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ARTICLES

Tracking sample members in longitudinal studies

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Minimizing sample attrition through failure to locate sample members who move is a major concern for all longitudinal studies. Most major longitudinal surveys employ a wide range of tracking procedures and have relatively low rates of sample attrition due to failure to locate. As Couper and Ofstedal (2009) discuss, the likelihood of locating sample members who move is influenced primarily by survey design factors such as tracking procedures and the interval between waves and by structural or societal factors, such as the availability of population registers and mail forwarding rules.

In this article, I report the main themes emerging from a two-day workshop on tracking sample members in longitudinal studies which took place in London in July 2010. The workshop brought together around 50 participants from child cohort and household panel studies around the world to share experiences and current practices. There were presentations from longitudinal studies based in Europe, United States, and Australia. The broad range of countries and types of studies represented at the workshop highlighted the importance of the institutional and legal contexts in different countries and the similarities and differences in approaches taken by studies with different designs, in particular between household panel and child cohort studies and between local area and national studies.

Survey-design Factors

Most of the studies represented at the workshop used a wide and simil-ar range of both prospective and retrospective tracking methods. Prospective tracking methods include collecting extensive contact information and updating it frequently between waves, through change of address cards, providing websites, e-mail address and freephone numbers for participants to update their addresses, and recording relevant information such as moving intentions at prior interviews. There were differences between studies in their use of monetary incentives to promote the updating of contract information. This was standard practice on most household panel studies but less common in child cohort studies.

Retrospective tracking methods include attempting to contact study members, current occupiers and neighbors of their last known address and stable contacts multiple times using multiple methods (i.e., in-person and by mail, e-mail, and text messages). Some of the innovative field tracking methods presented were the use of private detectives and differential incentives for interviewers to track certain hard to reach groups. Private detectives, used on a child cohort study in the United States, proved to be effective finding almost two-thirds of parents assigned to them. There were also differences between studies in their approach to branding and the extent to which they made use of professional designers, marketing approaches, and new technologies in their communications strategies. The workshop also included presentations from some of the most recent methodological research about tracking procedures, including results from recent experiments with between-wave mailings (Calderwood 2010; Fumagalli, Laurie, and Lynn 2010; McGonagle, Couper, and Schoeni 2011).

The most striking difference in approaches to tracking was between the local area and national studies represented at the workshop. The local area studies were cohort studies which had recruited all children born over a particular time period in a defined geographical area or location. These studies are strongly embedded in their communities. It is widely known that whole generations of the local population are members of the study and that study members are known to each other. This fact, coupled with limited geographical scope, means that many additional methods of tracking are used by these kinds of studies which would not be possible, or would be much more difficult, in national studies involving probability samples. These include ensuring that the study brand has high recognition and visibility locally through local media and branded vehicles and ensuring that the study has a presence at public events that their study members are likely to attend. In addition, they are also able to use the social networks among the study participants for tracking. Several of these studies organize parties for study members and their families. One of these studies has offered an enhanced incentive payment to study members who brought a friend (who was also a study member) to their most recent data collection visit. This study also maintains a page on a social networking website for study members and uses this as a method of keeping in touch with participants.

The choice of data collection mode and timing between waves are other survey design factors which can influence tracking success rates.

In relation to the interval between waves, there was a clear contrast between the household panel studies, which are usually designed with fixed intervals between waves, and child cohort studies in which the interval between waves is usually variable depending on the developmental stage of the study member (and the availability of funding). However, there was also considerable variation in study design among the child cohort studies represented at the

workshop. The most common design among child cohort studies with a bio-medical focus was frequent collection of social data by mail or telephone, i.e., several times a year in the early stages of the child's life and less frequent clinic visits for the collection of biological data (generally every few years). By contrast, among child cohort studies with a focus on social data, the dominant design was to carry out data collection less frequently, generally every few years but with longer data collection instruments and more expensive data collection methods (e.g., face-to-face computer-assisted interviewing).

The choice of data collection mode clearly has implications for tracking. The studies using face-to-face data collection made extensive and effective use of field interviewers for tracking whereas most studies which use postal or telephone data collection methods are not able, at least not cost-effectively, to carry out face-to-face field tracking. Using interviewers for tracking is very effective. For example, around half of all movers were found by interviewers on a recent wave of a household panel study in Australia. However, local area studies are able to carry face-to-face tracking cost-effectively even if they do not use this method for data collection due to their limited geographical scope.

Structural or Societal-level Factors

There were differences between countries in the extent to which contact information for the broader population is available either publicly or commercially. In the UK, the main commercial software used for tracking contains electoral role information (for those who do not opt out of the public record), telephone numbers (for those who are not ex-directory) as well as address listings from the post office. Some countries such as Norway and Denmark have national population registers which contain the current names and address of the entire population. As a result, loss to follow-up due to failure to locate on the studies based in these countries is very low. Other studies have used other administrative data sources such as health and social security records for tracking. It was noted that this was usually easier for studies in which the administrative records have also been used as a sampling frame for the study or where the administrative data was collected by the organization running the study. For example, a child cohort study in Ireland which had sampled families through benefit records was able to find new addresses for 93 percent of its pilot study respondents from this source.

It was also acknowledged that different countries had different privacy laws under which studies are obliged to operate and that this can impact upon the tracking methods available. In particular, it was noted that the privacy laws appeared to be more restrictive in Germany and France than elsewhere.

Conclusion

Most studies represented at the workshop used a range of both retrospective and prospective tracking procedures and as a result had relatively low levels of attrition to due failure to locate. The broad range of countries and types of study represented highlighted the ways in which survey design and structural factors influence the tracking procedures used by different studies and their effectiveness.

However, as Couper and Ofstedal (2009) also note, relatively few studies had formally evaluated the cost effectiveness of their survey practices, e.g., through methodological experiments. In addition, most studies did not gather systematic feedback from participants about their tracking procedures. The exception to this was a child cohort study in Scotland which found that around 90 percent of families said they had read the study newsletter which demonstrates that this is an effective way of communicating with study members. It was felt that seeking participants' perspectives in this area could help to improve survey practice in relation to communications with study members.

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