10.7: Keeping the census up to date: demographic surveillance

In some trials, the enumeration of the population at the start of the study is all that is required, and there is no reason to monitor the population ‘continuously’ for births, deaths, and migration. In other trials, however, a system of registration of vital events may be required. This is usually known as demographic surveillance. A good source of advice on how to do this is available at http://www.indepth-network.org.

After the initial census and when the intervention has started or been applied, follow-up surveys may be required to assess the effects of the intervention. For diarrhoeal or respiratory illness episodes, weekly or twice-weekly visits may be required, whereas, for deaths, annual or quarterly surveys may be adequate. These visits provide an opportunity to update the census by ascertaining births, deaths, address changes, and migration into or out of the study area.

Maintaining an up-to-date population database in this way is a major undertaking. It requires good organization, especially in areas with substantial migration such as in peri-urban slums. For example, in a study carried out in southern Brazil, one half of the families with young children changed address within 2 years (Barros et al., 1990). It may be difficult to conduct long-term follow-up studies in such populations.

A census is relatively easy to update if a computer listing is available, either on paper or on a digital device, which gives the names of the residents in each household at the previous survey, with appropriate spaces for updating information (for example, see Stephens et al., 1989). Pregnant women should be noted, so that, in the next survey, enquiries may be made about the outcome of that pregnancy. Maps should be updated, marking any new or abandoned houses. To obtain reasonable information on births and deaths, the maximum interval between surveys should not exceed a year and preferably will be less—ideally every 3–6 months.

The recording of deaths occurring in the population is usually of special interest. Information on these may be obtained by employing ‘village informants’ to notify the trial investigators when deaths occur. Information may also be available through health facilities, religious institutions, or cemetery records. Usually, it will be necessary to supplement this
information with periodic re-surveying of the population if complete ascertainment of such events is required. Deaths tend to be missed, unless specific questions are asked about each individual who was registered in the last round of the fieldwork, and stillbirths, neonatal, and infant deaths may well be missed, unless full demographic surveillance with frequent survey rounds is employed. Such questioning must be done with sensitivity, and the responses may need to be interpreted in the light of any local taboos against speaking of the dead.