

PUBLIC HEALTH

Banner Year for Health

No Major Epidemics in 1938, and 8,000 Lives Saved From Auto Accidents; Continued Health in 1939

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A YEAR ago, in a similar statement for Science Service, I said that the health outlook for 1938 was altogether favorable. This prediction was based on the remarkable health record established for 1937 among the many millions of persons who were Industrial policyholders of the Metropolitan Life Insurance Company. My optimism was more than justified, for no previous year has even closely approached the record for low mortality established for 1938. Month after month, the death rates among these insured wage-earners and their families have been even lower than during 1937, and at the middle of December we find a year-to-date death rate that is over 7 per cent. below the previous minimum, as established only a year since.

What happens among these many millions of people is a pretty sensitive index of health conditions in the country, as a whole. So, even if I had no other source of information I could say that 1938 has been an extraordinary health year in the United States. But, as a matter of fact, information for the first nine months of the year is available from the health officers of 39 States. The story they tell is that without a single exception, every one of these States has shown improved mortality as compared with 1937 — and in many instances very marked improvement. It is thus practically certain that 1938 will be acclaimed the banner health year in the history of our country.

The principal factors in bringing about this favorable situation were the much lower mortality rates this year from diseases affecting the respiratory system, namely, pulmonary tuberculosis, influenza, and pneumonia, and the gratifying accomplishments of the campaign to reduce the shameful toll of automobile accidents.

New Low Records

The death rates from tuberculosis, pneumonia, and influenza have reached new minima for the United States during 1938. It is almost certain that the

mortality from tuberculosis for the country as a whole will drop below 50 per 100,000 for the first time in history. If the present rate of decline continues for a few more years tuberculosis will reach the stage where the number of open cases will no longer be sufficient to maintain it among the leading causes of death in this country. There has been no more striking instance of the success of the public health movement than the decline in the tuberculosis death rate during the last four decades. The time is now ripe for a final and intensified drive leading to the effective suppression of this disease.

There were no major epidemics of influenza or pneumonia in 1938. In the case of pneumonia, there was also the added factor, no doubt, of the wide adoption of the new serum treatment against the more prevalent types of pneumococcus. By placing these serums at the disposal of practising physicians, an increasing number of States are materially reducing the fatality rate in pneumonia cases.

Inasmuch as respiratory disease tends to hasten the deaths of persons suffering from cardiac, vascular, or renal conditions, a natural consequence was the fall in mortality from most of the chronic diseases of old age. The sole exception to this rule, in 1938, was the continuance of the rise in deaths charged to coronary artery disease. But this increase may be only apparent, reflecting improved diagnosis together with the newly awakened interest of physicians in this form of heart disease and an increasing tendency on their part to give coronary disease prominence as the chief cause of death when associated with other conditions.

Auto Deaths Lower

Among the most gratifying aspects of the mortality picture for 1938 was the marked decline in automobile fatalities. Evidently the very active crusade against careless driving which has been waged in all parts of the country in recent years is beginning to show results. Present figures indicate that the final tabulation will show fewer deaths by one-fifth from this cause than were recorded in 1937 and this will mean about 8,000 lives

saved. Fatal occupational accidents, as well as those occurring in public places, likewise resulted in fewer fatalities this year, although accidents in the home appear to have been as numerous as those reported a year ago.

Further gains against both infant and maternal mortality also contributed to the salutary state of public health during the past year. It is safe to report new minimal death rates in both of these important fields of public health work.

Aside from the rise in mortality from coronary artery disease, about the only disturbing feature of the present mortality picture is the continued increase of the cancer death rate. The year 1938 is the twentieth consecutive year, with a single exception, to register a rise in this malignant form of human affliction. There is some doubt, however, as to whether this upward trend in cancer deaths actually marks an increase of the disease or merely reflects the rapid aging of our population. Since cancer is a disease that is confined largely to the later years of life it is certain that much of the apparent rise is attributable to the increasing proportion of old people in the general population. Improved means of diagnosis and more accurate reporting also have been important elements in the apparent increase in cancer mortality.

Fewer Infections

Turning to the sickness side of the subject we find a gratifying situation also. All but two of the leading communicable diseases showed below-normal prevalence during 1938. The country was especially blessed in that it was comparatively free of that scourge of childhood, poliomyelitis (infantile paralysis). Less than 1,700 cases were recorded throughout the entire country and no section has suffered what might be called a major outbreak.

Only measles and smallpox were unusually prevalent during the current year. Fortunately neither of them was responsible for much mortality, although the exceptionally low death rate from measles in 1937 was probably quadrupled in 1938.

The smallpox situation, however, cannot be passed over so lightly. The incidence of this loathsome disease has been steadily climbing during the last four years despite the fact that no scourge to which man is subject can be more easily

controlled. Close to 40 per cent. more cases of smallpox were reported in this country during 1938 than were registered in 1937. Luckily, the cases were of the so-called mild form of the disease, which causes few deaths. However, sooner or later, certain of those communities which continue to regard this mild form of contagion too lightly, will awake to find the more virulent type of smallpox raging in their midst with all its dire consequences. Why do these places persist in taking this serious risk when it can be avoided so easily by community-wide vaccination?

Will the present favorable health conditions continue during the coming year? In general, I think they will; but no such statement can be made without reservations and safeguards. So much depends upon the occurrence of major epidemics, weather conditions, and other "acts of God," that no one can now predict with reasonable accuracy the final outcome. No one can foresee such disastrous visitations as nationwide epidemics of disease, floods, droughts, earthquakes or prolonged periods of extreme temperature. Barring these, however, it is safe to say that 1939 will be another very favorable year in the health of the American people. I do not believe, however, that the unprecedentedly low influenza death rate during 1938, will be maintained in 1939. That is too much to expect in the light of the past performance of this disease. If we have more influenza, we shall probably have more pneumonia, but even so, with wider use of serum therapy the mortality may still decline further.

Polio May Increase

It is reasonable to suppose that owing to the very low incidence of poliomyelitis this year, there will be some increase during 1939. On the other hand, measles, following its usual cycle, is almost sure to show a sharp decrease. Perhaps it is too much to hope for a decline in smallpox, but possibly the mounting incidence of the past few years will frighten enough people into being vaccinated to reduce materially the number who are susceptible to the disease. In that case some decline in the number of cases may be expected. Nothing at present indicates any unfavorable changes in the prevalence of the other important communicable diseases.

On the whole, the augury for the coming year is most propitious. At no time in the history of our country have there been so many signs of popular interest in public health affairs. The widespread

and active campaign against venereal disease, the ambitious program advocated by the American Tuberculosis Association, and the successful National Health Conference at Washington in July, all emphasize the keen interest that is being manifested in communal and individual health.

With such evidence of public interest and support, it is needless to say that there will be no letup in the good work of the past. Rather, we can look forward to even more active and capable handling of our many health problems. All this moral and material backing is bound to benefit the work of our health de-

partments, to encourage fruitful research work and to increase and improve the medical facilities available to the indigent and less fortunate members of society.

Not the least favorable aspect of the present movement is the whole-hearted response that has been received from the press and organized medicine. This makes it unanimous. There never has been a time when the health prospect seemed so auspicious. Barring unforeseen and uncontrollable acts of nature, 1939 should prove to be another milestone on the road to better health and longer life for our people.

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PHYSICS

Theories of Solar Energy Also Forecast End of World

CARBON, so vital to life on earth, is now revealed as the transmuting catalyst in the sun which makes it possible for hydrogen atoms to combine into helium and thus release the vast store of nuclear energy which makes the sun shine on and on through the ages.

The Morrison Prize of \$500 to Prof. Hans A. Bethe of Cornell University for the theory which produces this picture of the cause of solar energy brings public recognition to something which scientists have known for some time.

The details are ingenious and important. Carbon atoms are transmuted by swift-moving hydrogen nuclei into nitrogen. These nitrogen atoms are again struck by hydrogen particles and eventu-

ally create helium atoms and regenerate carbon atoms with the release of enormous energy. It is the hydrogen on the sun which is used up in the process, while the carbon content of the sun remains pretty much the same.

But many people will leave the intricate details of the process to the scientists and jump mentally onward to a most important question for all of man's descendants on earth in the millions of years to come.

That question is, "What happens to the sun and to the earth as the sun goes on using up its hydrogen to create the solar energy?"

And the answer, as scientists now see the picture, is one of (*Turn to page 427*)

