A CENTURY OF COMPARATIVE MORTALITY.*

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THE World Health Organisation deals with a great number of different nations, each with its own national health service organised according to its own peculiar philosophy and of a standard of development which reflects the history of the country, both social and political. From our general knowledge we are aware that some of these countries have more progressive health services than others, that they care for their people better, or that medical care is spread over larger numbers. It is difficult, however, to compare countries in a quantitative way as regards their health services because not only have they each differently organised health services, but acutely different health and social difficulties to overcome.

The necessity for this international comparison has long been felt by the W.H.O. since one of its principal aims is the raising of living standards. A precise determination is most desirable, but living conditions are so different from country to country that it is not easy to set a single standard for all countries which would accurately represent the reflection of the health services on the people.

It must be remembered that the Organisation prefers the positive definition of health laid down in the W.H.O. constitution—"physical, mental and social well-being"—rather than the negative "freedom from disease", hence any attempt to set standards for health levels must take mental and social aspects into account as well as physical standards.

In 1953 a committee of international bodies met in New York to report on the most satisfactory method of defining and measuring standards of living. This committee suggested that in future discussions the term "level of living" be employed instead of "standard of living" when referring to actual conditions of living as contrasted with future aspirations. The committee could not arrive at a single index of level of living which could be applied internationally, and suggested dividing the subject into a number of components each of which was thought capable of being measured in a specific way. These were:

1. Health, including demographic conditions.
2. Food and nutrition.
3. Education, including literacy and skills.
4. Conditions of work.
5. Employment situation.
6. Aggregate consumption and savings.
7. Transportation.
8. Housing including household facilities.
10. Recreation and entertainment.
11. Social security.

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For each of these twelve components, statistical measures or components were to be sought for the purpose of international comparison.

In October, 1955, a Study Group on measurement of levels of health met in Geneva; it classified health indicators into three categories according to whether they refer to the level of individual or collective health in an area, the physical environment or the availability and use of health services.

In the absence of sufficient information on which to base comprehensive indicators the Group did not make any specific recommendation, but emphasised the practical value of: (a) the proportional mortality ratio; (b) the expectation of life; (c) crude death rate.

In the *Bulletin of the World Health Organisation* (1957, 17, 439) S. Swaroop and K. Ulmura suggested that the number of deaths of persons aged 50 years and over as a percentage of the total deaths would serve as a comprehensive indicator of the component “health, including demographic conditions”. They considered that in choosing an indicator to represent differences between countries, records should be available from as many countries as possible, the indicator should relate to the country as a whole and should be comprehensive in character; it should be simple enough to command international acceptance and, lastly, it should discriminate in a keen manner between countries at varying levels of health and, more particularly, it should discriminate so keenly as to indicate changes taking place from time to time.

It was suggested that the percentage of deaths of those aged 50 years and over fulfilled most or all of these conditions and in particular it was found to be the keenest discriminator between countries, much more precise than, for example, the crude death rate or the expectation of life at birth.

In the hypothetical case of a country where everyone lives to a ripe old age—and no death occurs under 50 years of age, the value of this indicator for that country will obviously be 100 per cent. On the other hand, if in a country adverse mortality conditions operate so heavily that no person survives to the age of 50, then the value of this indicator is zero. These are the extreme cases. The values of different countries will range between these limits, and it would be probably true to say that the better the health conditions, the nearer this indicator will be to 100 per cent.

The variables which affect this indicator are, among others, the effect of mis-statement of age, the effect of under-registration of infant deaths and the effect of migration. As to this last, if everyone under 50 leaves the country, then all the deaths will be recorded as being of 50 years of age and over and the value of the indicator will be 100 per cent. However, this proportional mortality indicator has the advantages that it is based on mortality statistics requiring the classification of deaths into only two broad age-groups and that for its calculation a knowledge of the size of the population of the country studied is not necessary.

The authors of the communication to the *Bulletin* having selected their indicator, proceeded to compare countries by using it, and they found that countries could be placed in a number of groups: those with a proportional mortality of 75 and over (1953 figures), viz., Sweden, Norway, Denmark, England and Wales, and a number of other coun-