

## THE PUBLIC HEALTH.

### MEMORANDUM ON INFLUENZA.\*

We have received from the Ministry of Health a revised edition of the Memorandum on Influenza, which was last brought to the notice of Local Authorities in January, 1929.

Apart from its severity, the most noteworthy feature of the 1918-9 pandemic of influenza was the change in the age incidence of the deaths from the extremes to the middle years of life. Young adults were specially affected, not only in this country, but also in France and in America. The largest proportion of deaths occurred in persons under 45 years of age. This characteristic has been absent in subsequent outbreaks.

Deaths attributed to influenza are generally due to pulmonary or cardiac complications, and not to influenza itself; influenza, if uncomplicated, produces a short, sharp illness from which recovery is usually rapid. In severe and fatal cases the intervention of some organism has usually been demonstrated. This invasion has doubtless been facilitated by a lowering of resistance produced by the influenza virus. The occurrence of pneumonia, or other respiratory disease, is one of the commonest effects of such an invasion, particularly in the Autumn and in the Spring. On an average, respiratory complications are recorded in 70 per cent. of fatal illnesses classified as influenza.

Influenza passes very rapidly through a community, and the fact must be accepted that in epidemic periods most members of the community who go about their ordinary vocations must expect to be exposed to infection and many to have the illness in some form or other, all scientific investigations notwithstanding.

Nevertheless, it is the duty of the individual not only to do the best for himself in case of attack, but, as much depends on the intensity and dose of the infection, to do his best also to avoid infecting others. It is likewise the duty of public health authorities to take any practicable steps (a) to lessen the opportunities of infection, (b) to assist in the treatment and nursing of individual cases, and (c) to help to mitigate the hardships and risks which often result when several members of a household are simultaneously attacked.

#### General Observations on Influenza.

The question of the relationship of associated organisms, including the bacillus of Pfeiffer, to influenza has, however, taken a secondary place since the discovery, in 1933, by the staff of the National Institute for Medical Research, of a filtrable virus in the naso-pharyngeal washings of patients.

One of the chief difficulties in accepting Pfeiffer's bacillus as the essential causal factor in influenza was the absence of this organism from a large proportion of patients in the summer outbreak of 1918. This observation supported the view that the bacilli, when present, were, like pneumococci and streptococci, secondary invaders in a disease primarily caused by an unknown virus. Prior to the discovery of the presence of a virus, it had been shown by Shope that an influenza-like disease in swine was caused by a filtrable virus acting in association with a hæmophilic bacillus resembling the influenza bacillus. This virus produces in ferrets a disease indistinguishable from that produced by the human influenza virus, and it has been suggested that the swine influenza virus may represent the human virus of the 1918-9 epidemic, which has become adapted to swine. That different serological races of the virus do exist is indicated by the results of neutralisation tests with antisera prepared from strains obtained from human patients.

\* Obtainable from His Majesty's Stationery Office, or through any bookseller, price 2d., by post 2½d.

#### Means by which Infection takes place.

Infection is conveyed from the sick to the healthy by the secretions of the respiratory surfaces. In coughing, sneezing, and even in loud talking, these are transmitted through the air in the form of a fine spray. There is a special danger of receiving a massive infection from a person talking loudly within 4 ft., or coughing or sneezing, without interposing any screen, within 10 ft. The channels of reception are normally the nose and throat, and there is evidence that infection can be received through the eyes. Only a brief exposure appears to be necessary in order to contract infection.

Infection can also be carried to the mouth by hands which have been soiled by secretions from the nose or throat of an infected person; for example, by a soiled pocket handkerchief. It appears probable that, in everyday life, intense and temporary overcrowding in trains, trams, omnibuses and places of entertainment is a more important factor in the spread of influenza than is overcrowding in the home. No regular increase of the attack rate with increase of the number of persons per room in urban tenements has been proved.

#### Immunity After Attack.

There is evidence that an attack of influenza may, for a few months at least, confer some degree of immunity against a second attack.

#### Measures of Personal Protection.

The dangers of influenza are greatly increased by complications which may develop without previous signs of severe illness.

*Ventilation.*—Well-ventilated airy rooms promote physical well-being, and fresh air dilutes and dissipates infective material.

*Gargles.*—Gargling has been recommended as a preventive measure, though its importance should not be over-rated. It may be employed with advantage after exposure to infection in a crowd or close contact with an infected person.

*Face masks.*—The public are not advised to make use of face masks. Temporary use of surgical masks by those in attendance on the sick may, however, be occasionally desirable.

*Protection by vaccines.*—The inoculation of human beings with an inactivated preparation of the virus which is believed to be the cause of influenza has been attempted, and is in the experimental stage.

Such direct evidence as the Ministry has been able to obtain of the prophylactic value of vaccines made from killed emulsions of these organisms is not favourable, but, on the other hand, we have the testimony of a number of competent observers which seems to show that such vaccines may be of service in certain cases in diminishing the severity of the attack and in warding off or minimising the gravity of complications.

*Protection by drugs.*—No drug has proved to have any specific influence as a preventive of influenza.

#### Precautions When Attacked.

At the first feeling of illness, the patient should go to bed in a room by himself, keep warm, and seek medical treatment; his recovery should be fully established before he returns to work.

#### Action by Sanitary Authorities to Combat Influenza.

It is desirable that authorities should make widely known full information respecting the local facilities which are available in the district.

Notes are given concerning notification, closure of schools and public places of entertainment, disinfection and provision of institutional treatment, where necessary.

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