Influenza Prospects

Forecasting influenza is never straightforward, but there are a few occasions when one ventures into this field with reasonable confidence. This is when a strain of influenza A virus appears which differs markedly from former strains. Though such a change is infrequent, it seems to have happened now, and the new strain has reached Britain.

The first major antigenic change observed since the detection of influenza viruses occurred in 1947, when the new virus subtype A1 was first identified. Ten years later this virus was replaced by another subtype, A2, which caused the so-called Asian influenza pandemic. During the periods of prevalence of each of these two subtypes influenza viruses underwent a more or less continuous process of antigenic shift, but each successive variant was clearly related antigenically to its predecessors within the same subtype. Several antigenic shifts of this kind have been observed within the A2 subtype. The latest was first detected among strains isolated during recent epidemics in Hong Kong and later in Singapore. The virus (A2/Hong Kong/68) causing these epidemics differs considerably from previous A2 strains and especially from another variant represented by A2/Tokyo/67, detected in several parts of the Northern Hemisphere, including Great Britain, during the 1967–8 winter season.

The Hong Kong/68 strain is still considered to belong to subtype A2 rather than to represent a new subtype A3. It cross-reacts antigenically with earlier A2 variants, and antibody to it is detected, though at low levels, in human sera from persons in all age groups. For this reason it is presumed that human populations may have at least some resistance to this virus, so that it will probably not give rise to a pandemic of comparable extent to that observed in 1957. However, its antigenic novelty is sufficiently great to justify a prediction of the occurrence of extensive epidemics in the near future.

To meet this eventuality vaccination would be desirable, and the question arises whether influenza vaccines at present available would be protective. It has been shown that people immunized with existing vaccines have relatively poor antibody responses to the Hong Kong/68 strain, suggesting that such vaccines will not help much in preventing infections caused by this virus. Vaccine manufacturers are aware of this and are actively engaged in the production of vaccines containing the new virus. But it is unlikely that enough will be available in time to allow extensive vaccination to be carried out before the coming winter. Some limit on its use will therefore be necessary at first, and the most sensible way of achieving that will be to restrict it to persons who may be liable to suffer a severe response to infection with influenza. These include elderly people and patients with chronic debilitating conditions such as cardiovascular, pulmonary, renal, or metabolic disorders. Because vaccines containing earlier strains may confer at least some protection against the Hong Kong/68 virus, high-risk persons should be immunized first with one of the existing preparations and later given a booster dose of the new vaccine when this becomes available. Extensive use of existing vaccine outside the high-risk groups would not seem to be indicated at present. The viruses against which these vaccines are effective have been fairly widespread during the last winter, and experience suggests that the same viruses do not cause epidemics in successive years.

These considerations are based on the assumption that the new Hong Kong/68 variant will spread beyond the Far East in the near future. So far this strain has been found causing epidemics in Hong Kong, Singapore, Malaysia, and Taiwan. It is also possibly responsible for a current epidemic in the Philippines, though this is still to be confirmed. The virus has also reached Japan, and sporadic isolations of it have been reported in the U.S.A. (Atlanta) and Great Britain (London). On the other hand, recent influenza epidemics observed in South Africa, Australia, New Zealand, and Indonesia have been caused by strains resembling the earlier variant A2/Tokyo/3/67. The network of World Health Organization Influenza Centres is fully alerted to the need to trace the spread of these viruses, and the information pertinent to this question is promptly disseminated through the *W.H.O. Weekly Epidemiological Record*. Health authorities will undoubtedly watch these reports with interest.

Accidents at Work

In 1967 the number of persons who died as a result of accidents in premises subject to the Factories Act was 564, the lowest total since the Act came into operation in 1937.[1] The previous year the total had been exceptionally high at 701. Owing to the remote chances that govern the incidence of these fatal accidents and the relatively very small numbers of persons who suffer them any forecast on future trends for the figures is out of the question. The 1967 total can be thankfully accepted as a turn in the right direction after a worrying increase.

In his latest annual report the Chief Inspector of Factories is at some pains to confute "critics" who argue from the accident statistics that a great increase in the inspectorate "is not only essential, but a panacea which will effect a great reduction in reported accidents." The figures must certainly cause some concern. Over the last five years the annual totals of reported accidents have continued to rise. The figure of 304,016 in 1967 was 2.5% above that for 1966 and 60% above that for 1962. That annual rises and falls in the various accident statistics are an insubstantial base from which to argue must generally be agreed. They are influenced partly by variations in the numbers of people exposed to risk, which are not precisely known, and partly by the extent to which reportable accidents are in fact being reported.[2] But whether or not the Chief Inspector considers he needs a larger staff—and "during 1967 much thought was given to careful calculation of the further modest growth needed"—whatever staff may be needed to carry out inspections satisfactorily, the real need is for every employer and manager to "plan for safety just as they plan their production or research and development."[3] In emphasizing this approach to the prevention of accidents the previous Chief Inspector also rightly stressed the need of thorough training of young people entering industry, for it is among them that a disproportionate number of accidents occur. A feature of this problem is the disparity

[1] *Annual Report of H.M. Chief Inspector of Factories, 1967*, 1968, Cmnd. 3745. H.M.S.O.
[2] *Brit. med. J.*, 1967, 3, 507.
[3] *Annual Report of H.M. Chief Inspector of Factories, 1966*, 1967, Cmnd. 3358. H.M.S.O.