

THE EXTENT OF DISABLING SICKNESS AMONG WAGE-EARNING ADULTS

*A summary of some results from one of a series of studies
on diseases of adult life, made by the Division of
Research of the Milbank Memorial Fund*



KNOWLEDGE of the health status of industrial workers in general, and of certain occupations in particular, up to a decade or so ago in the United States was based largely on mortality statistics. Such information, however, has always been very scanty in this country, because we do not have national mortality statistics according to occupation such as those published decennially by the Registrar General of England and Wales. For only two years, 1908 and 1909, has the Federal Census Bureau published the number of deaths according to occupation. In the realization that information concerning the health of workers in industry was urgently needed, a group of vital statisticians and industrial hygienists attempted some ten years or more ago to obtain records of *sickness* among industrial workers which would afford knowledge of the amount and nature of disabling illness in sample groups of the industrial population, and especially of groups exposed to specific health hazards, such as those in certain dusty trades.

With the cooperation of the United States Public Health Service, a review¹ of some of the industrial morbidity data that have been collected and analyzed in recent years, has been recently completed by Dean K. Brundage for the Division of Research of the Milbank Memorial Fund.

The morbidity statistics utilized are based on records of absences from work on account of disability among persons

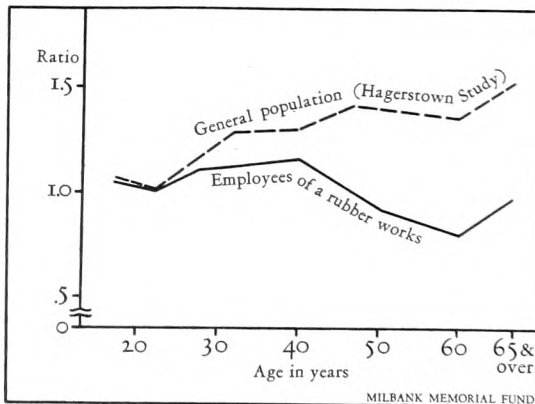
¹The complete study will be published in the November and December issues of the *Journal of Industrial Hygiene*.

on the payroll of industrial establishments or belonging to industrial sick-benefit associations. Causes of absence from work were ascertained by visiting nurses or others who called at the homes of absent employees, while the records of mutual benefit associations were of claims for sickness benefits, usually of illnesses causing absence for more than one week, which were accepted and paid after investigation by administrators of the sick-benefit funds.

The sickness statistics of industry represent to a surprising extent the younger adult ages. In the manufacturing industries of the country as a whole, probably 80 per cent of the men are below age 45. This estimate is based on the age distribution of 10,143 men representing ten important industries. A larger proportion of the female industrial workers, apparently from 90 to 95 per cent, is below age 45.

There is evidence in the age curves of illness that industrial

Fig. 1. A comparison of the variations in sickness according to age in a general population group and among a group of industrial employees. The variations are relative, the rate for the age period 20-24 being taken as 1.



workers are not representative of the general population from a physical standpoint. Rather, they appear to be, in the main, the flower of the general population in physique and constitution. Between 15 and 50, the age curve of illness in a general population group was found to

mount more rapidly than in a typical industrial group, as shown in the accompanying figure. (Fig. 1) In the graph the sickness incidence rate for the age period 20-24 is taken as

1.0 in both industrial and general population groups in order to facilitate comparison of the trend in the age curves of illness. In the general population the trend is seen to be steadily upward from ages 20-24 on; but among the industrial employees the frequency rates (based on disabilities lasting two working days or longer) rose more slowly from age 25 to 40, and then actually declined up to about age 60 after which the upward trend in the frequency of disability was resumed.

The failure of illness frequency to increase with age as rapidly among industrially employed persons as among those in the general population *suggests* that the healthier individuals may tend to remain in industry to a greater extent than the sickly.

Some of the more interesting findings discussed in the longer report are presented in the following summary:

1. During the eight years from 1921 to 1928, inclusive, respiratory diseases caused nearly one-half of all the disabilities on account of sickness. The second most important *group* of diseases from the standpoint of sickness frequency was the digestive disease group. The contagious and infectious diseases against which public health effort is often so largely concentrated caused only about three per cent of the cases.

2. Among industrial workers disabilities lasting more than one week apparently do not increase markedly with age prior to about age 50. The number of days lost per person tends to increase more rapidly with age than the frequency of illness. The duration of incapacitation increases considerably as age advances.

3. Female industrial workers tend to be absent on account of illness from 50 to 100 per cent oftener than the males, the widest disparity in the rates of the two sexes being for the shorter sicknesses. Considerable difference appears to exist in

the relative susceptibility of the two sexes to certain diseases.

4. Immigrant workers from the warm regions of southern Europe appear to be more liable to attack from certain respiratory diseases than persons from northern and central Europe or those native to this country.

5. Married women on the factory payroll of a large rubber company experienced considerably more disability than the single women.

6. In two studies made by the Public Health Service, the excessive use of alcoholic stimulants was found to be most pronounced among the men doing the heaviest, most disagreeable work.

7. A process of selection appears to be going on in certain industries through the quitting of those less well adapted physically to the nature of the work and the working conditions to which they were exposed. Those who tend to remain indefinitely in an industry, especially if it involves some hazard to health, represent a favorably selected group from a health standpoint.

8. Studies of disabling sickness among the employees of different industries indicate a high rate of sickness, and especially of respiratory diseases, among gold miners in the Black Hills, granite cutters in Barre, Vermont, several groups of coal miners, and among employees of a dusty cement plant. A high rate of pneumonia was found among men in certain departments of the iron and steel industry. A surprising result was the definiteness of the excess in the incidence of influenza in all four of the above-mentioned dusty trades.

Mr. Brundage's study of the actual occurrence of illness among American industrial workers thus points definitely to problems still unsolved by preventive medicine and public health. The average community so far has failed to be conscious of their existence.