

## ACCIDENTS AND HOMICIDES

ALBERT P. ISKRANT AND PAUL V. JOLIET

Cambridge, Massachusetts, Harvard University Press, 1968  
xvi + 201 pp. \$5.00

This is the first monograph to be published in a series of vital and health statistics monographs sponsored by the American Public Health Association for the 1960 census period. By virtue of their long association with the Accident Prevention Program of the Public Health Service, the authors are well qualified to present and discuss the problems of accidental injuries in the United States.

The consequences of accidental injury are considerable no matter how they are expressed. On the basis of data for the period 1963–1965, it is estimated that 52,000,000 persons are injured annually in the United States; 2,000,000 life years are lost; 132,000,000 days of bed disability and 512,000,000 days of restricted activity result each year from accidental injury. About 2,000,000 persons are hospitalized each year because of accidental injuries. This figure represents about ten per cent of all admissions to general hospitals. It is estimated that 65,000 hospital beds and 88,000 hospital personnel are needed for the treatment of injuries.

In addition to disability and death from current injuries, serious impairments result from accidental injuries. It is estimated that about 11,000,000 impairments are due to injuries, a rate of 60 per 1,000 persons. They constitute about 16 per cent of all visual impairments, 15 per cent of paralysis, 76 per cent of absences of major extremities and 57 per cent of impairments of limbs, back and trunk.

The motor vehicle is the most frequent cause of accidental death

in many developed countries, with falls the next most frequent cause. Despite the fact that the United States has more motor vehicles than any other country in the world, higher motor vehicle accident death rates have been recorded in other countries such as Union of South Africa, Austria, Federal Republic of Germany and Australia.

Among the countries with the highest death rates for all accidental causes are Chile, Austria, France, the United Arab Republic, South Africa and Switzerland. The accidental death rates for United Arab Republic and Chile are high despite the extremely low death rates for motor vehicles accident death rate.

The accidental injury problem in the United States is discussed under four major headings, namely, host factors, agent or type of accident, environmental factors and nature of injury. The first three factors are the ingredients contributing to the accidental event and the last, nature of injury, describes one of the important consequences of the event. Because of the difficulty of considering the environment apart from the host and agent, much of the discussion of environmental factors is included in the chapter on agent or type of accident. Thus, the chapter on environmental factors makes a brief presentation of general accident occurrences in various places such as home, farm, industrial place and premise, place of recreation and sport, and so forth. The majority of accidental injuries, in contrast to accidental deaths, occurs at home or at work rather than on the highway.

National mortality statistics are freely used as are data on accidental injury from the National Health Survey. (Health Interview statistics) Frequent references are made to findings of special studies of the Division of Accident Prevention of the Public Health Service as well as to those of research workers in the field. The book has 18 charts but only four text tables for presentation purposes. However, an enormous amount of statistical material is woven into the text. In addition, the statistical appendix contains some 59 tables.

It seems unusual for a statistical presentation not to devote any discussion to the limitations and qualifications of the data. To be sure, accidental injuries do not involve difficult problems of medical

diagnoses. On the other hand, they do present medicolegal problems, such as the determination of accident, homicide or suicide as the cause of death. For example, it is known that suicides are frequently returned as accidental deaths in the absence of clearcut evidence of suicide. Also, in addition to the limitations of the data inherent in other mortality statistics, special problems exist in obtaining complete and accurate information on the circumstances of the injury and on the place of accident.

Only a passing reference is made to the important problem of exposure to risk of accidents. This is a difficult area with generally no satisfactory solution. However, a discussion of risk and exposure to risk would have been appropriate and useful.

For the epidemiologic study of homicides, it is necessary, as the authors state, to relate data on the victim to those of the offender. This also applies to a certain extent to accidents where the victim frequently has little or nothing to do with the accident causation. Unfortunately, available national statistics on homicides and accidents refer to the victim rather than the person(s) perpetrating the violence. The authors point out that available data on fatalities and nonfatal injuries by the characteristics of persons injured and by geographic distribution identify problem areas and the urgency of control measures. However, the data rarely provide solutions or identify the causal factors. Unlike the etiology of diseases caused by a single germ or agent, multiple factors are usually involved in the causation of accidents. Research in this area is further complicated by the fact that the causative factors differ with the various types of accidents. The authors are of the opinion that causation research has been inadequate in the United States. They feel that the epidemiologic approach in the study of accident causation "offers real hope for the derivation of meaningful hypotheses that will lead to realistic programs of prevention."

IWAO M. MORIYAMA