

Chapter Six

Conclusions

This report is part of a study investigating the feasibility of linking administrative data from USDA's FANPs in order to estimate multiple program participation and the dynamics of participation across programs. The report reviews methods of record linkage; describes current record linkage systems that bring together administrative data from separate social service or health service programs; and summarizes characteristics of FANP participant databases that are relevant to a record linkage project.

Record linkage is a means of joining records from separate data systems when system integration does not exist. Record linkage methods range from the simple match-merge using a single verified identifier such as SSN, to complex probabilistic record linkage using all available identifiers and employing a collection of techniques from computer science, statistics, and operations research. When verified identifiers, such as SSN, are not present, probabilistic record linkage is the most reliable record linkage method, in terms of maximizing the percentage of true matches and minimizing the percentage of false matches.

Examples of probabilistic record linkage systems include the Department of Transportation's Crash Outcome Data Evaluation System (CODES), the Integrated Data Base developed by the Substance Abuse and Mental Health Services Administration (SAMHSA) of the U.S. Department of Health and Human Services, and Chapin Hall's Illinois Integrated Database on Children's Services. The latter two systems were developed with the primary goal of understanding the extent of shared clientele between social service agencies, and the types of services received by clients participating in multiple programs.

The *Survey of Food Assistance Information Systems*, fielded under this study, collected data from State directors of FSP, WIC, and child nutrition programs in 26 States. State directors were asked about characteristics of their participant database, integration with other public assistance programs, and record linkage activities.⁴⁹

FSP and WIC maintain statewide systems that are generally updated in real-time. There are significant differences, however, between FSP and WIC systems in terms of hardware, software, file structure, data retention rules, and number and types of individual identifiers. Many differences between FSP and WIC are due to characteristics of the programs. For example, most FSP systems use hierarchical file structures while WIC uses relational databases because FSP enrolls households while WIC enrolls individuals. Other differences between programs are due to different regulatory requirements: all FSP agencies collect SSNs for participants as required by law; few WIC programs collect this information as a mandatory data item as there is no regulatory requirement to do so.

In contrast to FSP and WIC, child nutrition programs do not have statewide information systems. Most of the 26 State CNP directors reported that they maintain information about CACFP and SFSP sponsors and sites, but not participants. Ten of the 26 State CNP directors reported statewide student

⁴⁹ One goal of the survey was to identify States where FSP, WIC, and child nutrition participant databases had sufficient common identifiers to support a test of record linkage between programs in phase II of this study.

information systems maintained by the Department of Education in their State, but only half of these systems contain information about student eligibility for the NSLP and SBP. While statewide student information systems are not currently prevalent, eight States reported to have statewide systems in the planning process so that 70 percent of the 26 surveyed States will have statewide systems at some point in the future.

There is currently no integration between FSP, WIC, and the child nutrition programs. And among these FANPs, only FSP is significantly integrated with other public assistance programs, and only FSP routinely conducts record linkage or computer matching activities. The FSP has a history of integration with AFDC/TANF and Medicaid, and in some States, integration is reported with several other programs (see table 8). In addition, 11 of the 26 States surveyed have a master client index linking records of social service programs; FSP is included in each of these master client indexes, while WIC is included in master client indexes in only 3 States. Record linkage, or computer matching, is routine in the FSP, as required by law; but record linkage in WIC is primarily limited to efforts to detect dual participation in the CSFP, reported by 12 of the 26 WIC agencies surveyed.

The *Survey of Food Assistance Information Systems* provides data for a preliminary assessment of the feasibility of record linkage between FANPs. This study has two main findings. First, FSP and WIC data systems differ in terms of the number and types of client identifiers (particularly SSNs), the extent of data verification, and the rules for data retention and overwriting. The findings indicate that record linkage is feasible in a number of States, but that a record linkage project to join participant data from USDA FANP programs would necessarily require probabilistic record linkage methods and careful consideration of the timing of data contained in each data system.

A second finding is that participant data from the child nutrition programs are currently unavailable at the state-level except for a handful of States. For CACFP and SFSP, there was no indication from survey responses that this is likely to change in the near future. Five States, however, currently maintain state-level databases with information on students eligible for NSLP/SBP. Five additional States have statewide student information systems, but do not maintain data on NSLP/SBP eligibility. And eight States are planning statewide student information systems for the future. Monitoring the development of these systems and encouraging the inclusion of data on school meals program eligibility should be priorities for the future.