Editorials

Calling a spade a spade: meaningful definitions of health conditions

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This issue of the *Bulletin* features an article on a new definition of "drowning" (1). Most of the time we intuitively know what drowning is until someone asks us explicitly to define it. In scientific research, meaningful definitions are essential for comparability and reproducibility. Drowning has been listed as the second leading cause of death from unintentional injury in WHO reports, after road traffic accidents (2). Many questions can be asked as to whether this is really the case in various countries, whether the data are comparable across cultures, and what can be done about it. Surely such a frequent event, with its serious consequences of death and disability, requires widespread public health attention, especially as drowning can be prevented by simple measures.

To take effective public health measures, solid monitoring and evaluation programmes are necessary, for which the definition of the concept must be clear. Be it drowning or any other condition, a definition should include a full conceptual representation as to what the condition includes: what it is, how it is generated, and also what it is not. In simple terms, drowning is the state in which a person cannot breathe because access to air is blocked by going under water or any other liquid. The process may include various aspects such as voluntary stopping of breathing, lowering of oxygen in blood and subsequent bodily changes. Such definitions guide a more precise identification of the exact cause of death.

The proposed definition of drowning will affect the international classifications of diseases (ICD) (3) and external causes of injuries (ICECI) (4), and in the future become part of them within the revision of the ICD. The impact of this definition on cause of death statistics will have to be analysed to reveal its implications for coding practice and monitoring purposes over time.

The task of incorporating such definitions into the classifications is, however, quite a complex one. The world of definitions is built on other definitions — for example, drowning is defined as "the process of experiencing respiratory impairment from submersion/immersion in liquid". The key concepts in this definition are "respiratory impairment", "submersion/immersion" and "liquid": respiratory impairment relates to multitude of conditions from inhaling air into the lungs to exchange of gases between air and blood, and exhaling air; many pathological events other than drowning may come under the heading of respiratory impairment; and the addition of submersion/immersion may indicate a causality or at least a temporal association. One can split hairs about definitions if they stand alone. The triangulation between the reality, the concept and the definition lies in a multidimensional space of other definitions, concepts and entities. It is therefore important to create a set of coherent, internally consistent definitions within classifications that adequately represent the actual events.

The current situation in monitoring important causes of death suffers from the lack of appropriate definitions. Although there have been 150 years of history behind the ICD, most listed conditions are left without definitions. In many instances there are several coexisting definitions of diseases and other entities. The selection of a classification category then depends on the user's background. This situation leads to applications of different criteria and fuzzy statistical results.

Construction of modern classifications relies on consistent use of definitions that are operational and have logical properties allowing users to assess whether the condition meets the specified criteria — by quantitative parameters if possible. Broad experience from many different disciplines has lead to a formalization of the process of defining entities in classifications with agreed definitions and ensuring its utility and applicability in several different settings. In the past, this consensus could have been achieved only through a complicated pattern of conferences. Today, there are not only information platforms that use discussion forums on the Internet to allow the active participation of the broadest possible spectrum of persons, but there are also "ontology" tools that define the style of the definitions in terms of their core meaning, operational characteristics, boundaries, exclusion conditions and relations with other concepts (5).

Linking classifications with definitions that are systematically generated using appropriate scientific standards is essential for health information systems. In this way, better monitoring and surveillance programmes could be generated and better evaluation of outcomes could be achieved so as to assess whether the prevention efforts make a difference. Of course, in many developing countries these statistics of death are lacking not only for drowning but also for all other conditions. It is an information paradox that a large number of deaths occur in developing countries but these countries often do not have very good data on the causes and distribution of deaths. Although the reasons for this information paradox may lie well beyond definitions, defining one's terms is a necessary first step. ■

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Web version only, available at: http://www.who.int/bulletin

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