

Evaluating the Use of Residential Mailing Addresses in a Metropolitan Household Survey

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On-site enumeration is regarded as the most comprehensive method for developing sampling frames for area household surveys. However, the time and expense associated with on-site enumeration precludes it from being a viable option for many household surveys. Residential mailing lists provide an alternative that enables in-person surveys to be done more quickly and at a lower cost than is possible with on-site enumeration. The primary drawback of mailing lists is that the completeness of the lists is unknown.



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We used mailing addresses to construct a sampling frame for a probability-based survey of 15,000 households in Dallas County, Texas. The addresses were obtained from the Delivery Sequence File (DSF) offered by the U.S. Postal Service (USPS) through a nonexclusive license agreement with private companies. The DSF contains all addresses serviced by the USPS with the exception of general delivery. The low cost of obtaining mailing addresses enabled us to purchase the entire list of 818,425 residential mailing addresses (excluding residential Post Office boxes) in Dallas County. We estimate that the cost of the entire list was less than one-tenth of the estimated cost of on-site enumeration for a sample of areas within the county. Obtaining all mailing addresses reduced design effects by dispersing the sample throughout the county. This was a distinct advantage over on-site enumeration, which would have required that we restrict the sample to a number of small areas.

We used Kish's Half-Open Interval (HOI) procedure to evaluate coverage by searching for missed housing units in the interval between a selected address and the next address on the letter carrier's delivery route. We found a total of 46 missed addresses (1.9 percent) among the 2,380 HOIs randomly selected for examination. In addition, we found that the vast majority of persons who maintained a residential Post Office Box also had mail delivered to their street address. These results demonstrate the utility and completeness of using mailing addresses to develop a sampling frame for a metropolitan household survey.

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