

largely of white, adult males of moderate income, and to the accuracy of the diagnoses of the impairments which are based on the medical examination for insurance, a procedure sometimes less thorough than the examination usual in medical practice. In addition, some research workers may be handicapped in the use of this material because tables are not presented for each sex, although the proportion of males and females is given for each impaired population. These limitations, however, should not seriously detract from the value of this volume as a source of much information that is not elsewhere available.

RICHARD V. KASIUS

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ACCIDENT FREQUENCY, PLACE OF OCCURRENCE, AND RELATION TO CHRONIC DISEASE¹

THE monograph "Accident Frequency, Place of Occurrence, and Relation to Chronic Disease" is composed of three articles on accidents as recorded in a general morbidity survey.

The first article, Accident Frequency by Specific Cause and by Nature and Site of Injury, was written by Selwyn Collins, Ruth Phillips and Dorothy Oliver. This paper presents data on accidents as reported in the sample population studied in the Eastern Health District of Baltimore where monthly visits were made over a five-year period ending in May, 1943.

As background data for this report, the authors noted trends of accidents of various types. Industrial accident rates show a steady decline since 1906 except for a temporary rise during World War II. Accidental deaths from 13 of the 15 causes available have decreased during the 34 years studied. Deaths from conflagration increased 50 per cent and deaths from automobile accidents increased by 268 per cent.

In the Baltimore study, of the 2,690 injuries (an annual rate of 125 accidents per 1,000 population) 1,110 cases caused dis-

¹ Collins, Selwyn D., Phillips, F. Ruth, and Oliver, Dorothy S.: Accident Frequency, Place of Occurrence, and Relation to Chronic Disease, Public Health Monograph No. 14, Public Health Service Publication, No. 249, 1953, 68 pp.

ability for one or more days and 1,580 accidents caused no loss of time from normal activities.

In terms of total and of disabling cases and excluding miscellaneous accidents, the largest category of the nine other external causes is number of falls. The second highest group, handling or striking objects, is less than one-third as large and motor vehicle accidents follow next in frequency. Three categories, namely, falls, handling or striking an object, and transportation other than motor vehicle, showed a higher frequency among women than men but the reverse was true for the remaining external causes.

In terms of the nature of the injury from all accidents, lacerations and superficial injuries, of equal frequency, are more than twice as frequent as the next lower categories: miscellaneous injuries, and dislocations and sprains. The four groups have similar frequencies in terms of disabling cases. Females had more superficial injuries while among males, lacerations were more frequent.

The data for 1949 for the total United States show that motor vehicle accidents have a higher frequency than falls. In the Eastern Health District study, falls have the highest frequency for both disabling and nondisabling accidents and the rate is higher among females than males.

The highest frequency of all accidents occurs among children. Total and disabling accident rates are higher for males than for females under 35 years but the reverse is true above that age.

Age-sex curves of accident frequency and severity show differences. There were also age variations in the frequency of all injuries of specific nature and anatomical site and of all accidents from specific external causes.

The authors were surprised to learn that 15.7 per cent of all injuries were head or face injuries. A higher proportion of accidents among males results in head injuries than among females. The largest proportion of head injuries occurs among children under 5 years, i.e. 56.8 per cent of all injuries. As age increases, the proportion of injuries that involve the head decreases. These injuries are largely lacerations and superficial injuries.

In relating the external cause of the accident to the nature and site of the resulting injury, it was found that fracture and

joint injury was the highest category in four of the eight external causes of disabling accidents while lacerations were highest in three external causes. The authors noted that the anatomical sites most frequently injured in disabling accidents are also the sites more frequently affected in all accidents. Lower extremities was the most frequent site of injury in five external causes, and hands and fingers were the most frequent sites in three external causes.

In considering the origin of all injuries of a specific nature, falls were either the first or second cause contributing to each of the four classes: fractures and joint injuries, superficial injuries, lacerations, and other injuries.

The second paper, *Risk of Accident at Home, in Public Places and at Work*, was written by Selwyn D. Collins. It is concerned with the place of occurrence of accidents and their external causes for specific age and sex groups.

Rates based upon an intensive home accident study in Michigan and disabling work accident rates based on the United States Bureau of Labor Statistics data for the same five-year period as the Baltimore Study are cited for comparative purposes. The rates in the Baltimore Study are lower than those of the Michigan study where the concentration was solely upon accidents and not total illness data as in Baltimore. The work accident severity rates (based on days lost) in Baltimore are higher than those reported by the Bureau of Labor Statistics.

In the Baltimore Study, comparison of accident rates for 1,000 person-years observed according to place of occurrence (home, public place, or at work) showed home accidents to be the most frequent. For persons aged 15 years or over, home accidents were 27 per cent above and accidents in public places and at work were 8 and 19 per cent, respectively, below the simple average of the three rates. However, when the time exposed to risk of each type of accident is considered and rates per million person-hours are compared, the accident situation is reversed. Home accidents per million person-hours were 41 per cent below the average and accidents in public places and at work were 16 and 25 per cent, respectively, above the average of the three rates.

Using accident rates per million person-hours, the author

presents a detailed analysis of accidents in the three places (home, public place, and at work) according to age, sex, and disability for accidents from specific external causes, and by type of injury.

For the age group 15 years and over, the age-adjusted frequency rate for all accidents for males is highest for work accidents and very low for home accidents; for females, it is highest for accidents in public places, and about one-half as high for accidents at home and at work. Falls in public places account for more than 40 per cent of such accidents to women and 25 per cent to men. Children under 15 years have a high rate of accidents, with falls in public places contributing the highest frequency.

Days of disability per million person-hours show rates consistent with the frequency rates of all accidents: highest for work accidents, next for public places, and lowest for home accidents. Other indices of severity of accidents show this same order of the three groups as to degree of severity.

The third paper, *Relation of Chronic Disease and Socio-Economic Status to Accident Liability*, also is by Selwyn D. Collins. It is concerned with the relation of chronic disease to the occurrence of multiple accidents during a specified period of time.

It is noted that the persons who had repeated accidents during the five-year period had consistently higher percentages in the following disease categories: total chronic illness, major chronic diseases, certain specific chronic diseases and minor chronic diseases, than was true of those who had no accidents. Each sex shows this same relationship of chronic disease to accident frequency.

With respect to socio-economic factors, the data show that accidents for each sex are more frequent in manual occupations than in professional-business-clerical work.

Average annual accident frequency and percentage of persons who had repeated accidents were highest in the lowest income group.

When economic status was determined by the rental or the value of the home, the lower economic group had a higher percentage of persons who had repeated accidents than the upper economic group.

In an attempt to measure accident proneness, a cross-tabulation was made of accident frequency in successive periods of time. The author concludes that there is a correlation between accidents in the first and second biennium. Persons who had a high frequency of accidents in one period tended to have more than the average in a succeeding period of equal length.

MARGUERITE KELLER

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WORLD POPULATION AND PRODUCTION¹

THERE are enough materials on world population to fill a shelf of books and enough on world production to fill a library. The Woytinskys, a husband-wife team, have undertaken to cover both these subjects in a single volume. True, the book is of massive size. In its 1,268 pages are 497 tables and 338 charts and maps. The book weighs over five and one-half pounds.

The structure of the book may be described as follows:

Part One: *Man and His Environment*, begins with a physiographic description of the earth and the remainder of it contains most of the "general demography" that the authors present. There are chapters on the distribution and ethnic characteristics of the earth's population; migration; cities; births, deaths, marriages, and divorces; health; and the future of the world population.

Part Two: *World Needs and Resources*, affords a transition from population to production. In it the authors discuss consumer needs and resources; consumption and standards of living; natural and human resources; abundance and scarcity; and economic patterns.

Part Three: *Agriculture*, contains chapters on agriculture in the world economy; land, farms and farming; food crops; technical crops; livestock and animal products; forests and forest products; and fisheries.

Part Four: *Energy and Mining*, discusses the role of mining

¹ Woytinsky, W. S. and Woytinsky, E. S.: *WORLD POPULATION AND PRODUCTION*. New York, The Twentieth Century Fund, 1953, 1,268 pp. \$12.00.