray (1990) study also contains some descriptive information on suspension/termination procedures. In a purposive sample of 20 States, 30 percent of these States have aging systems that automatically suspend cases, and 35 percent have systems that automatically turn suspensions into terminations. Thus, it would appear that some States are moving away from the time-consuming, manual suspension/termination procedures.

The Wray study also reports that 45 percent of these States choose to keep suspended claims on the books for longer than the mandatory three years (consistent with the figures cited above for all States). Most of these States (eight of nine) cite the law and/or the desire for continued pursuit as their reasons for leaving these suspensions on the books.

The Wray study provides much additional information on suspension and termination procedures in three states that were studied in depth. Unfortunately, none of the studies to date contain any data on the relative cost-effectiveness of different procedures.

### Research Needs

Overall, existing data allow us to make rough estimates of current claims collection success, though true measures of claims collection success are not available. These rough estimates can be used to develop ideas about reasonable future goals for claims collection. Claims suspension and termination are pursued by almost all States, though associated review processes, where they are not automated, appear to be time-consuming and also suffer from shortages of staff and/or resources. No data are currently available on the relative cost-effectiveness of different procedures used in claims suspension and termination.

This summarizes the state of existing research pertinent to claims collection goals and procedures for suspending and terminating claims. The most serious weakness of this research is the lack of good measurements of claims collection success.

Therefore, the primary research need is for reliable data on the overall success rate of claims collection, as well on success rates for various steps within the claims process. This would entail taking cohorts of claims and following them through the collection process, recording the timing and results of each step up to full collection of the claim or suspension/termination. It would probably be desirable to do this in several States, including some with apparently low success rates and some with relatively high rates.

It would also be useful to have a thorough study of the relative merits of different procedures for suspending and terminating claims. Presently, we have information on the details of these procedures but none on the relative cost-effectiveness of different procedures currently available within the FSP. Lacking such information, decisions on how to suspend and terminate cases may be difficult to make within the context of a given claims collection goal.

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Wray, Linda A. 1990. Claims Collection in State Food Stamp Agencies: Tracking and Aging Systems. Washington, DC: Mathematica Policy Research, Inc. This study is the Phase III intensive assessment for the claims collection area, covering two specialized topics: systems for "aging" claims; and tracking reclassified fraud claims. Analysis in the report is based on data gathered from 20 States through telephone interviews.

## CHAPTER 4

### MONTHLY REPORTING

Once applicants are certified eligible for food stamps and begin receiving benefits, their monthly allotment must be adjusted whenever changes occur in their income or other pertinent household circumstances. The local food stamp agency may learn about such changes through a recertification interview or, in the period between recertifications, through client-initiated communications.

Beginning in 1981, food stamp legislation required States to implement monthly reporting as an additional means of obtaining up-to-date information on household changes. Typically, a household subject to monthly reporting receives a form in the mail each month. The household must fill out the form, which requires such information as income received during the month and any changes in household composition, and mail it in. Failure to file a completed monthly report results in termination of benefits.

The 1981 Omnibus Reconciliation Act made monthly reporting mandatory for most classes of food stamp cases (the only exceptions were migrant workers and elderly or disabled recipients with no earned income). Subsequent rounds of legislation have allowed States increasing discretion to select particular types of cases to be subject to monthly reporting. Most recently, the Hunger Prevention Act of 1988 made monthly reporting essentially a State option. State Food Stamp Program managers are therefore responsible for deciding whether to require monthly reporting at all and, if so, for whom to require it and how to implement it.

As this legislative reversal suggests, monthly reporting has had both staunch proponents and strong opposition. Proponents generally argue that monthly reporting captures information on household changes faster than other procedures, and hence prevents errors. Some also feel that monthly reporting helps structure the case management process, making the work of the eligibility workers more predictable and manageable. Monthly reporting is sometimes seen as a partial substitute for full recertification interviews, allowing this more costly procedure to be performed less often.

Monthly reporting's critics feel it generates waste motion with little productive result. They point out that a large proportion of reports are returned without changes or with new information that either is incorrect or does not affect the household's eligibility or allotment. These reports entail a processing cost for the agency and a burden for clients.

The themes of this debate frame the challenge that States face when they decide to proceed with monthly reporting: how to get the maximum error reduction effect while holding costs to a minimum. Hence the two questions addressed in this chapter are:

- How can the effectiveness of monthly reporting in reducing error rates be maximized, for example, by selecting particular kinds of cases to report monthly?
- How can the impact of monthly reporting on eligibility worker workload be reduced?

These questions are addressed in turn in the two following sections, which identify the information needed to answer the questions, summarize the information available from POS and other research, and indicate where future research seems most needed. The research sources on which the issue discussions are based are listed at the end of the chapter.

How can the effectiveness of monthly reporting in reducing error rates be maximized, for example, by selecting particular kinds of cases to report monthly?

Payment errors occur in a variety of ways in the Food Stamp Program. A client may give incorrect or incomplete information as part of an initial certification or recertification, and agency processing may not identify the problem. The agency may make a mistake in using correct information from the client. A household with the correct allotment may experience a change in circumstances, meaning that the next allotment will be erroneous unless it is adjusted.

The principal goal of monthly reporting is to reduce the number of errors resulting from unreported changes in circumstance. The underlying hypothesis is that inertia -- "not getting around to" reporting a change -- is an important source of error. If so, then requiring people to fill out a monthly report should capture much of the unreported information. Of course, to the extent that unreported changes reflect deliberate concealment, some of those changes might be concealed even when filling out a monthly report. Nonetheless, the basic premise remains that monthly reporting will reduce error rates by capturing information on changes more quickly than that information would otherwise reach the agency.

Given this premise, the ideally efficient monthly reporting system would send monthly reports only to households that are about to have a change which they would not otherwise report. This ideal condition is clearly not feasible. It seems plausible, however, that a State might concentrate its efforts on an identifiable portion of the caseload that has a particularly high rate of unreported changes, and thus gain efficiency.

In considering such a strategy, a manager would first like to have evidence supporting the underlying premise, i.e., that monthly reporting reduces errors due to unreported changes. Second, it would be useful to know the range of strategies that States have used in attempting to maximize monthly reporting efficiency. Third, the manager would need information on each strategy's results in terms of reducing administrative costs while continuing to reduce error rates. The research evidence on each of these points is summarized below.

### Monthly Reporting's Effects on Error Rates

The evidence on whether and how monthly reporting influences error rates is mixed. Respondents to the Phase I Survey of States generally agreed that monthly reporting leads to more changes to food stamp cases than they would otherwise have. This is consistent with the findings of Wood (1985), and with research on monthly reporting's impact on AFDC error rates (Hamilton, 1985). Presumably this higher rate of changes means that monthly reporting captures information on household changes that is not captured in by client-initiated interim reporting procedures.

Whether this additional information reduces error rates is unclear, however. Phase I survey respondents in six States said that their States had conducted some analysis of monthly reporting's impact. Four of the States found higher error rates with monthly reporting, while the other two found monthly reporting to reduce errors. Respondents in States that had conducted no formal analysis were also divided: respondents thought monthly reporting reduced errors in 17 States, increased errors in 14 States, and had no effect in 12. The Wood study found no effect (after discounting some errors introduced by start-up problems with the computer system).

### Strategies for Enhancing Monthly Reporting Efficiency

Achieving the maximum possible effect of monthly reporting presumably requires that the policy be applied as broadly and intensively as possible. Thus for example, the maximum effect would be expected when all cases are subject to monthly reporting, because any selection might eliminate some cases for which monthly reporting would capture information that would otherwise go unreported.

The price of such a "maximum effect" strategy is the need to process many monthly reports which contain no useful information. Efficiency-oriented strategies attempt to eliminate as much as possible of this non-productive processing effort while sacrificing as little as possible of the useful information that monthly reporting captures. Three such strategies are identifiable in the research literature:

- Selective reporting requirements, in which some but not all types of cases must report monthly;

- Change-only items on the monthly report form, in which the recipient provides detailed information only for those items that have changed since the last report; and
- Change-only reporting, in which the recipient is not required to file a monthly report unless some circumstance has changed.

Selective reporting is by far the most common of the efficiency strategies. All but 11 States indicated in the Phase I survey that they use some form of selective reporting policy. The selected groups are generally those believed to have frequent changes in circumstances or high error rates. Those most often targeted for monthly reporting are households with earned income, those with a recent history of earnings, households with unearned income (especially fluctuating unearned income), and households with more than a specified number of members (often four or five). The selective strategies vary widely in the percent of cases they cover, with fewer than ten percent subject to the requirement in five States and over 50 percent covered in seven States.

Although the Phase I survey provides quite comprehensive information on States' selective reporting policies in 1986, policies may have changed substantially since that time. Because the 1988 legislation removed the requirement for States to use monthly reporting, even for groups that had been emphasized in previous legislation (those with current or recent earnings), the survey data do not accurately represent current policies. Nonetheless, the differences probably reflect shifts in emphasis rather than substantively new strategies.

The use of change-only items on the monthly report form is also a relatively common approach for seeking efficiency. All States' forms require recipients to fill in the amount of their earnings for the month, regardless

carried out change-only reporting policies for portions of their caseload not subject to the mandatory requirement, but no indication of such policies is found in the research literature. A demonstration of a change-only system for AFDC was carried out in Massachusetts and Michigan in 1980-81 (Hamilton, 1985).

### Results of the Efficiency Strategies

No research to date has explicitly addressed the question of how well the efficiency strategies succeed in containing monthly reporting costs while maintaining an error reduction effect. Nonetheless, several items of available information have some bearing on the subject.

With regard to selective reporting, there is suggestive evidence that States' targeting strategies have indeed focused monthly reporting on cases that are more than normally error-prone. Mills (1988) reports that, nationwide, cases not assigned to monthly reporting had an 11 percent error rate immediately following their initial approval for benefits (i.e., before subsequent case management procedures had any chance to have an impact). The comparable rate for monthly reporting cases was 15 percent. Errors that exist at approval, however, may not be related to errors arising from subsequent changes in circumstances, which are the errors monthly reporting is designed to prevent.

No quantitative measures indicate whether selective reporting sacrifices some of monthly reporting's error reduction capacity. These Phase I survey respondents who felt monthly reporting has any error reduction effect tended to be in States that apply universal rather than selective reporting. This might indicate that selective reporting is less effective. Alternatively, it could simply mean that managers who believe in monthly reporting's impact on error rates apply it universally, while others use selective reporting to minimize their effort. Among those using selective reporting, differing strategies were not clearly related to differing views of monthly reporting's effectiveness.

Any selective reporting strategy clearly does reduce administrative costs. Report processing for a household, even one without changes, generally involves effort by the eligibility worker as well as computer time, forms, and postage (estimates of these factors for four States are presented in Hamilton

et al. (1989)). Whether selective reporting changes the balance of monthly reporting's costs and benefits is less clear. Phase I survey respondents were more likely to say that monthly reporting's benefits exceed its costs if their State uses universal rather than selective reporting. Again, however, this could simply mean that monthly reporting's "believers" apply it universally.

Whether using change-only items in the monthly report yields increased efficiency is even less clear. The only relevant data come from the Phase I survey. The extent to which States use change-only items was unrelated to the respondents' views of whether monthly reporting reduces error rates or whether its benefits exceed its costs.

The cost-effectiveness of change-only reporting has been examined only in two AFDC demonstrations (see Hamilton, 1985). The evaluation found no significant error-reduction effect, either for change-only reporting or for normal monthly reporting. Change-only reporting had the lower administrative costs, however, reflecting the smaller number of reports being processed.

### Research Needs

The central premise of any of the efficiency strategies is that they will cost less than full monthly reporting while sacrificing little of its error prevention strength. Although many States have adopted efficiency strategies, especially selective reporting, existing research does not even demonstrate that the central premise is true, and certainly does not provide a basis for choosing among strategies.

The most important limitation of the existing literature is the absence of solid quantitative estimates of monthly reporting's effect on errors. Despite several years of widespread experience with the policy, we cannot say with certainty whether monthly reporting has any error reduction power at all or, if so, for what kinds of cases and what kinds of errors.

The primary research need, therefore, is to examine the effect of monthly reporting on errors. The database used in Mills (1988) might be a useful starting point for such research.

Although existing information on efficiency strategies and their cost savings is limited, it is sufficient to identify a relatively wide variety of strategies and to estimate roughly a given strategy's impact on

administrative cost. With better information on error rate impacts, one could make crude comparisons of the efficiency gains with varying strategies. Such an analysis might reveal clearly preferable strategies, or it might show that the available information on costs and strategies is too imprecise to make clear judgments. Further research on the strategies and their cost impacts would not be justified, however, until more is known about monthly reporting's effect on errors.

How can the impact of monthly reporting on eligibility worker workload be reduced?

Monthly reporting involves actions that must be taken for applicable cases every month -- sending out the form, determining whether the client has returned it, reviewing the information on the form, and following up with any necessary changes to benefits or eligibility. This distinguishes monthly reporting from other major case maintenance tasks, recertifications or client-initiated changes, which normally occur at intervals of several months. In a State with universal monthly reporting, monthly reporting tasks would be performed for about 80 percent of the caseload each month, while other tasks might be performed for 5 to 15 percent.<sup>1</sup>

To the extent that the eligibility worker is involved in monthly reporting tasks, then, monthly reporting has the potential for a dramatic impact on workload and hence on administrative costs. The key is the extent of the eligibility worker's involvement. Some of the early proponents of monthly reporting envisioned a system that would add little to the eligibility worker's job. An automated system would send out forms. Returned forms would be keyed in by a clerk and analyzed by the computer. If the form indicated a change, the computer would determine the appropriate change and send it to the eligibility worker for review. The eligibility worker's main responsibility would be to review and approve the change messages.

Some compensating savings in eligibility worker time were also envisioned. Most importantly, recertifications could be performed less frequently because monthly reporting would presumably reduce the need for them. In addition, the worker would presumably no longer deal with client-initiated interim changes, because this information would be captured by the monthly report.

Three basic strategies for minimizing eligibility worker burden have thus been identified: using automation to substitute computer processing for

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<sup>1</sup>Some types of households cannot be required to report monthly; these are estimated at slightly over 20 percent of the national food stamp caseload in Hamilton et al. (1989). About 11 percent of the national caseload is estimated to have a recertification each month, and about 6 percent is estimated to have an interim change.

eligibility worker effort; using clerical workers rather than eligibility workers for particular monthly reporting tasks; and compensatory reductions in the effort devoted to other tasks.

The first question a food stamp manager might reasonably ask is how much eligibility worker time is actually spent in dealing with monthly reporting. The manager would then like to know how much each strategy is used and how effectively each limits eligibility worker time without sacrificing monthly reporting's benefits. The following sections address these issues in turn.

### Eligibility Worker Time for Monthly Reporting

Respondents to the Phase I survey estimated the typical amount of time eligibility workers spend on a monthly report under varying assumptions about the nature of the report. For a report filed on-time and complete, with no information requiring a change, the median estimate was ten minutes. An incomplete or late report typically takes 15 minutes, while the median estimate for a report requiring a benefit change or termination is 20 minutes. Taking into account all types of changes, the median estimate of total eligibility worker time for a monthly report is 20 minutes<sup>1</sup>.

The estimates vary substantially from State to State. Eligibility workers in some States are not involved at all in on-time, no-change cases. At the other extreme, some States report that as much as an hour of eligibility worker time is required for monthly reports involving a benefit change or termination.

The national survey figures are comparable to estimates reported in Hamilton, et al. (1989). Based on work measurement studies in four States, eligibility worker time estimates range from 10 to 14 minutes per case.

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<sup>1</sup>Phase I survey respondents estimated the time an eligibility worker would spend processing monthly reports of varying types, such as reports with changes, late or incomplete reports, etc. The weighted average of these estimates for each State was computed based on the frequency of each type of report. The frequency of each type of report was assumed to be constant across states, and set at values found for Alabama in Hamilton et al. (1989).

## Automating Monthly Reporting

Monthly reporting is virtually always carried out with some automated support, although the automated functions vary considerably. Among 42 States responding to a 1985 FNS survey, all but four had automated systems that mailed out monthly report forms to recipients. Other commonly automated functions included:

- Tracking receipt of forms (24 States);
- Automatic termination for failure to file (23 States);
- Generating adverse action notice (20 States);
- Generating warning notice (18 States); and
- Determination of monthly reporting status (18 States).

In general, the States with newer, more sophisticated automated certification systems<sup>1</sup> have more monthly reporting functions automated. This appears to stem more from historical accident than from inherent advantages in the structure or capacities of the newer systems. Most of the more highly automated systems were constructed in a period when monthly reporting was national policy, while many of the less sophisticated systems pre-date monthly reporting. Even some of the least sophisticated systems, however, were reported to incorporate the full array of automated monthly reporting functions.

Each function that is automated presumably reduces some need for human effort. Most of the automated monthly reporting functions would not require a great deal of eligibility worker effort in any event, however. For example, sending a notice manually would probably involve addressing an envelope and inserting a form letter, duties a clerk might perform. It is therefore unclear whether the common types of automation identified above should be expected to cause a material reduction in the amount of caseworker effort for monthly reporting.

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<sup>1</sup>States' systems are categorized into five groups in Alan M. Hershey (1987). Food Stamp Program Operations Study Report on State Census: Automated Certification Systems. Princeton, NJ: Mathematica Policy Research, Inc. Those classified as more highly automated tended to have a larger number of automated monthly reporting functions.

The only evidence on this point, which comes from the Phase I survey, is inconclusive but does not suggest a large effect. Eligibility workers are estimated to spend slightly less time processing monthly reports in States with highly automated systems. The differences are small and not statistically significant, however (perhaps in part because the time estimates reflect the respondents' perception rather than empirical measurement).

### Substituting Clerical for Eligibility Worker Effort

States also attempt to limit the amount of eligibility worker time devoted to monthly reporting by having clerical staff carry out functions that eligibility workers might otherwise perform. The Phase I survey asked States about four such functions: determining whether a case must report monthly, reviewing submitted forms for completeness, following up on incomplete forms, and reviewing completed forms to determine whether a case action is required.

Clerks review monthly report forms for completeness in about a third of the States. This is the only one of the four functions that clerical staff commonly perform, however. Decisions about a household's monthly reporting status are made either by the eligibility worker or by the automated system. Eligibility workers handle the other aspects of monthly report processing (following up on incomplete forms and determining whether case action is required) most States, although a few States substitute clerical effort for these functions.

Having clerks perform monthly reporting functions does appear to reduce eligibility worker time. Where clerks perform one or more of the identified functions, survey respondents estimated average eligibility worker time at about 15 minutes per monthly report. Where eligibility workers perform all the functions, the average estimated time was 23 minutes.

### Offsetting Reductions in Recertification Frequency

Monthly reporting has often been seen as a partial substitute for frequent recertifications. Consistent with this view, national regulations have generally prohibited States from certifying monthly reporting cases for periods shorter than six months.

Many States have in fact established longer certification periods for monthly reporting cases than for cases not required to report. Based on the Phase I survey of States, the average State assigns short (less than six month) certification periods to about a quarter of its non-monthly reporting NPA caseload. Only about five percent of NPA monthly reporters have similarly short certification periods. Similarly, PA monthly reporting cases are assigned fewer short certification periods and more long ones than non-monthly reporting cases.

Although some monthly reporting cases appear to have longer certification periods than they would otherwise be assigned, the difference is generally small. Based on the survey responses, the mean certification period for all NPA monthly reporting cases is less than one month shorter than the mean for NPA cases not subject to monthly reporting. This understates the effect, because the types of cases assigned to monthly reporting -- i.e., cases expected to have relatively frequent changes -- would normally be given shorter certification periods than those not assigned to monthly reporting. Nonetheless, it appears that most States do not make dramatic alterations to their certification policy in response to monthly reporting.

How much of the eligibility workers' monthly reporting effort is offset by the increase in certification lengths is not clear, and probably differs from State to State. The net effect on eligibility worker time depends on how long the workers usually spend on a recertification, how long they spend on a monthly report, and how many months are added to the certification period for a monthly reporting case. Hamilton et al. (1989) find substantial variation in the amount of time eligibility workers spend on a recertification, with mean times ranging from 32 to 73 minutes across four States. Likewise, the Phase I POS survey respondents give widely varying estimates of eligibility worker time for a monthly report, and they indicate varying certification length policies.

Although longer certification periods generate some savings in eligibility worker time, the savings are probably much less than the time required for monthly reporting in most States. The average recertification time found in Hamilton et al. (1989) is 45 minutes. Thus, for a case whose recertification interval is six months, eliminating recertifications entirely would save an average of 7.5 minutes of worker time per month. But monthly

reporting is generally estimated to take the eligibility worker 15-20 minutes per case per month. In order to "break even," then, a State would have to apply monthly reporting only to cases which otherwise would have very short certification periods (say, two months) and then assign those cases very long periods (such as 12 months). Because most States seem to have made relatively small adjustments to their certification policy, it is unlikely that these changes offset much of the eligibility worker time required for monthly reporting.

### Research Needs

Existing research provides reasonably good baseline information on the amount of eligibility worker time devoted to monthly reporting. It also provides some limited information about three policies that might be expected to limit eligibility worker time: automation, making clerical staff responsible for some monthly reporting functions, and assigning longer certification periods to monthly reporting cases. The research indicates that each of these strategies has seen substantial use and provides suggestive evidence that each has some potential to reduce eligibility worker time.

As a support to decision-making, the existing research falls short in two key areas. First, it provides no solid estimates of how large a reduction in eligibility worker time can be achieved with each strategy, and no details on how best to achieve the reductions. This is particularly important for the automation and clerical substitution strategies, where it is unclear what automated features or what functional substitutions are most appropriate.

The second research gap is the complete absence of information about whether time-saving strategies can be implemented without sacrificing monthly reporting's ability to control errors. This information gap derives from the more general lack of conclusive evidence about the effect of monthly reporting on issuance errors, as discussed in the previous section. In implementing any research on monthly reporting's effects on errors, then, it would be desirable to consider the effects under a variety of time-reducing strategies.

## References

Hamilton, William L. (1987). Report on Census of State Operations: Monthly Reporting. Cambridge, MA: Abt Associates Inc. This is the Phase I State census for the monthly reporting topic area. It is based on telephone interviews with personnel in 53 State agencies.

Wood, Jean C. (1985). Summary of Final Results of the Illinois Monthly Reporting Food Stamp Demonstration. This report summarizes results of a demonstration carried out in Cook County, Illinois, in 1981-1982. The PA food stamp caseload of a large office (approximately 10,000 households) was randomly assigned among three groups: two types of monthly reporting and a non-monthly reporting group. Effects on payments and caseload, error rates, administrative costs, and recipients were presented in a series of analytic reports on which this summary report is based.

Mills, Gregory B. (1988). Reducing Food Stamp Overpayments: More Frequent Recertification and Monthly Reporting. This paper establishes a model of the dynamics of error creation and removal in the Food Stamp Program. It uses the Fiscal Year 1986 Integrated Quality Control System database, modified to impute a monthly reporting status to all cases. The rates at which new errors appear and old ones are removed are examined in recertification months and non-recertification months, for monthly reporting cases and non-monthly reporting cases.

Hamilton, William L., et al. (1989) Factors Effecting Food Stamp Certification Costs. (Draft.) Cambridge, MA: Abt Associates Inc. This report analyzes the costs of monthly reporting among other certification tasks. It is based on time studies and surveys conducted in four States, as well as automated case file data from the four States and the national Integrated Quality Control System database.

Hamilton, William L. (1985). Monthly Reporting in the AFDC Program: Executive Summary of Demonstration Results. Cambridge, MA: Abt Associates Inc. This report summarizes the evaluation of a series of AFDC demonstrations in Illinois, Massachusetts, and Michigan in 1980-82. (The food stamp demonstration described in Wood (1985) was carried out jointly with the AFDC demonstration reported here.) Effects on payments and caseload, error rates, administrative costs, and recipients were presented in a series of analytic reports on which this summary report is based.

## CHAPTER 5

### AUTOMATED CERTIFICATION SYSTEMS

Automated certification systems are computer systems that conduct certain parts of the certification process (particularly computations) and support program operations by storing, processing and outputting relevant data. The goals of such systems are to enhance the general efficiency of the certification process and reduce issuance errors.

Most automated certification systems in place today were constructed in the late 1970s and early 1980s (though a few predate these). To some extent, these systems are byproducts of the general upgrading and expansion of State computer systems. The technological explosion in the computing industry over the last decade has resulted in vastly improved and generally more cost-efficient hardware and software. Consequently, States have seen investments in increased computerization as a way of improving the long term efficiency of government operations by enhancing service delivery, reducing costs or both.

In terms of public assistance programs, the move toward increased automation of record keeping systems was further facilitated by actions of the Departments of Health and Human Services (HHS) and Agriculture. HHS encouraged States to design and implement sophisticated Financial Assistance Management Information Systems (FAMIS). If States developed an automated certification system that met FAMIS requirements, they could receive increased financial support. Under this arrangement, instead of the normal 50 percent reimbursement, 90 percent of the development and operations costs allocated to the AFDC and Medicaid programs would be reimbursed by HHS. Similarly, requirements were established for automated food stamp systems, with 75 percent of the development costs allocated to the Food Stamp Program reimbursed by FNS. Because the newer systems generally handle AFDC as well as food stamps, the two agencies' reimbursement policies combined to provide a powerful financial incentive to establish and expand automated certification systems.

Further impetus for automation came from the Food Security Act of 1985. This Act mandated the Secretary of Agriculture to evaluate the extent and sufficiency of States' automated certification systems and to develop a model plan for the comprehensive automation of food stamp functions. Related

to this latter provision of the Act, FNS identified 64 program functions that States had to describe in their State-level model plans and consider for automation in the future.

Thus, the prospect for the future is for more powerful and extensive automated certification systems, especially given the continuing increase in the technological capabilities of computer hardware. This means that food stamp managers are likely to be upgrading and expanding their automated certification systems constantly in the next few years. Given their limited resources, and the need to run their programs with maximum efficiency, they will confront a series of important choices on how to best configure these systems.

In this context, the six issues addressed in this chapter are:

- Should States create their own automated certification systems (ACSs), or is it better to use an existing system as a model? What challenges are encountered in adopting another State's system? Under what conditions is adopting another State's system desirable?
- Besides the 64 automated program functions described in the Model Plan document, are any other major features being used or considered by States? If so, in what situations are these features being developed and for what reasons?
- How can the efficiency of information input/output in ACSs be maximized, especially in terms of eligibility workers' interaction with the system?
- What kinds of data in case files can be maintained in electronic form only and what kinds of data need to be kept on paper?
- What are the perceived benefits of ACSs and how can we measure them?
- To what extent do a State's decisions about its automated certification system shape its strategy for computer matching, monthly reporting, and claims collection? What kind of linkages should an automated certification system have with these functions?

These questions are addressed in turn in the following sections. The research sources on which the issue discussions are based are listed at the end of the chapter.

Should States create their own automated certification systems (ACSs), or is it better to use an existing system as a model? What challenges are encountered in adopting another State's system? Under what conditions is adopting another State's system desirable?

Creating an automated certification system is a complex and expensive process. Because of this, it is possible that, for some States, transferring an existing system from another State could be substantially cheaper and quicker than developing one from scratch. On the other hand, adapting an existing system from another State runs the risk of being unsuited to the particular needs of the receiving State.

Since the current policy and technical environment encourages the development of ever more advanced automated systems, the question of adapting existing systems versus custom creation of new systems seems likely to recur frequently in the future. FSP managers confronting this question would benefit from having the following information.

First, an FSP manager should know the extent to which adapting existing systems has been tried and the extent to which systems have been adapted from scratch. Second, the manager should know, where existing systems have been adapted, how well the adaptation worked. Finally, the manager would like to have a sense of the comparative costs of the two options (i.e., adaptation versus new development).

#### Current Practices in Adapting Existing Systems

The POS Phase I State census (Hershey, 1987) contains some descriptive information on ACS development practices. According to the study, about one-quarter of the ACSs examined were adapted from other States' systems, making adaptation a fairly common, but by no means predominant, practice. No single State served as a model for many other States, with 10 different State systems serving as models for the 15 ACSs that were adapted from existing systems.

Of course, the relative frequency of adaptation may have changed since 1986, when the data was gathered for this report. For example, the Alaska system has now been adapted by at least six States. Extrapolating from data in the report, it appears that almost all the ACSs studied have undergone major enhancements since the time of data collection. While we do not know

the extent to which system adaptation was considered or used in the process of making these enhancements, it seems likely that these numbers may be outdated.

It should be noted that FNS in recent years has strongly encouraged the transfer or adaptation of systems rather than new development. States requesting approval of a major systems investment must include in their feasibility studies an examination of the potential for transferring or modifying a system existing in some other State or jurisdiction.

### Results of Adapting Existing Systems

Available information on the results of adapting existing systems is anecdotal and comes from a number of different sources, including USDA/FNS (1984), Puma (1988) and Hershey and Menne (1990). In addition, interviews with Hershey, who has special expertise in the ACS area, were conducted for this report.

Generally, the results of adapting existing systems appear to have

the site visits conducted, pronounces transferring existing systems "cheaper, quicker and safer than developing one in-house" and urges that such transfers be done whenever possible. Similarly, data gathered for the Puma study indicated usually favorable staff views where systems had been adapted from other States. For example, South Dakota had a very positive experience adapting Vermont's system, allowing them to avoid "reinventing the wheel", as staff put it.

A number of obstacles to successful adaptation of other States' systems can also be noted. First, where a State's system is very specifically tailored to certain features of that State (for example, a large complicated bureaucracy), it is very difficult to adapt that system to another State's needs. Second, where the new system must interface with other specialized systems within the State (e.g., child support), it is often very difficult to adapt another State's system to manage that interface. Finally, adapted systems typically require more computer capacity than systems developed from scratch, partly because these systems tend to be ambitious and include a large number of functions, and partly because a generalized system tends to use computer capacity less efficiently than a custom system. Thus States with limited computer capacities can encounter problems trying to put another State's system into place.

#### Costs of Adapting Existing Systems

A frequently cited motivation for adapting other State's systems is that it is cheaper. Thus, data on whether and to what extent this is true should be highly relevant to decisions on system adaptation. Unfortunately, available research provides only limited data on this issue.

Hershey and Menne (1990) examined the development costs of advanced automated certification systems in four States. Three were adapted systems and one was newly developed. Excluding equipment costs, development costs ranged from \$2.2 million to \$11.2 million (including costs for all programs, not just the FSP). The newly developed system was the second most costly, at \$10.4 million. Thus it is clear that an adapted system is not necessarily less expensive than a newly developed one. Nonetheless, the authors credit adaptation with holding down the price tag on the two less expensive systems.

Hershey and Menne also note that the most costly system, though adapted, required considerable development work. The more general point is that a continuum exists between transferring all elements of a system, from conceptual design to a software code, and developing all elements of a system from scratch. The extremes of the continuum are practically non-existent in practice. No new system is designed without at least considering how some of the existing ones operate, and no system is transferred without some modification. Although the Hershey and Menne study provides a good picture of these

issues in four States, the data and the situations studied are far too limited to serve as a basis for estimating the cost of future adaptation or new development efforts.

### Research Needs

Overall, existing research indicates that adaptation of existing systems is a fairly common but not predominant practice (though the frequency of adaptation may have increased in the recent past). Generally, adaptation appears to have been reasonably successful where tried, though most successful in small and medium-sized States with relatively uncomplicated bureaucracies and computer systems. Obstacles to successful adaptation include the need to interface with specialized systems in other programs and limited State computer capacity. Finally, adaptation seems generally but not always less costly than new development.

The most important problem with this research is a lack of clarity on what determines whether adapting an existing system will be cheaper than a new development effort. Therefore, the primary research need on this issue is to gather data that will allow the relative costs of adapting existing systems and creating new ones to be evaluated in varying situations..

It would be particularly useful to have some evaluation of the relative feasibility of adapting existing systems in large States. Information on this is sparse, partially because previously cited obstacles have inclined large States not to try this route.

Finally, ACS development is proceeding so rapidly in many States that available descriptive information is probably already outdated. Therefore, resources permitting, it would be desirable to have more current information on the origins and development of States' ACSs.

Besides the 64 automated program functions described in the Model Plan document, are there any other major features being used or considered by States? If so, in what situations are these features being developed and for what reasons?

The Model Plan document (USDA/FNS, 1988) specifies 64 program functions that should be considered for automation by States. Much attention will doubtless be focused on automating these program features in the near future. However, while these features cover the essentials of certification and issuance, it seems likely that the advances in computer systems in recent years have allowed still other functions to be automated. It also seems likely that further advances in automated systems will provide FSP managers with more opportunities to be innovative in their automation practices. Thus, as capabilities advance, FSP managers will need to make decisions about which aspects of their program, beyond the 64 essential program functions, will be most useful to automate.

A food stamp manager wishing to make an informed decision on this issue would benefit from the following information. To begin with, the manager should know the nature and extent of these innovative automation practices. In addition, the manager should know what led to the development of these innovations and under what circumstances such innovations are called for.

#### Current Innovative Automation Practices

Since the POS Phase I census on ACSs (Hershey, 1987) is limited to descriptive data on automated features included in the Model Plan list, there are essentially no quantitative data available on the extent of innovative automation practices. However, Hershey and Menne (1990) provides detailed information on the innovative features in four States with particularly advanced automated certification systems. The features, which they group in nine general functional areas, include:

##### Application registration

- Moving data from an individual or household's previous records into a new application record.
- Determination of eligibility for expedited service.

- Appointment scheduling for certification interviews, with narrative messages to certification workers.

#### Entering application data and determining eligibility

- Data entry screens using the same format as sections of the application form.
- Preliminary screen to determine which further screens will be needed.
- On-line calculator.
- Tracking of the completion of verification requirements.
- "Background processing" of non-urgent eligibility determinations.

#### Notices to households

- Eligibility workers may add custom messages to automatically generated notices.

#### Reports to eligibility staff

- On-line reports of cases requiring attention.
- Automatic switching from an on-line report to the appropriate application screen for the case referenced in the report.

#### Monthly reporting

- Screen allowing information about receipt of monthly reports to be entered for multiple cases.
- System determines from household data whether the household is subject to monthly reporting.

#### Computer matching

- On-line alerts of discrepancies include due dates which force earliest action on most important discrepancies.
- Worker response required for all discrepancies, including outcome of followup.
- Workers record time and other costs incurred in followup.
- Application data on earnings recorded by employer to facilitate followup.

### Issuance

- Bar-coded envelopes indicate appropriate coupon amount for automated stuffing.
- Screen for redirecting or reissuing benefits reported lost, stolen, or undelivered.
- System maintains history of household addresses.

### Program management and user convenience

- Electronic mail.
- On-line policy manual with indexed reference.
- On-line organization chart.
- Workload allocation monitoring.
- On-line case narratives.
- On-line system problem reporting and task management.

This list, though impressive, is probably not exhaustive because it comes from reviewing only four States' systems. Moreover, although the authors considered these features innovative, no quantitative data exist to indicate how many States' systems may have similar features.

### Development of Innovative Automation Practices

It is difficult to isolate the exact circumstances that led to development of these innovations in each State. However, two general themes seem to emerge.

First, where States have developed these innovative automated features, it was mostly on an ad hoc basis. The features tend to be developed over time in response to particular staff problems that had arisen in the State FSP.

Second, States with flexible, advanced automated systems seem to be more inclined to develop the kind of innovative automated features described here. For example, South Dakota often appears to be at the forefront of developing such features, and they have an exceptionally advanced and responsive system. Apparently, the impetus for developing these innovations stems,

at least partially, from having a system where adaptations to problems are relatively easy.

These themes suggest that developing new features may appropriately be done on an ad hoc basis, where problems susceptible to automation arise and system flexibility allows for easy adaptation. Beyond this, however, it is not clear how other relevant factors can be entered into consideration. For example, there are presumably some costs associated with developing these new features. Also, automation of a given function usually implies the need to feed more data into the system, a tradeoff which cannot always be assumed to favor the automation option. In both cases, we lack information that would allow us to evaluate these factors.

### Research Needs

Overall, existing research indicates that a number of automated features, beyond the 64 program functions specified in the Model Plan, are being used in State ACSs. At this point, we do not know the extent of use of any of these features, but we do know that at least some States are using them. Most of these new automated features are ad hoc responses to observed staff problems and were apparently facilitated by flexible, advanced computer systems. Where problems exist and capabilities permit, developing such innovative automated features would appear to be a good idea, though the costs and tradeoffs involved in developing these features are not clear.

The most serious weakness of the existing research is incomplete information on the nature and extent of these automated features. Therefore, the primary research need on this topic is for a systematic inventory of the innovative automated features currently being used or planned by States. This could be done through a telephone survey of State FSAs, combining a closed-ended checklist of known features with an open-ended section for States to add features. Because information about innovations is always quickly outdated, however, it might be more useful to set up an ongoing process where innovations could be quickly identified. This could be done through ongoing checks of State FSAs by FNS or through some mechanism where States periodically inform FNS of noteworthy innovations. Once innovations are identified, followup work could be done on the costs and benefits of these innovations.

**How can the efficiency of information input/output in ACSs be maximized, especially in terms of eligibility workers' interaction with the system?**

Technical advances in recent years have allowed more aspects of the certification process to be automated. This development has raised two issues in terms of efficiency. The first is how automation should be configured to make certification most efficient, especially in terms of the role of the eligibility worker (EW) in interfacing with the system. In other words, how can the system be designed to make workers as efficient as possible?

The other issue is raised by the necessity to get data into and out of the ACS, whatever the configuration of the system. The data input/output method has to include, among other things, an efficient deployment of staff time and resources to actually perform the data input (that is, how can the workers make the system as efficient as possible?). This frequently raises the question of whether cheaper or more expert labor should be used to enter information into the system (i.e., clerical versus eligibility workers).

Indications are that automation of program functions will continue rapidly in the future (see USDA/FNS, 1988 and previous section). Therefore, the question of how to most efficiently organize input/output of information in ACSs, both in terms of system configuration and deployment of workers, will be posed even more sharply for food stamp managers. While the issue of system design is quite difficult to evaluate given the nature of the problem and available data, the issue of staff deployment can be more directly addressed.

A food stamp manager attempting to resolve the staff deployment issue would want to have the following information. To begin with, the manager should know the ways in which information input/output is currently configured in ACSs. The manager should also know the relative efficiency of these different ways of organizing information input/output, especially in terms of the role of eligibility workers.

#### Information Input/Output in ACSs Today

The POS Phase I State census (Hershey, 1987) contains substantial descriptive data on the organization of information input/output in ACSs. Most pertinent to the question posed above are the following.

According to the study, 59 percent of ACSs have data entered from an input form prepared by the eligibility worker, after all manual computations are completed. Eighteen percent of ACSs have data input from a combination worksheet/input form, 14 percent from an application form with additional data entered on it by a worker and nine percent from an application completed by the applicant. Unfortunately, while these data tell us something about the EW's role in preparing the data for input, they do not tell us who actually keyed the data in.

Data from Hershey and Menne (1990) suggest that, at least in the more advanced systems, actual data entry is now commonly performed by EWs. All four of the states studied have EWs performing data entry, on-line and from their own terminals. Three of the four have interactive interviewing (i.e., where data are entered by the EW during the certification interview).

The output of information from the system to EWs is important as well. Particularly important are forms of output that alert workers to special problems or help them avoid errors in managing a particular case. These include flagging fields (disqualification, 83 percent of ACSs; work registration status, 73 percent; outstanding verification, 45 percent), checking for duplicate participation (71 percent); determining the correct reporting interval (48 percent); and tracking the receipt of recertification application forms (26 percent).

An important new development along these lines is the alert screen. These screens tell EWs directly, through their terminals, when there are problems with particular cases that they need to pay attention to. This avoids the problem of inundating EWs with paper alerts and notices that they may or may not pay attention to. Right now, unfortunately, we do not know the extent to which alert screens are used, since this was not covered in the State census.

### Relative Efficiency of Information Input/Output Methods

There are a number of different ways of organizing information input/output in ACSs. The critical question for managers is the relative efficiency of these different methods. It is here that data are most lacking, particularly data of a quantitative nature. However, available qualitative data (Puma, 1988; Hershey and Menne, 1990; conversations with Hershey), do allow some general themes about relative efficiency to be elaborated.

First, a critical factor in determining whether to use clerical or eligibility worker labor in data input is the wage differential between the two types of workers. The greater that differential, the more it tends to favor use of clerical labor to input data.

Second, the most tangible benefit of having an EW enter the data for a case is that it can help the EW learn about the case. To the extent this is believed to be true, and held to be beneficial to the certification process, it tends to favor the use of EWs to input data.

Third, the use of EWs to enter data is, to a large extent, dependent on the extent of terminal availability. In fact, EW entry of data is generally restricted to ACSs where all EWs have their own terminals. The level of terminal access, in turn, usually hinges on system strategy vis a vis the replacement of paper in case files, as well as the general level of computerization in the State.

Fourth, as automation opens up new ways for clients to interact with the system during the certification process, the role of the client in information input is likely to become increasingly important. Therefore, the question of efficiency may increasingly be related to ordering the interaction between client and system.

Finally, interactive interviewing is now a technical possibility in many States, and will become possible in many more in the next few years. Thus, the extent to which using the terminal during the interview is truly helpful needs to be explored. It should not be assumed that interactive interviewing is automatically most efficient because it is most "direct". Some anecdotes indicate situations in which interactive interviewing take much longer than traditional interviews, apparently because of slow system responses or insufficiently flexible user procedures.

All of these factors need to be taken into consideration when considering the question of relative efficiency. Looking at just one (e.g., wage differentials) will not provide a fair estimate of the tradeoffs involved.

## Research Needs

Overall, existing research indicates that EWs play a substantial role in preparing data for entry into the system and may increasingly be responsible for actually inputting the data, especially where they have their own terminals. In terms of output, most ACSs have ways of alerting EWs to special problems, though the extent of alert screen usage is unclear. A number of factors have been identified that influence the relative efficiency of different ways of configuring information input/output, though little data is available on any of these factors.

The most serious problem with existing research is a lack of data that would allow the different factors that determine relative efficiency to be evaluated. Thus, the primary research need on this question is to gather data on the different factors that influence the relative efficiency of information input/output, especially in terms of the role of eligibility workers. Clearly, the most accessible data concern the wage differentials between EWs and clerical workers and the extent of terminal availability. Beyond that, data on the amount of time required to input data under different arrangements (e.g., clerical entry, EW entry, interactive interviewing) would be critical. These data could be gathered through time studies, preferably in a single State, where methods of data input are varies across offices. Other data on system philosophy, usefulness to EWs of data input, client interaction, etc., could be gathered through staff interviews.

The other research need is for information on how systems are generally configured to utilize worker input/output. The configuration of the system sets the framework within which staff of different kinds can be deployed to get information into and out of the system. Thus, while information on the efficiency of staff deployment, assuming a given system configuration, is useful, it should be supplemented by information on how system configurations are set. This would probably entail some data collection on the development of one or several ACSs, trying to trace how the design of information input/output changed over time, and the extent to which these design changes affected the efficiency of EWs in conducting the certification process.

**What kinds of data in case files can be maintained in electronic form only and what kinds of data need to be kept on paper?**

In any system involving the processing of information, most information in the system is not actually in use at any given time. Instead, most information is in storage, subject to retrieval when needed. In the Food Stamp Program, the function of information storage has traditionally been served by the case folder, from which relevant items are extracted by the eligibility worker as the case develops.

As automated systems have continued to advance, the ability of these systems to store the data traditionally kept in case files has advanced as well. Storing data in automated form has a number of advantages. In terms of costs, automated data storage is relatively cheap and is likely to get cheaper in the future. In terms of retrieval, automated storage allows the eligibility worker to retrieve data without the time consuming process of searching for a folder and then searching through the paper within the folder for the appropriate document.

Because of these advantages, enormous amounts of case information are now being stored in most ACSs and there is talk in some quarters of a "paperless office". While the paperless office has not yet occurred in any FSA around the country, ACSs do seem likely to advance in the future to the point where virtually all the information in case folders could, at least technically, be replaced by automated data. FSP managers will therefore need to decide the extent to which they actually want to promote a paperless office, given the capabilities of their ACSs and the needs of their programs.

To decide on this issue, a food stamp manager would benefit from having the following information. First, the manager should know the extent to which case information is currently automated. Second, the manager should know the extent to which currently nonautomated data could be automated and the relative desirability of doing so.

#### **Data Currently Stored in ACSs**

The POS Phase I State census (Hershey, 1987) contains some useful data concerning case information that is currently stored in ACSs. These data include data elements used for budget computation/eligibility determination,

as well as historical data concerning the past circumstances of the case. In terms of data elements used for budget computation/eligibility determination, almost three-fifths of ACSs (59 percent) store gross earnings by individual within household and almost the same proportion (57 percent) store unearned income by individual. In terms of categories of unearned income, 48 percent of ACSs store this information by less than 10 categories, while 52 percent use over 10. Finally, 81 percent of ACSs store housing and utility information, at least under certain circumstances, while 48 percent store some resource information.

In terms of historical data on past case actions and previous household circumstances, over three-quarters of ACSs (78 percent) maintain such data, either directly accessible or in some machine-readable "archival" form. Of this group, 16 percent maintain unlimited historical records (i.e., the record is not truncated at any point in the past) that are directly accessible, while 18 percent have unlimited records in archival form.

This shows that many ACSs store large amounts of information, all of which could, presumably, replace information that has traditionally been stored in case folders (though there is obviously a lot of variability). Unfortunately, these data do not tell us whether the automated data have actually replaced the hard copy records. (It is worth noting that, whether the hard copy records have actually been replaced or not, it may still have been cost-effective to automate the information concerned.) Moreover, there are a number of other types of information typically stored in case folders, particularly items related to verification, that the study provides no information on. Therefore, we do not know the extent to which this case information is currently stored in automated form.

#### Replacing Case File Data with Automated Data

There is little empirical basis for judging the extent to which currently nonautomated data could be automated. The POS Census does not touch on this topic. Anecdotal information from Puma (1988) and conversations with Hershey do, however, provide some guidelines for this question.

In a strictly technical sense, virtually everything in a case file could eventually be automated. It is possible, however, that there will always be some aspects of case files that must be kept on paper for legal

reasons (signatures, etc.) and that therefore cannot be automated. For example, even if it was possible to store a facsimile of a given signature, it might lose its legal status by not being on the actual paper that was signed (or stamped, etc.). Of course, legal requirements may change as well. Banks now accept a customer's entry of an identification number as a signature for a transaction at an automated teller machine, and the FSP is doing so in electronic benefit transfer demonstration projects.

While it may be possible to automate nearly everything, the question then has to be asked: is this desirable? The answer to this question is different depending on which of two types of information one is talking about. First, there is a substantial amount of case information that most likely should be stored in automated form and, if possible, nowhere else. This includes case history and transactional information.

The other type of information could be stored in automated form or on paper, but does not have a particular reason to be on either one. This includes official records on case actions, detailed information on the client, case narratives, etc. Here the decision to automate depends greatly on whether some concrete benefit will be attained by storing the information in automated form. For example, will eligibility workers have speedy and reliable access to a given type of information, when this was not previously possible? Presumably, a decision to automate should be driven by a positive judgement along these lines.

Other relevant considerations include the extent to which privacy/security of data is a concern and the perceived desirability of having hard copy backups for automated data. These factors would appear to be dependent on the philosophy of the manager, rather than any strict consideration of benefits and costs.

### Research Needs

Overall, existing research shows that large amounts of data that could replace information in case folders is currently stored in most ACSs. However, the extent to which this automated data has actually replaced information in case folders is not clear. In terms of the possibilities for replacing case folder information, these would appear to be limited mostly by

factors affecting the desirability of automation would appear to be the concrete benefits of such automation, as well as managerial philosophy about privacy/security and the need for hard copy backups.

This summarizes existing research relevant to replacing case folder information with automated data. The most immediate weakness of the research is a lack of data on the extent to which case folder information actually is being replaced with automated data.

Therefore, the primary research need is for a careful examination of how automated data is actually replacing case folder data in local agencies. This could be done by visiting several agencies in a single State (probably one with an advanced system) and checking case folder contents against system data. Besides checking for duplication of automated data in case files, non-duplicated information in these files could be examined to check its feasibility for automation. This would provide a good opportunity to explore the legal, functional and cost considerations that enter into the decision to automate.

## **What are the perceived benefits of ACSs and how can we measure them?**

On the one hand, automation is widely viewed as beneficial and ACSs play a larger role in program management every year. On the other, the specific benefits of automation are not always completely clear and ACSs are very expensive to put into place and maintain.

This presents federal managers with the challenge of funding ACSs that provide States with tangible benefits, while avoiding unnecessary and wasteful expenditures. State managers, for their part, also have an interest in seeing that allocated funds provide them with an ACS that truly benefits their program. This suggests that the question of automation benefits is a central one for FSP managers on all levels, especially in a situation of fiscal constraints.

An FSP manager trying to resolve this issue should have the following information. First, the manager would like to know the kinds of benefits States have derived from ACSs. Second, the manager should know whether and to what extent it was possible to measure these benefits.

### **Benefits of Automation**

The POS Phase I State census (Hershey, 1987) does not provide us with any useful information on automation benefits, either quantitative or qualitative. The lack of quantitative data is not surprising, since the benefits of ACSs are not, by and large, susceptible to quantification. There are simply too many contributing variables to be able to safely ascribe changes in the effectiveness of an FSP to automation, rather than other structural or environmental changes.

Qualitative data, on the other hand, do not have this difficulty and are available from other sources (USDA/FNS, 1984; Hershey and Menne, 1990; conversations with Hershey). These data concern the perceptions of ACS benefits among program staff. These perceptions would be critical even if quantitative benefits were easily measured, since the attitudes of staff have a great deal to do with how well a system runs and the usefulness it has for a program. In the absence of quantifiable data, these perceptual data are even more critical, since they also become proxies for unknown and unmeasurable "real world" effects.

In the 1984 USDA/FNS study, State staff were asked what they believed the primary advantages of automation to be. The following automation benefits were most commonly identified: it forces structured procedures; provides uniform policy application; handles mass changes without disruption; allows for central issuance; makes case maintenance easier; makes matching possible; forces well-defined policy; allows redirection of some staff; and provides more central State control over local offices.

Hershey and Menne (1990) interviewed State and local food stamp staff at several levels to obtain their perceptions of the effects of the advanced automated certification systems. Most of the themes that emerged are similar to those cited above. Respondents mentioned: increased eligibility worker productivity; assistance in structuring the worker's job and focusing attention on high-priority issues; assistance to supervisors in organizing their work and identifying problems; increased accuracy in eligibility and benefit determination; and consistency and accuracy in the application of policy.

#### Measuring Automation Benefits

As the above discussion suggests, the most easily measurable benefits of ACSs are perceived benefits which can be measured through conventional survey research and interview techniques. Research of this nature can provide a fairly detailed picture of the variation and intensity of these perceived benefits across States.

Directly measuring the reality of these benefits, as opposed to the perceptions, is much more difficult. The most ambitious attempt to date is reported in GAO (1990). The GAO attempted in four locations to use multi-variate analysis to estimate several effects of automated systems. Outcome measures were: error rates, staffing levels, claims established, claims collected, worker time spent on food stamp cases, and timeliness of case actions.

Although the GAO methodology could be criticized on a number of grounds, the study leaves two points quite clear. First, automation may not always have the benefits that staff expect or even perceive. Second, estimating quantitative effects of automation in any convincing way is extremely difficult.

## Research Needs

Overall, existing research provides little credible quantitative data on the benefits of ACSs, though some what more qualitative data are available. The qualitative data concern the perceived benefits of ACSs, of which the most important appear to be increased reliability of program operations, saving staff time and reduction in errors. While perceptions of benefits can be measured through survey research, measuring these benefits directly is very difficult, with the possible exception of increased reliability of program operations.

Further research could move usefully in two directions. First, data on perceived ACS benefits could be gathered more broadly and systematically. The Hershey and Menne work provides a good starting point by identifying the terms in which staff tend to view system benefits. The next step would be a more structured survey effort, covering respondents in a substantial number of States, to seek the areas of concensus and controversy in staff assessments of automated systems.

The second important research direction will be to use some intermediate or proxy empirical measures to determine the extent to which the perceived benefits are, in fact, occurring. Although the GAO effort illustrates the problems of using broad program outcome measures, some of the specific benefits that are claimed for the ACS can be examined by looking at more discrete measures. For example, rather than analyzing the overall error rate, the analysis could focus on calculation errors or certain types of policy errors that systems are designed to prevent. The key areas for such research would be staff productivity (including eligibility workers, clerks, and supervisors) and error rates.

To what extent do a State's decisions about its automated certification system shape its strategy for computer matching, monthly reporting, and claims collection? What kind of linkages should an automated certification system have with these functions?

Automated certification systems were initially developed to support the central administrative functions of determining eligibility and issuing food stamp benefits. All systems store information on households' identity, address, and eligibility and benefit levels, and they make information available for issuing benefits each month. As the systems have become more sophisticated, they have provided more intensive support to the certification function. They issue notices to recipients, they perform the calculation of benefits and the determination of eligibility and, in the current generation, the ACS provides the structure and prompting to guide the eligibility worker through the certification interview.

While the ACS has provided increasingly sophisticated support to the certification function, other functions have also been automated. These include in particular the functions discussed in previous chapters of this report: computer matching, claims collection, and monthly reporting. As automated systems were developed to support these activities, some were developed independently of the state's ACS, some were linked to the extent of allowing data exchanges between the systems, and some were built as fully integrated modules within the ACS. The more recently designed ACSs have tended to integrate these ancillary functions more fully. The Model Plan (USDA/FNS, 1988) refers to both computer matching and claims collection in the list of features desired in State systems, although the requirements are stated in very general terms.

FSP managers considering investments in automated certification systems would benefit from having two kinds of information. The first is information about the nature of possible linkages and between ACS design and operations of the computer matching, claims collection, and monthly reporting functions. Second, managers would like to have information on the benefits and costs of alternative approaches.

## Linkages between the ACS and Other Operations

It is useful to begin by considering the logical relationships between the core functions of an automated certification system and the actions required for the three operations areas. These include the following:

### Computer Matching

- Computer matches for ongoing cases need Social Security Numbers (and possibly other identifiers) from the ACS. Matches for applicants may also use identifying information from the ACS.
- Computer matching normally includes a determination of whether the client receives assistance from other State programs, information which may be maintained within the ACS.

### Claims Collection

- The worker may need information from the ACS in establishing the claim amount.
- Any recoupment amount must be used to adjust the benefit amount in the ACS.

### Monthly Reporting

- Data from the ACS may be printed on the monthly report mailed to the recipient.
- Any new data that a returned monthly report provides about client circumstances must update the information on the ACS.
- If a client fails to file the monthly report and becomes ineligible, this new status must be entered on the ACS.

Beyond these logically necessary linkages, many others are possible. For example, discrepancies identified through computer matching must be communicated to eligibility workers. If the ACS already has standard means for providing action lists to the workers, computer match results might be communicated through this same medium. At the extreme, all automated functions for computer matching, claims collection, and monthly reporting could be incorporated within the general framework of the ACS.

More subtle linkages may also exist. For example, a State's general approach to issues of automation may be reflected in both its ACS and its computer matching system, even if the two systems are only minimally linked in the technical sense. A State which aggressively seeks sophisticated systems might have latest-generation versions of the ACS and the claims collection system without including claims collection as a module of the ACS.

No comprehensive information exists on States' strategies for linking computer matching, claims collection, and monthly reporting to their ACS. However, Hershey and Menne (1990) provide a fairly detailed look at these issues within four States that had recently installed relatively sophisticated automated certification systems. Among their findings:

- The computer matching system in all four States is largely or fully integrated into the ACS. Workers initiated matches or matches are automatically initiated within the ACS. Workers receive information on discrepancies in alert messages on their terminals or in hard-copy printouts. Two of the four systems track the resolution of discrepancies.
- Claims collection systems are integrated into the ACS of two of the four States, while the other two have interfaces with independent claims systems. The integrated systems perform claims calculation, automatic recoupment, and collections tracking functions.
- Monthly reporting systems are fully integrated in all four automated certification systems. All systems generate the reporting forms and other notices, monitor receipt of forms, and terminate eligibility for households that fail to file.

The POS Phase I census provides some opportunity to consider the broader, less formal linkages between characteristics of the ACS and of State strategies for computer matching, claims collection and monthly reporting. To examine this issue, we selected key measures of the extent of automation and related operational strategies for each topic area. Bivariate correlations were used to test for possible linkage patterns across areas.

The analysis revealed some suggestive patterns but no clear-cut linkages. In summary, we found that:

- No clear relationship appeared between the character of States' automated certification systems and the intensity or form of their computer matching or the extent of automation of claims collection.
- States with more highly automated monthly reporting systems tended to be among those considered to have more sophisticated automated certification systems.
- States with more highly automated claims collection systems tended to have more highly automated monthly reporting systems and more intense computer matching strategies.

It is important to note that the Phase I census was not designed to learn about linkages across operating areas, so it is quite likely that this limited analysis does not tell the whole story. Nonetheless, the analysis makes it clear that system developments in these four areas of food stamp operations do not move in lockstep. Although the data suggests that a highly automated approach in one area tends to be associated with higher automation elsewhere, counter-examples are also evident. For instance, some of the States with the least sophisticated automated certification systems reported having fully automated their monthly reporting process.

#### Costs and Benefits

One might expect that integrating diverse automated functions under the unifying rubric of the ACS would be more cost efficient than developing separate systems. A plausible counter-theory, however, is that greater efficiency would come from integrating only the essential interfaces and otherwise developing each system in response to its own needs.

The existing literature offers almost no information on the costs of having (or not having) linkages of various types between the ACS and the systems and strategies used for computer matching, claims collection, and monthly reporting. Hershey and Menne (1990) find the four systems they examined to vary substantially in development cost. They discuss several potential sources of the cost differences, but the strategy for linking the ACS to the other functional areas is not among the factors discussed. They point out, as does GAO (1990), that it is very difficult even to get accurate measures of the overall cost of system development, let alone to determine the cost of particular features or strategies.

Development cost is not the only dimension on which linkage strategies should be assessed. One would like answers to questions such as: how quickly and easily can the system be adapted to new policies or procedures? do independent systems cause difficulty for workers who must learn both and integrate their use of the systems in performing their jobs? do integrated systems create friction as workers with different specialties compete for the use of the same equipment? do the benefits of the different strategies vary depending on how worker responsibilities are organized in the local office? can integrated systems produce more useful management reports by combining and prioritizing the task requirements of separate operating areas?

The existing literature offers no direct answers to these questions and does not even provide many indirect clues. Hershey and Menne (1990) note that, because the systems they studied integrate food stamps and other public assistance programs, the systems tend to lead to the use of generic rather than specialized workers. By extension, one might suspect that integrating functions such as claims collection within the ACS might lead to reduced worker specialization in handling claims. Existing research provides only weak grounds for such speculation, however.

### Research Needs

Existing work provides some information on the types of connections that may exist between the ACS and the systems and procedures used in computer matching, claims collection, and monthly reporting. Logically, some linkages are required between the ACS and each of the other areas. But the essential linkages are few, and even an aggressive approach to automating each of the areas can be carried out by developing separate, interfaced systems rather than by integrating all functions within the ACS. Currently, it appears that States that pursue automation aggressively in one area are likely to do so in other areas as well, but the POS census suggests that many States do not automate all areas at the same pace. The literature provides no guidance as to the cost efficiency or other benefits of the alternative strategies.

The first objective of future research on this topic should be to develop a detailed understanding of the possible linkages and the necessary ones. Such a review should cover not only the hardware and software linkages, but utilization procedures at the local office level. A case study approach

similar to that used by Hershey and Menne would be appropriate. It could perhaps be supplemented by a survey of a larger number of States to learn the frequency with which the various existing strategies are used.

Once this first step is accomplished, it is clearly desirable to obtain more information on the specific costs and benefits of the alternative strategies. Until the alternatives themselves are better defined, however, it is not feasible to specify an approach to measuring their costs and benefits.

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## CHAPTER 6

### QUALITY CONTROL

Eligibility and benefit levels for those households applying to the Food Stamp Program are determined in local offices maintained by State and county welfare departments. These local offices operate under FNS regulations which carefully specify the criteria for eligibility and the ways in which earned and unearned income, household expenses, etc. should affect benefit determination.

To ensure that the proper decisions are made about eligibility and benefit levels, FNS and the States operate a Quality Control (QC) system. This QC system monitors the benefits delivered in each State each year based on a monthly sample of cases. Each case in the sample is reviewed to see if the household concerned was truly eligible for benefits in the selected month and, if eligible, whether they received the proper amount<sup>1</sup>. Based on these reviews, error rates of various kinds are computed for the States. The most important of these is the "payment error rate", which estimates the percentage of food stamp benefits that were delivered to ineligible households or paid to eligible households incorrectly (i.e., either too much or too little was paid).

The QC system as it exists today has evolved extensively over the last two decades. The genesis of the system may be traced to the November, 1971 QC regulations which set up a system for sampling households and constructing error rates--in this case, "eligibility" error rates and "basis of issuance" error rates (the latter including both underissuances and overissuances). The Food Stamp Act amendments of 1977 then set legislative requirements for a QC system, and 1980 legislation provides for administrative funding increases for States that exhibited relatively low error rates, as well as specifying corrective action plans for those States whose error rates were above a certain threshold. The increased importance put on error rates by this legislation resulted in redesign of the QC system to improve measurement of these rates--chiefly through improved sampling methodology and larger samples.

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<sup>1</sup>The QC system also includes a component which examines the correctness of denied applications and terminations. This "negative action" system is not considered here.

Persistently high error rates in the FSP led to the Food Stamp Amendments of 1980 and 1982. The first Amendment introduced financial liabilities for States that did not meet certain standards in terms of their error rate performance. The second made a number of other changes in the structure of the QC system, including the elimination of underissuances from payment error rates and using administrative costs to assess financial liabilities. Subsequent legislative changes have largely been variations on the themes established by 1982.

Throughout this evolutionary process, the QC system has been seen as having dual purposes: measuring the accuracy of States' issuances, and providing a source of management information that would help States make accurate issuances. As the legislative history indicates, however, more explicit attention has been paid to error measurement than to the management information objective.

The QC system is implemented through a two-tiered administrative structure. Each State is responsible for drawing a random sample of cases, reviewing the cases for accuracy, and reporting the review results to FNS. FNS, through its regional offices, then re-reviews a subsample of the cases the each State reviewed. The results of the federal re-review are used to compute the State's official error rate, which is an adjusted version of the error rate found by the State's own reviews.

Having the States carry out the bulk of the QC effort is not just a matter of administrative convenience, but allows States to tailor the QC system in response to their management needs. FNS sets minimum requirements for the sample size and for the review procedures. States are free to supplement the process by collecting additional information in the reviews or by expanding the sample.

Out of this general operational framework arise two key questions that are addressed in this chapter:

- What kind of a QC system would provide the most assistance to States in fulfilling their management purposes? and,
- Should QC procedures be controlled to eliminate artificial effects on error rates?

These questions are discussed in turn in the following two sections. The sources upon which these discussions are based are listed at the end of the chapter.

What kind of a QC system would provide the most assistance to States in fulfilling their management purposes?

The QC system can be conceptualized as having two broad purposes. The first is the generation of data on the basis of which State agencies with excessive levels of erroneous payments can be identified and motivated to correct the situation. The second broad purpose is providing information to help State agencies improve the quality of their administration. For this purpose, the QC system is conceptualized as a management information system (MIS) of assistance to State managers in achieving the goal of accurate eligibility determination and benefit issuance.

It is fair to say that the origin and evolution of the QC system has centered more around the first purpose than the second. However, both FNS and the States have become more concerned in recent years with the utility of the QC system as an MIS. Error rates may, by themselves, be a good indicator of

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the need for better program administration, but they do not tell one how that better administration can be attained. This is where the MIS functions of the QC system would come into play.

The key question, then, is what kind of QC system would provide the most assistance in this regard. In considering this issue, a manager would like to have the following information. First, the manager should know what sorts of MIS functions the QC system is currently being used for. Second, the manager should know which features an MIS system should ideally have in order to effectively facilitate accurate eligibility determination and issuance, and the extent to which the current QC system could serve these purposes. Finally, it would be desirable to have a sense of the costs and benefits associated with different MIS features, so that the tradeoffs involved in configuring a real-world system could be assessed. Existing research on these questions is summarized below.

#### Current MIS Uses of the QC System

The POS Phase I census of quality control operations (Puma and

proportion conduct additional reviews above the mandated QC sample (some States conduct these reviews using basic QC review procedures, while others use different types of reviews). Thus, many States take advantage of the basic sampling and review process to derive additional information for their own management purposes.

The supplementary data that is gathered is typically demographic in nature, providing information on additional characteristics not covered by QC requirements. Additional reviews, on the other hand, are generally for the purpose of increasing the precision of estimates, particularly for sub-State units.

States also conduct analyses with QC data that support management functions. The most common type of analysis performed with QC data is the identification of error-prone households (71 percent of States do this routinely, the rest occasionally). Other common analytical uses are: identifying error-prone offices; preparing descriptive statistics on the food stamp caseload; making caseload projections; and evaluating potential changes in policy. Overall, the number of analyses conducted with QC data by States varies from one or none (15 percent) to four or more (23 percent), with a mean of 2.7.

### Desirable Features of an MIS

The features of an ideal MIS and the extent to which the existing QC system serves these purposes were analyzed by Werner (1987) and Affholter and Kramer (1987). Werner limits the concept of the QC-MIS to a system that would help make accurate issuances. He argues that the ideal MIS would include the following functions: (1) measuring progress towards error-rate targets; (2) analyzing performance at lower (sub-State) administrative levels; and (3) helping managers identify ways to improve performance.

Affholter and Kramer take a broader view of the QC MIS, but are somewhat vaguer on the specific features that would be desired. Their general viewpoint is that an MIS serving States' management purposes should encompass the following: (1) a system for ensuring statistical process control on an unrestricted range of program quality measures; (2) a system for making improvements in process design, based on whatever problems are uncovered through routine monitoring and special studies; and (3) a system for making

improvements in overall program design based on the findings from both routine and special measurement efforts.

Werner assessed the adequacy of the current QC system in light of each of the three features he specified. In terms of measuring progress toward error-rate targets, he believes that while few States could produce meaningful monthly estimates, almost three-quarters have large enough samples to make reasonable statewide estimates of error rates on a quarterly basis.

The situation is bleaker with respect to provision of error-rate estimates for sub-State administrative units. Current sample sizes are simply not large enough to provide reasonably precise office-level estimates in any but a handful of offices across the nation.

In terms of helping identify ways to improve performance, Werner believes the current QC system is adequate in two respects--identifying the types of errors most commonly committed and the households most susceptible to errors. However, he believes there are not sufficient data currently collected to identify either the types of household actions and agency procedures likely to cause error or the types of procedures that could help prevent error.

Affholter and Kramer have a generally negative assessment of the adequacy of the QC system as an MIS for State managers. This stems from their broad perspective on the desirable roles of the QC system. They see the current system as going little beyond the traditional audit function of ensuring accountability for program accuracy. Because of this, they believe the current QC system does not really allow State managers to make progress toward continued quality improvement and the achievement of program efficiency objectives.

Based on this analysis, they believe the QC system needs to be substantially restructured. They advocate the following: (1) the federal sampling and measurement activities for monitoring issuance accuracy should be made independent of measurement/sampling activities designed to assist State managers; (2) measures of quality should not be limited to payment accuracy, but should go beyond this to include measures relating to broad program objectives; and (3) the federal government should provide substantial support, both financial and technical, to States in their efforts to develop a QC system that can serve State management purposes.

Clearly, these assessments, while they may overlap in some respects, have quite different thrusts. The thrust of the Werner analysis is that the current QC system provides the foundation for a reasonably good, accuracy-oriented MIS for State managers, especially if problems concerning small sample size and lack of data on administrative procedures can be addressed. In contrast, the thrust of the Affholter and Kramer analysis is that current QC system does not provide a good basis for serving State management purposes, and consequently must be fundamentally restructured.

### Benefits and Costs of MIS Features

Little hard information is available on the benefits and costs of different MIS features that might be of assistance to State managers. In terms of benefits, it is possible that an effective MIS could save the federal program a substantial amount in overissuances by enabling State managers to hold error rates below federal thresholds, as well as saving State programs the associated financial liabilities. Beyond this, it is hard to specify the benefits that would flow from an MIS serving State management purposes. Gains in efficiency, effectiveness and program quality could occur, but whether and how to quantify these gains has not been addressed in the literature.

As for costs, the only data available are those contained in the Puma and Hojnacki study (1987). These State-by-State data are limited to general aspects of the QC program (division between personnel and non-personnel costs, cost per review, etc.) and do not address the costs of the individual MIS features described above. To the extent they would be useful in this context, it would only be a "ball park" estimation of costs associated with expanding sample size (even here, one would have to assume that costs per review in a given State or group of States remained constant as the sample size increased). Other aspects of a State MIS would be less tractable.

### Research Needs

Overall, existing data indicate that the QC system is currently being used by many States to serve management purposes and that use of the system for these purposes could be substantially expanded. However, compared to the features an MIS should ideally have to assist State managers, the current system has important limitations. The extent and seriousness of these

limitations is a matter of some dispute, leading to disagreements on whether adaptation of the existing structure or fundamental restructuring is required to produce an MIS well-suited to State management purposes. The benefits and costs of either course of action can only be crudely and incompletely estimated at the present time.

This summarizes the state of existing research about, or related to, the kind of QC system most useful to States in fulfilling their management purposes. The most important limitation of this research is a lack of clarity on whether the existing QC system provides an appropriate basis for serving States' management purposes. Depending on how these purposes are defined, this question can be answered positively (with qualifications) or negatively.

Therefore, the primary research need on this issue is to define more precisely the State management purposes that might or should be served by a QC system. To take this question beyond the realm of differing opinions, where it is now, it would be desirable to study directly the management needs of specific States and, on this basis, isolate the ones most appropriate and important for a QC system to address.

The question of the costs and benefits of configuring an MIS-oriented QC system is logically subsidiary to defining the features such a system should have. Thus, no further research on this question should be done until the primary research need is addressed.

**Should QC procedures be controlled to eliminate artificial effects on error rates?**

Because QC error rates are used to assess fiscal liabilities against States, they must be measured both precisely and comparably. Measurement precision has been the objective of many refinements of the overall QC system design, and is not discussed here. We focus instead on the comparability of error rate measures across States.

Two general concerns have been raised about comparability. The first is that measured payment error rates may reflect differences in "uncontrollable" factors across States. The argument here is that such factors as caseload characteristics and socioeconomic conditions, which are presumably outside the control of local and State food stamp managers, contribute to the relative difficulty of correctly certifying households and, therefore, to error rates. Thus, States have argued that, unless payment error rates are adjusted to reflect such factors, States are being unfairly penalized for having difficult caseloads and/or operating conditions.

This substantive validity of this argument was investigated in detail in the statistical study by Puma and Hoaglin (1987). Briefly put, they found that, indeed, differences in caseload characteristics and socioeconomic conditions could account for some of the variation in State payment error rates. They also found that adjustment procedures designed to take this into account did not produce stable, easily interpretable results when applied to existing State error rates. On this basis, they questioned the utility of adjusting error rates to reflect differences in uncontrollable factors.

The second broad concern about comparability is that differences in States' QC procedures may cause their error rates to vary. For example, some States have argued that they have high error rates because they carry out unusually thorough reviews--i.e., they look harder, so they find more.

The federal re-review component of the QC system is designed to control just such problems. In principle, the official error rate resulting from the re-review should eliminate any variation in error rates stemming from different State practices. The argument has persisted, however, with some States arguing that a more thorough State review is not only more likely to find an error, but also more likely to make it possible for the federal re-

reviewer to find an error. An analysis by Hoaglin (1987) shows that States do not necessarily benefit from overlooking errors, but does not deal with the possibility that finding errors may actually assist the federal re-reviewer.

The policy question, then, is whether the existing QC system contains sufficient controls to ensure comparability of the measured error rates, or whether additional or alternative controls should be sought. To address this question, the food stamp manager would first need to know whether States' QC procedures vary in ways that might hypothetically cause variations in error rates. If so, the next important step is to determine whether the procedural differences actually do cause differences in error rates that are not eliminated by the federal re-review. Finally, the manager should know what alternative control procedures exist and the costs of using them.

### Procedural Differences in Quality Control

The POS Phase I census of State quality control operations (Puma and Hojnacki, 1987) provides useful information on procedural differences among States in conducting quality control. In particular, it contains several bits of information about the resources States invest in the QC process.

States report spending widely varying amounts of time to conduct a QC review. States' estimates for cases of medium difficulty range from a low of 4.25 hours (averaging PA and NPA estimates) to a high of 19 hours. Across States, the average is about 12 hours.

Not only the amount of time for reviews varies across States. The number of reviews conducted per full-time equivalent (FTE) reviewer also varies. Reviews per FTE range from 40 and under (8 percent of States) to over 200 per FTE (6 percent), with an overall average of about 113 per FTE.

A number of other aspects of QC procedures exhibit substantial variation including: the typical education level of QC reviewers (high school graduate in 14 percent of States, some college in 35 percent of States and college graduate in just over half of the States); integrated versus non-integrated reviews (55 percent integrated); and the numbers of analyses conducted with QC data (15 percent conduct one analysis or none, 23 percent conduct four or more). All of these figures make clear that, in fact, there is substantial variation in the procedures States use to conduct QC.

## Effect of Procedural Differences on Error Rates

The existence of procedural variation among States does not, of course, show that there is a relationship between QC procedures and error rates. It only provides a basis upon which that relationship could exist. Unfortunately, the Puma and Hojnacki study does not go beyond the descriptive information on procedural variation to address the question of the relationship between error rates and procedures.

Existing research, in fact, has little to say about this question. The only existing analysis is contained in FNS/OAE's 1987 study in a section titled, "Does Greater State 'QC effort' Lead to Higher Error Rates?". The analysis looks at the relationship between State reported error rates and two measures of the level of QC effort expended by States: State cost per QC review and reviews conducted per FTE.

The relationships reported are weak. There is a correlation of only .16 between State-reported error rates and State QC review costs and -.25 between State-reported error rates and reviews completed per FTE. These results are, however, open to criticism on several counts. First, only two factors were looked at and it is hard to believe that this exhausts the list of possibilities. Second, these two factors may be poor measures of effort invested in QC reviews, because they could be driven by variations in wage rates (for cost factor) or amount of reviewer time devoted to non-review activities. Finally, only correlations with State-reported error rates were reported, while the key question is the relationship to the federal, official error rates (though, admittedly, it seems reasonable to assume that, if State-reported error rates are little affected, the same will be true--or even more so--of federal error rates).

Additional analysis was therefore conducted for this report, attempting to widen the list of possibilities considered. For example, it seemed important to look at not just the number of reviews conducted per FTE, but also the amount of time it took to conduct these reviews. In fact, the amount of time per review seems more directly salient to the question of error detection. Similarly, it seemed important to look at the educational level of reviewers, on the theory that more educated workers might do a better job of detecting errors. Also, it was thought that the integrated versus noninte-

grated status of the review might impact on the probability of detecting errors for the food stamp case.

The relationships between these procedural factors and error rates, both State-reported and regressed, were examined in a series of multivariate regressions. The regression for State-reported error rates does show that one QC procedure has an effect on these error rates. This is the average amount of time spent per QC review, which, according to the regression models, adds about .35 percentage points to the error rate for every additional hour spent per QC review (significance level varies between the .05 and .1 level, depending on what other variables are in the model; the parameter estimate itself, though, is quite stable).

However, when regressed error rates are analyzed using the same basic model, the relationship does not hold up. The time spent per review has only a very small and statistically insignificant effect, even in the bivariate model. Thus, according to these models, the federal re-review does its job of adjusting for artificial effects on error rates that arise from procedural differences across States.

In sum, these results suggest that, contrary to the FNS/OAE study, it is possible for QC procedural differences to affect State-reported error rates. However, the results are consistent with the overall conclusion that procedural differences do not affect the final, regressed error rate.

#### Costs of Controlling QC Procedures

There is no direct information available on the costs of controlling QC procedures, since such an approach has never been attempted. In addition, generating indirect estimates of these costs is very difficult, given the limitations of available data. For example, if QC review times were controlled, all that could reasonably be said is that States with relatively long QC review times would tend to save some money on labor, while States with relatively short review times would tend to spend more money on labor. Beyond this, nothing is clear, since the costs of monitoring reviews to make sure they take an allotted amount of time is not easily estimable.

In any event, the key cost associated with controlling QC procedures is likely to be the constraints on State managers' freedom of action. To the

extent the QC system is viewed as a management information system (MIS) of use to local and State managers, this would create problems in adapting the QC system to meet local/State MIS needs (see the preceding section for a discussion of the QC system as an MIS). Clearly, this is not a cost susceptible to easy quantification. Nevertheless, it is one that must be evaluated carefully in any decision concerning the control of QC procedures.

### Research Needs

Overall, existing data indicate that QC procedures show some potentially important variations across States. Analysis of these data shows that variation in these procedures (in this case, time spent per QC review) can affect State-reported error rate estimates. However, the analysis does not show any significant relationships between variation in these procedures and the official, regressed error rate estimates, indicating that the effects of procedural differences are corrected by federal re-reviews. In terms of the costs of controlling QC procedures, there is essentially no data available.

This summarizes the state of existing research relevant to the question of controlling QC procedures. The most important limitation of this research is a lack of definitive information on whether the effects of QC procedures on error rates are truly confined to effects on State-reported error rates. The existing evidence, though it suggests this is so, is based solely on exploratory analysis of data from the POS census--data not well-suited, and not intended to be well-suited, to measuring the effect of QC procedures on error rates. Given the importance of this issue, it is highly desirable that the issue be clearly and finally settled on the basis of adequate data.

Thus, the primary research need on this issue is to carefully examine State variation in QC procedures and arrive at solid, quantitative estimates of their effects on error rates, both State-reported and regressed. Existing databases would not appear to be adequate to this task, so answering this question empirically would entail doing some data collection specifically designed to measure the effect of QC procedures on error rates. Of particular interest are management or review procedures related to the average reviewer time per review.

It would also be useful to have some estimates of the costs of controlling different aspects of QC procedures. At this point, rough estimates could be made based on the labor costs that are likely to be involved (though the freedom of action tradeoffs for State managers would not lend themselves to such estimates). Such rough estimates may or may not be adequate representations of the likely costs, but no further research along these lines would be justified until the effect of QC procedures on error rates is better understood.

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