

### III. Initiative Summary

#### A. Structure and Content

This initiative proposes to create a national database of linked WIC, Medicaid, and vital records data. The database will be created by asking States to link a single month WIC participation data with data from the States' Medicaid program, and for infants and children, with the States birth registry. To ease the reporting burden for States, it is proposed that the WIC data used for the linkage be the same data that are reported for the required WIC program characteristics data set.

The database itself will contain information from all three data sources. While the exact structure and number of variables included in the database will need to be developed as a part of this initiative, the number and type of variables available are impressive. Some of the potential variables available from each data set are described below. A detailed listing of variables contained in the WIC and vital records files are contained in Appendix C.

- ***Client Demographic Information.*** Information regarding client demographics are numerous. From all three files, data can include date of birth, race/ethnicity, and sex. The WIC files contain such demographic information as migrant status, family income, and certification category. From the vital records data, additional demographic data are available, including mother and father's education level, number of live births, and parents birthplace. In addition information in the vital records system includes the status of such risk factors as tobacco use during pregnancy and alcohol use during pregnancy.
- ***Client Services Information.*** The database will provide information regarding the client's access to health care service through information regarding the geographic location of service providers and the number of visits to the providers. From the WIC record, information is available regarding the location of the WIC service site. From the vital records data, information is available on the county of residence, the location of the delivery, the type of services provided the mother (including amniocentesis, ultrasound, etc) and the number of pre-natal visits. From the Medicaid records, information is available regarding the location of the Medicaid service provider, and the number and types of EPSDT visits for children.
- ***Client Health Outcome Information.*** The WIC record will provide information regarding the WIC priority level, nutritional risk(s) present at certification, anemia status, weight, height, and breastfeeding status. The vital records data will provide such basic information as the weight and length of the infant and the APGAR score, as well as information such as complications of labor and delivery, method of delivery, medical risk factors for the mother, abnormal conditions of the newborn. Through the Medicaid EPSDT records,

information is available about the immunization status of the child, the number and type of screenings, information regarding lead poisoning, and information regarding hearing loss.

While this is not intended to be a complete list of all the variables available, nor is it a set of specific variable recommendations, it does show the type of database that can be created from the linked records. The variables included in the final database will likely need to be prioritized in order to capture data of most interest to federal and State researchers.

The basic procedure for the initiative will have five steps, which will be detailed in section V. These steps will include:

- Using the experience of those States that have linked WIC, Medicaid, and vital record data, the initiative proposes to Develop Federal guidelines for data sharing, data abstraction, and data linkages. This will include the development of a model data linkage file, a hierarchical database, and protocols for linking the data.
- Developing the format and structure of the national database, including the list of variables, reporting methods, sampling techniques, access protocols, and data file updating and storage.
- Recruit States and provide assistance with creating the linked data set . This would be accomplished by having the State first linking the WIC records with vital records, and then linking the combined file to the State's Medicaid records. This will also involve having the States strip individual client identifying information from the files.
- Extracting a nationally representative sample from the linked state-level data, and entering it into a national database.
- Storing the national database in an accessible file that will be made available to Federal and State officials, as well as program researchers.

## B. Importance for Research and Administrative Purposes

As was noted above, linking WIC, Medicaid and vital records data will provide a significant source of information on WIC program outcomes, program participation and program dynamics. In addition, by linking data from the national database with files containing health outcomes of individuals not participating in the WIC program, researchers will be able to compare the outcomes of WIC clients with those who did not participate in the program. Also, because the State agency will be creating the initial links, each State will have its own database that can be used to evaluate program participation and outcome objectives. A discussion of these advantages is presented below.

1. Advantages of the single federal database.

By having the single federal database containing linked information about WIC clients, federal officials and researchers will be able to examine the health outcomes of WIC clients, examine program participation dynamics related to joint WIC/Medicaid enrollment, and conduct trend analyses of WIC health outcomes over time. Each of these advantages is discussed below.

- A, *Development of a single data source that can be used to track the health outcomes of WIC participants.*** The creation of a single data set containing the linked information can be used to track a number of health outcomes of WIC clients. Researchers will have access to a national database to examine trends in program outcomes and conduct very specific research studies. For example, if a researcher wanted to conduct a study of the birth outcomes of overweight women participating in the WIC program, the linked data set would contain this information.

This is a significant improvement over the current system. Under the current system, the only national data set available on WIC clients is the minimum data set required by FNS for the program characteristics study. These data only provide access to an individual participant's basic program data, and the data can not link the mother to the child to evaluate outcomes.

Under the proposed initiative, the data that will be available for each WIC client will be significantly larger than the current minimum data set. More importantly, the proposed national database. will contain information about both the mother to the child, thus allowing researchers to examine pregnancy factors as they might related to birth outcomes. In addition, the linked data will allow researchers to not only examine national trends, but compare outcomes between States and regions as well.

Having the national database of linked WIC /Medicaid/Vital Records data avoids the pitfall of the current system for conducting research studies, which must rely on multiple data collection efforts that are geared to the specific research or program management objectives. The initiative provides a far more cost-effective approach to conducting research and program administrative activities than currently exists.

- B. *The ability to track the health outcomes of WIC participants.*** As noted above, by linking the WIC participant's record to the birth record and Medicaid file, information about the mother and child is created. One can then use the proposed database to examine contributing factors of the mother's health status on the birth outcome of the child. For example,

once could examine the birth outcomes of women with various nutritional risks to possibly identify those risks for which WIC participation seem to have little impact on positive birth outcomes.

In addition, information is available to assess the impact of Medicaid participation on WIC birth outcomes as compared to those not participating. For example, if one wanted to compare the impact of Medicaid participation on birth outcomes of WIC children, the database would contain information about WIC infants and moms who participated in Medicaid, and those who did not.

- C. ***The ability to conduct trend analysis.*** The national database will allow for researchers to conduct trend analysis of the WIC population over time. By updating the file every two years, any trends in program participation and health outcomes can be examined by comparing data from prior years, and by updating prior files.

In addition, the national database would allow researchers to compare trends between States. This may be useful in examining the impact of outreach campaigns or other targeted efforts that may occur in one state, but not in another. In addition, trend analysis can be conducted based upon the priority status of the WIC participant, which would then allow an examination of the WIC program's impact on various risk groups.

2. ***Advantages of having a database that can be linked to data regarding persons not participating in the WIC program.***

One of the key research questions regarding the WIC program has been the question related to whether or not program participation makes a difference in health outcomes. The national database of linked WIC/Medicaid/vital records data is a major step in creating a research database that will allow some of these questions to be addressed. While data regarding persons who do not participate in the WIC program will not be available in the national database, the initiative makes it much easier to obtain information about non-participants. This is done by making it simpler for researchers and State officials to create a database of non-WIC participants for comparison purposes.

For example, because each state will link their own data, it will be easy for a researcher to have access at the same time to an individual State's vital records data with WIC participants already extracted. A researcher could simply request these data from either the WIC State Agency or the State Vital Records office once the linkage was complete. The researcher could then compare the health outcomes of individuals who did not participate in WIC with those in the national database.

In addition, by creating a single, data-rich file, the newly created database can potentially be linked to data from other national surveys, other data files maintained by

state and local governments (food stamp administrative files, TANF files, etc.), or data files maintained by Federal agencies such as the Centers for Disease Control and Prevention (nutrition surveillance files). Data from these files could be used to track outcomes beyond those reported in the WIC/Medicaid/vital records files. For example, through linkages with the CDC pediatric and maternal nutrition surveillance systems, additional information about the nutritional status of clients can be obtained. However, because only 44 states participate in the nutrition surveillance system, data would be limited in scope.

### ***3. Advantages to State WIC Agencies in using the Database to identify gaps in program practices.***

Since the individual States will be linking the three data sets, they will be able to maintain a complete data set of their own linked data for use at the State level. There are major benefits that can accrue to State WIC agencies by having a linked database of their own WIC clients available for research and program evaluation purposes. For example, by linking the data from the three files, issues related to the relative health outcomes of persons of color, persons living in rural areas, or adolescents can be assessed and new program interventions can be devised to better serve these clients. Data on these demographic factors can then be used to target specific outreach efforts. In addition, the data can be used to expose gaps in program coverage by identifying Medicaid births in geographic areas where mothers did not receive WIC services, or the extent to which WIC children may be eligible for Medicaid coverage, but are not enrolled. An example of how the State of Missouri used these linked data to examine whether the WIC program was reaching the highest risk clients is provided in Appendix D.

As can be seen, there are a number of advantages to a national linked WIC/Medicaid/vital records database. In addition to having a significant advantages over the existing system of collecting WIC data for research purposes, a number of potential research questions can be addressed by this initiative. These include:

- Because the database will contain information that allows the infant to be linked to the mother, one can examine the extent to which various maternal health and demographic factors contribute to the health outcome of the infant. For example, one can ask “Is there any association of various nutritional risk factors (such as obesity) of the mother that may influence birth outcomes of WIC participants?”
- By linking Medicaid enrollment data with WIC participation data, one can address the question “How does participation in both WIC and Medicaid impact birth outcomes as compared to participation in only one of the two programs?”
- By linking WIC data with data available in the Medicaid files (such as EPSDT data) one can answer the question “What are some of the health outcomes of WIC participation on children as compared to children participating in the EPSDT program, but not participating in the WIC program?”

- With the combined WIC/Medicaid data in a single database, one can examine the extent to which WIC clients are served by the Medicaid program. This has been an important issue for State health departments that have been conducting strong outreach programs to reach children without health insurance.
- By having data available on the risk status of the mother and infant, and combining these data with vital records data, one can examine the extent to which low-income mothers of high-risk infants participated in the WIC program.

These are just some of the research questions that can be answered at the national level by utilizing the database proposed in this initiative. As was noted earlier, States can use the information that will be available to examine program participation dynamics, conduct demographic analysis of various groupings of WIC clients, and compare outcomes across states.