

about 1,300 investigated sera in a representative population sample in Mongolia. However, at the same time toxoplasma antibodies were found in a relatively high percentage of investigated animal sera of cattle (41.3%), sheep (19%) and goats (29.2%). It is of great interest that domestic cats are not kept in Mongolian families (Hutchison *et al.* 1970). It is natural that these and other similar findings are provoking further questions and ecological epidemiological investigations.

Immunological surveys are of course only the first, but very important, step in global surveillance and in the study of the geographical pathology of communicable diseases (Raska 1970). Fully developed surveillance activities differ according to the infection. The spread of infections is continuously influenced by complex and changing social and natural conditions. There is no doubt that immunological surveys, carried out as part of the epidemiological surveillance programme in developing countries with the help of WHO, also enable the Organization to provide improved and scientifically based advice on the planning and implementation of communicable disease control. In addition, they effectively stimulate the strengthening of epidemiological and microbiological services in these countries.

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Our two principal speakers have clearly defined the scope of surveillance, an important concept which may not always be easy to separate from other activities relevant to the control of disease. Those of us who are immersed in day-to-day problems of control have to a degree been en-

gaged in surveillance as an integral part of normal public health practice and we may be too close to the subject to see it in perspective. So this clearer definition is welcome.

Some of the observations and records on which surveillance is based may be collected by means of studies specifically designed for the purpose, like the serological surveys described by Dr Raska. Others may have been assembled primarily for different uses and serve only secondarily for surveillance activities. Demographic data, for example, have a wide application to economics, sociology and public health generally and it is almost an incidental feature that the same data supply the denominators, such as the age and sex distributions of a population, which are essential to epidemiological analysis. Dr Langmuir, in his description of the Cutter incident, mentions the use made of knowledge of the quantities of poliomyelitis vaccine distributed by different manufacturers and, in Britain, we have seen that records of the total weekly new claims to sickness benefit, compiled primarily for economic reasons, have proved useful in the surveillance of influenza. There is an element of opportunism, as well as design, in all this. Even such obviously relevant records as those derived from the notification of infectious disease were developed originally more in the context of control than of surveillance.

But the keeping of records does not constitute surveillance. There is a need to synthesize the facts into some coherent whole and, as Dr Langmuir has stressed, to communicate both the facts and the synthesis to those who have provided the data and to those who need to know about them for purposes of control. The Surveillance Reports issued from the Center for Disease Control cater for this need. So, in Britain, do the Communicable Disease Reports of the Public Health Laboratory Service. The publication of material selected from these reports in the weekly medical press is a welcome development. There is a further need, as Dr Raska has indicated, for international collaboration and for studies specifically designed for surveillance purposes.

Surveillance seems to me to occupy a position midway between public health activities and epidemiological research, utilizing the resources of both and feeding back suggestions for further developments. It is characterized by an attempt at comprehensiveness and continuity and one of the difficulties in its path is to persuade busy practitioners and public health workers to record and communicate information for which they cannot always see an immediate practical use. This is why the feed-back is so necessary. When people can see the purpose of their effort they are far more willing to continue it.