

Background

In the past, the Food and Nutrition Service (FNS) has relied on a series of large surveys to gather and compare information on food expenditures and food consumption among participants and non-participants to better understand the impacts of the Food Stamp Program (FSP) on the diet and nutritional status of program participants. Studies based on survey data, however, have a number of drawbacks, including the time and expense of collecting the survey data, sampling error, response bias, errors in respondent recall, and misinformation about what may have been purchased or consumed.

With the implementation of Electronic Benefit Transfer (EBT) and its potential ability to match purchases with participant demographic information, FNS sponsored a study to examine the feasibility of collecting and analyzing item-level, bar-coded data captured by FSP authorized food retailer's optical scanning systems at the checkout counter. Eleven stores from one county in South Carolina agreed to participate in the feasibility study – seven stores belonged to one of two chains which already used scanner technology, the remaining four stores which did not use scanner technology were selected to explore the feasibility and limitations of equipping stores of this type.

Findings

Linking Food Stamp Purchase Data to Household Characteristics

It is possible to collect food purchase data from stores with scanning systems and to link this data from food stamp purchases to demographic information about the food stamp recipient making the purchase.

In one of the two supermarket chains participating in the study, scanner data were matched to over 98 percent of EBT transactions; the match rate exceeded 96 percent in the other chain.

Technical Feasibility of Collecting Data in Stores without Scanning Systems

The study demonstrated that it is difficult to collect information from stores who are not already using scanning systems. These types of stores account for an estimated 26 percent of food stamp benefits.

The difficulties in these stores had less to do with technical difficulties than it did to the unfamiliarity with scanner technology and a reluctance to use it on a consistent basis. The problems could be lessened with increased on-site training, technical support and a simpler more integrated scanning unit.

Recruiting Efforts

A number of States and retailer chains were not interested in participating in a non-mandatory study of this type due to concerns over privacy and proprietary information.

While it is possible to recruit a number of stores to provide purchase data, support is not likely to be universal. In areas dominated by one or more retailers, there is little hope of collecting sufficient scanner data without their cooperation.

Data Collection, Preparation, and Analysis

Some loss or inability to match data can be expected under the best of circumstances due to telecommunications or POS system problems. Analysis of the data required constructing a file with 34,000 unique items and a master file with a meaningful taxonomy of food products. This

was labor intensive yet essential to the analysis of buying patterns across stores.

Research using scanner data should focus on the shopping trip as the unit of analysis. Most food stamp households shop at multiple stores during the month, so that it may not be possible to obtain a household's complete shopping record. Nevertheless, detailed information on what food stamp recipients buy with their benefits can be collected and analyzed. Furthermore, variations in buying behavior across subgroups of food stamp participants can be analyzed after demographic data is merged with scanner data.

Data Collection Costs

The study provides a preliminary estimate of about \$35,000 per supermarket chain for a two-month data collection period. To put this in context, the National Survey of Food Stamp Program Participants (NSFSPR) in 1996-1997

cost \$1.7 million. With each chain representing about 43 stores, scanner data could be collected from about 2,150 supermarkets for the same price as the NSFSPR. Such a sample would represent an estimated 6 percent of all food stamp redemptions.

Representativeness of Scanned Food Purchase Data

Due to retailer recruiting problems and technological limitations, a major segment of the retailer population is not likely to participate limiting the representativeness of the scanned food purchases which will make the generation of a random sample of food purchase data difficult.

However, it may be possible to collect reasonably representative samples of scanner data in selected market areas.

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