WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR THE EASTERN MEDITERRANEAN

ORGANISATION MONDIALE DE LA SANTE

BUREAU RÉGIONAL DE LA MÉDITERRANÉE ORIENTALE

SEMINAR ON VITAL AND HEALTH STATISTICS

Damascus, 19 - 27 October 1963

Agenda Item 8 (b)

EM/SEM.VHS/12
10 September 1963
ORIGINAL: ENGLISH

NOTIFIABLE DISEASES AND MORBID CONDITIONS

by

Dr. M. Grais
Chief Medical Officer
Dissemination of Statistical Information, WHO

The purposes of notification are many, but they can be grouped into two main classes :

a) Immediate purpose : this may be of many kinds, for example provision of isolation, the search for sources of infection, disinfection, vaccination of contacts, provision of medical or nursing care, etc.

b) Subsequent purpose : to provide a permanent record, The permanent record can also be used in innumerable ways, for example to study the incidence of disease and its distribution in the population (for instance the annual, seasonal and cyclical prevalence), for use in epidemiological studies and also in order to define health problems so that plans can be made and developed to deal with them, and in order that the success of preventive programmes can be evaluated and steps taken to improve them. Moreover, the data can be used for research purposes with a view to contributing to the knowledge of the causation and means of spread of disease.

To permit immediate action, speed is of the greatest importance. For the permanent record, accuracy in the basic data is paramount and the delay entailed to obtain such accuracy is well worth while. The best results are obtained where the administrative system provides for a stage at which the original urgent notification is corrected before being put on permanent record.

It is well known that notification data have many imperfections, which workers have a clear duty to recognise and make known to those who may wish to use the data.

The diagnosis is often open to suspicion. This is particularly so when, as is the case in some countries, notification is made by non-medical persons. Sometimes the notification procedure itself accentuates this inaccuracy, as for instance when it calls for urgent notification on suspicion. Much will depend therefore on whether non-medical notifications are subsequently referred to a doctor for confirmation and whether there is a system of correction.

The provision of facilities for bacteriological examination varies from country to country and from district to district within countries. This must have a profound effect on the accuracy of data collected in different areas.

Notification is rarely complete and is often grossly defective. The incompleteness of notification differs from one district to another and also from one disease to another. Between one country and another it depends to a great extent upon the degree of development of organised medical services, and this factor is also sometimes responsible for differences within a country, as for example differences in the completeness of notification between urban and rural communities.

Sometimes the notification system itself makes for inadequacies, certain diseases being notifiable in some countries only when they occur in special age groups, in hospitals or other institutions, or in certain locations. Some diseases are notifiable compulsorily, others optionally. Some are notified only when the attending doctor requires some action to follow, for example disinfection or the provision of hospital accommodation. Certain diseases tend to be fairly completely notified; others are very badly notified. This is partly because a large proportion of the minor infectious diseases are not seen by doctors and also because some doctors are reluctant to notify when it is not apparent that any benefit will come to the patient as a result of notification. Some doctors find it difficult to appreciate that the accumulation of statistical data is a reputable pursuit.

Another source of imperfection is the fact that the lists of notifiable conditions sometimes contain vague terms. Such terms as : food poisoning, encephalitis, enteritis and gastro-enteritis are far too vague.

Comparisons between data from different countries are difficult, because the lists of notifiable conditions differ between one country and another, on account of differing definitions, administrative differences between countries, the persons notifying, the stage of diagnosis at which notification has to be made, the authorities to be notified and the method of notification.

Improvement of notification

For improvement to be brought about it will first of all be necessary to ensure uniformity in the statistical units collected. Where necessary the diagnosis criteria must be laid down and generally applied. Efficient arrangements must be in operation for the confirmation of diagnosis and for the required adjustment.

It is becoming increasingly recognised that notification is a two-way process and that it pays to keep all doctors informed of the results of notification and of the various ways in which the data are used. In this way their co-operation can be obtained in the notification of diseases where the value of notification is not immediately obvious.

Studies should be made from time to time of the completeness or incompleteness of notification and of the reasons for such defects as are present.

In view of the fact that defects in notification vary from country to country and from disease to disease, it would be unwise to generalise on their adequacy or inadequacy for particular uses. The only safe rule is that as many as possible of the causes of inaccuracy should be known before making use of the data.

In some countries notification data of certain diseases are based entirely upon hospital figures. This will grossly distort the total number of cases of diseases, such as measles, where only a small proportion are seen at hospitals. There may even be a danger in using such data for studying the trend of notification from month to month

or year to year, as the number of notifications may reflect more the number of available beds than the number of cases occurring. On the other hand, with more serious conditions, such as cancer, of which a high proportion of cases are seen at hospital, the data from hospital records may form the most convenient and economic source of information, a fact which has an obvious bearing on the planning of cancer registration schemes.

Selection of diseases for notification

The choice of notifiable diseases must depend to some extent on the health problems of the particular country concerned. This means that there is little prospect of achieving uniformity in the list of notifiable conditions, except to the extent of the quarantinable diseases, which are internationally notifiable under the International Sanitary Regulations. Many problems may differ in different parts of the world. However, there is less variation within regions and there may be some scope for making attempts to achieve uniformity within regional boundaries. In this connection, it may be mentioned that a seminar of epidemiologists and statisticians meeting in Chile reached agreement on the basic list of 15 infectious diseases (in addition to the 6 quarantinable diseases), where notification was justified in the countries of South America because of the severity and/or spread of the diseases, necessitating the existence of effective control measures, or for other technical or administrative reasons. The seminar recommended that each country should add to the list any other disease of importance within its territory. There would seem to be scope for further regional studies of this nature.

The handbook - "Control of Communicable Diseases in Man" - issued by the American Public Health Association recommends dividing the infectious diseases into 5 groups for notification purposes, as follows :

1. the quarantinable diseases (6)
2. a list of 29 diseases which call for regular case reporting, wherever they may occur
3. a list of 37 diseases reportable only in recognised endemic areas
4. a list of 19 diseases, where reports of epidemics should be required, but not individual case reports - this list includes such conditions as influenza, streptococcal infections and salmonellosis.
5. a list of conditions which do not ordinarily justify notification, for example mumps, chicken pox (23 diseases).

Non-infectious conditions

So far the non-infectious conditions subject to notification have been diseases in which some obvious preventive or curative action can follow notification, for example lead poisoning, kwashiorkor, etc. There is, however, increasing discussion on the possibility of using the notification procedure to produce data which could be used for epidemiological and aetiological studies on other conditions, for example coronary disease, septic ulcer, rheumatism, diabetes, epilepsy, accidents, etc. For reasons already mentioned, it is unlikely that any of these conditions if notifiable throughout a whole country would produce data which would be of great value for these purposes. On the other hand, some of them have been the subject of interesting studies made within a particular area. Such studies can only be made after full explanation of the objectives of the inquiry to all the doctors in the area. Once their co-operation has been obtained, it matters little whether the notification in the area has the sanction of law or whether it is entirely voluntary.

The organization of notification

For notification to be effective over a whole country, it must be based upon a law. As has been said, it may be possible to organize notification of a particular disease in an area merely by engaging the interest of local medical practitioners, but this depends upon personal contacts, which cannot be effective over a whole country.

Wherever possible notification should be carried out by fully qualified medical practitioners. In some areas this is impossible and in such districts it must be accepted that the accuracy of the resulting data will suffer, unless it is possible to have medical confirmation of all notifications made by non-medical personnel, Notification should be made to the local health officer. In some places even this may not be possible and it may be necessary for the notification to be made to a local non-medical official for onward transmission. This implies a degree of remoteness which may make confirmation of the diagnosis difficult, with a corresponding loss in the reliability of the data.

It is usual to use a standard form of notification, but the content and lay-out of the form differs in different countries. The minimum data required are those necessary for the identification of the patient and of the notifying doctor. They are thus : the name and address of the patient, the age and sex, the disease and date of onset, and the name and address of the notifying doctor. According to the disease or to the purpose for which notification was made, other data may be called for. One of the most usual facts required is the occupation of the patient or the wage-earner in the family, this being of importance in the case of alimentary infection, should a food-handler be present in the family. Where the health service is remote the notifying doctor may be expected to act as the agent of the health service by providing such information as he can on the source or cause of the disease and of such preventive measures as he has been able to take. Where the purpose of notification is to provide proper treatment, the doctor may be asked to state whether hospital admission is required.

In the local office it will be necessary to check the notification against others to prevent duplication, to check with the death records and also to check with laboratory reports. A routine should be in operation whereby the diagnosis on the notification is checked by reference to the doctor, to the hospital or by consideration of laboratory reports. The provisional data of notification should be adjusted as a result of this so that the final statistics consist of corrected data only. Vague, provisional data should be forwarded to the national health administration and corrected data at longer intervals according to the local custom. If weekly reports are sent to local doctors with comments on the significance of the figures, it helps to encourage their interest in notification. The national health administration should issue a weekly report in which the provisional data for each disease are given by districts. An annual national report of corrected data should show the data by disease, by district, by age and sex, and should also give seasonal variation in incidence.