EDITORIAL.

THE ANNUAL REPORT OF THE CHIEF MEDICAL OFFICER FOR THE YEAR 1938.

This Report commences with philosophical and historical reflections on the real nature of progress in relation to public health. The Report was written before the outbreak of war and Sir Arthur MacNalty writes that under the black clouds of a national emergency much of the work of the Ministry has had to be devoted to medical emergency services, hospital provision for civilian air-raid casualties, and arrangements for the evacuation from urban centres and reception in other areas of school children and others.

The Report is a record of public health progress. Not only have the existing health services been maintained and developed, but a new health service, the cancer service, had been established by the Cancer Act of 1939. The work has been done in circumstances of unprecedented pressure.

The Second Section of the Report deals with vital statistics. The population of Great Britain, as enumerated at the census in April, 1931, was 44,795,357. Of this total 39,952,377 represented the population of England and Wales. The estimated mid-year population in 1938 of England and Wales was 41,215,000 (males 19,792,000, females 21,423,000). The rise in the average age of the population, to which reference has been made in previous Reports, has continued.

The birth-rate was 15·1, which is a slight improvement on the rate of 14·9 for 1937. The infant mortality has declined from 58 to 53 and is now the lowest on record. The crude death-rate in 1938 was 11·6 per 1,000 persons compared with 12·4 in 1937 and 12·1 in 1936. The standardized death-rate was 8·5 per 1,000 persons. The five principal causes of death at all ages were: Diseases of the heart and circulatory system, 327 per 1,000 deaths; cancer, 143 deaths per 1,000; bronchitis, pneumonia, and other respiratory diseases, 91; diseases of the nervous system, 81; all forms of tuberculosis, 55 deaths per 1,000 persons.

If the causes are set out in order of magnitude for man's working life period, 15-65, tuberculosis takes the third place, then come bronchitis, etc., and diseases of the nervous system. Compared with ten years ago the proportion of deaths from diseases of the heart and circulation has increased by 98, and that of cancer by 21. The causes of the increase are complex, but one factor is the growing proportion of older persons in the population.

The third section of the Report is devoted to General Epidemiology. In the Introduction the risks which patients run when they are housed together are stated to be a commonplace of medical experience. Cross
infection in the treatment of scarlet fever in isolation hospitals is a
conspicuous example of this, and the work of Griffith, Alison Brown and
others goes far to explain it, and indicates the remedy. Similarly, McLeod
and his co-workers, by their classification of diphtheria into mitis and gravis
strains of Corynebacterium diphtheriae, have paved the way to a reclassifica-
tion of diphtheria patients in hospital. In maternity hospitals Colebrook
and Griffith have demonstrated the dangers which may arise in the day-to-day
work of these institutions.

Sporadic cases and small outbreaks of diarrhoea with a high fatality
frequently occur in children’s wards, and a good deal of work on the subject
has been carried out in this country and in America. It is hoped that some
method of differentiating between metabolic disorders and the infective
processes, which give rise to similar symptoms, will evolve.

In 1938, 18 cases of smallpox were notified. Nine were of the major
variety; four of these, one fatal, were notified in the Borough of Gravesend
between the end of March and the beginning of June. At the beginning
of March a patient suffering from major smallpox, acquired in India, was
landed at the Port of London Isolation Hospital, Denton, near Gravesend,
where the illness proved fatal in four days. This case was associated with
the occurrence in contacts of an unusual illness resembling the toxæmia of
smallpox. The first of the four smallpox cases subsequently notified in
Gravesend was taken ill ten days after the imported case was landed, but no
direct connexion between them could be discovered. Fatal illnesses
suggestive of toxic smallpox occurred in the families of two other cases later
notified in Gravesend, but no evidence could be obtained of any direct or
indirect connexion between the three families concerned.

Eight cases of acute nervous disorder following vaccination were reported
in 1938. Six of the eight cases were examples of primary vaccination in
adolescents or young adults, and supply additional evidence for the warning
repeatedly given that primary vaccination of children of school age and
adolescents is to be deprecated.

There were 99,278 notifications of scarlet fever with a fatality of only
0·36 per cent. The large incidence of this disease continues practically
undiminished. Owing to the risks of cross infection in isolation hospitals
the indiscriminate removal from their homes of patients is likely to increase
the incidence of streptococcal infections.

The deaths from measles and German measles numbered 1,641, being
one-third higher than in 1937 and the third lowest in the past ten years.
Covenery, Dixon and Harries examined a number of measles patients after
they had recovered from the disease. They found that every case of broncho-
pneumonia complicating measles showed changes (infiltration, increased
hilar shadows) which are greater than is usually supposed, and recommend
that these children should be kept under examination at a clinic, preferably
a tuberculosis clinic as facilities for radiological re-examination are essential.

The occurrence of jaundice after the administration of convalescent
measles serum has been investigated, but no clue to the cause of this has been elicited.

In 1938, 65,008 cases of diphtheria were notified. The fatality rate was 4·5 per cent, and 5·3 per cent in 1937 and 1936 respectively. Wright has pointed out that the fatality rate varies at different times and in different places, and this may be associated with varying type incidence. It was not until 1930-1 that the distinction between gravis and mitis forms of the diphtheria organism was made plain, and the distinction between these strains as a possible factor in the diphtheria incidence of various towns has to be taken into consideration.

Artificial immunization against diphtheria proceeds very slowly, and a Committee of the Medical Research Council has set up a subcommittee which is actively engaged in promoting diphtheria immunization. Artificial immunization against diphtheria became compulsory on April 15, 1937, in the Island of Guernsey.

The number of notifications of enteric fever (typhoid and paratyphoid) was 1,322 with 163 deaths, giving a fatality rate of 12·3 per cent. A special Section of the Report (IV) is devoted to the enteric group of fevers. Diagnosis and the usual tests—blood culture, plating of faeces and urine, agglutination reactions, etc.—are described. Marres' test is stated to be of value where laboratory aid is not available. The test depends on the fact that atropine does not accelerate the pulse at certain stages of active typhoid infection to the same extent as in normal individuals or those affected by other fevers. It has been found most useful between the fifth and fourteenth days. An acceleration of 14 beats per minute is taken as the upper limit. If it be 15 or more the reaction is negative.

Short accounts of five outbreaks in 1938 are also given illustrating the various ways in which carriers or missed cases infect foodstuffs.

In 1938 there were 4,847 deaths from influenza, so it cannot be considered to have been an epidemic year. In the ten years after the pandemic of 1919 there was an almost regular alternation of epidemic and non-epidemic years. In 1931 a change came and three years of epidemicity were followed by three years of moderate prevalence.

A large proportion of influenza deaths occurs usually in the first quarter of the year. The number of influenza deaths continued to rise until February, 1939, thereafter declining. The increased prevalence was irregular in distribution and in some communities a substantial portion of the morbidity was regarded as being due to febrile respiratory catarrh and not to influenza. Tests were made in the early days of recrudescence in the first quarter of 1939, but no virus comparable to that secured in previous epidemics was recovered. It is stated that the presumption is that there are other infections which may be clinically indistinguishable from that of the known influenza virus and in which the aetiological agent remains unidentified.

An outbreak in 1939 was studied by Dr. C. H. Stuart-Harris at the
National Institute. The known virus seems to have played a subordinate part; it was several weeks before the virus could be discovered in connexion with this outbreak. The symptoms were very varied and the virus could not be related to any definite clinical picture.

There is a very full account of poliomyelitis and polio-encephalitis during 1938, which is the peak year since notification became compulsory in 1912. Unfortunately the number of notifications does not represent the actual prevalence as many mild and abortive cases are not notified. The history and prevalence of the disease since 1926 are fully described.

Section V of the Report is devoted to the Emergency Hospital Organization and Medical Arrangements in connexion with civilian evacuation. The subject of emergency hospital accommodation for air-raid casualties is considered to be very difficult as there are no precedents or experience to guide us. In this chapter of the Report only an outline is given, and for further details reference is made to the comprehensive White Paper presented to Parliament by the Minister of Health and the Secretary of State for Scotland.

By the provision of the Civil Defence Act, 1939, the Minister of Health and the Secretary of State for Scotland are responsible for securing that in the event of war, facilities will be available for the treatment of casualties occurring in Great Britain from hostile attack.

A regional organization in time of war is required as communications might be temporarily severed with the central seat of government. The Government has therefore divided England into ten regions, each of which is in charge of a Civil Commission.

A special department of the Ministry has been set up to deal with air-raid precautions, and Dr. J. H. Hebb appointed Director-General of Emergency Medical Services to direct and organize hospital services. In each region there are one or more hospital officers concerned with the Ministry's central scheme for accommodation for air-raid casualties. Liaison with local authority hospitals is effected through the medical officers of health of counties and county boroughs.

It was necessary to organize the voluntary hospitals of the Region. London presented special problems and accordingly the Region was divided into 10 sectors each radiating from an apex in the centre out into the home counties. Nine of the sectors were based on one or more of the teaching hospitals, while the tenth was based on the large hospitals in East Ham, West Ham, Romford, Stratford, and Ilford. At their wide ends the sectors extended beyond the boundaries of the Metropolitan Police District into Essex, Hertfordshire, Buckinghamshire, Berkshire, Surrey, and Kent.

A group officer, the Dean, or other senior member of the medical staffs of the teaching hospitals, was appointed for each of the ten sectors and has worked out the plan of the Ministry. In the London Region a lay sector officer and a sector matron were appointed for each sector, the first to
organize non-medical matters involved in the dispersal of hospitals and the second to plan the distribution of the nursing staff. In war each group officer would be responsible for directing the movements both of casualties and of personnel in his own sector, but the hospital officers would be responsible for co-ordinating the operation of the emergency scheme over the whole region.

The problem in the provinces was different from that of London, and it was not considered necessary to divide any other towns into sectors in England and Wales. The hospital officers, however, arranged to affiliate a number of the hospitals and institutions outside the larger towns in England and Wales to the inner hospitals, and group officers were appointed for these affiliation schemes in 18 towns. As in London, the group officers were responsible for the organization of the medical personnel in the affiliated hospitals.

An important principle was that there was to be no interference by the departments in the internal administration of any hospital. The Government would decide which hospitals were to receive casualties and would equip them for the work allotted to them. The hospitals would be responsible for the treatment of patients, as in peace-time, and many of their patients, even in the danger area, would be the ordinary civilian sick. The organization of the hospitals in the casualty scheme was entirely different from that of the Territorial Army hospitals, which exist for one class of patient only and under one control. In the emergency scheme are included voluntary hospitals with a long tradition of independence, and municipal hospitals with their own efficient organization. The Departments have respected the integrity of both while combining them into a homogeneous whole. It was considered important to appreciate the essential differences between the military and civilian schemes.

It was considered that in the case of war 300,000 hospital beds should be made available for civilian casualties at the earliest possible moment, and account must be taken of the needs of the fighting services. The Health Departments have worked in close collaboration with the three fighting Services Departments and it has been arranged that the immediate requirements of the latter shall be met out of the civilian hospital pool in so far as they are not provided for by the embodiment of a certain number of Territorial Army hospitals in buildings not normally used as hospitals. The Service requirements were expected to increase after the first few months of war, but it was anticipated that it should then be possible to provide them with additional accommodation either by releasing beds from civil casualty work or by the provision of new hospitals.

The methods to be adopted for providing immediate casualty accommodation were: (1) All ambulant patients and those capable of being discharged were to be sent home. It was estimated that this would free 100,000 beds. (2) By introducing extra beds. This with beds in mental hospitals should give 150,000 extra beds. (3) Accommodation in new
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hutted hospitals and new hutted wards. By this means 40,000 additional beds would be provided. (4) Building new hospitals by local authorities where they are required as part of the peace-time organization.

The problem of shifting base had to be considered. London is a striking instance of this problem. The big teaching hospitals were to be evacuated of practically all their patients and to serve as casualty hospitals. Motor buses fitted up as ambulances would convey the patients out of London to more distant hospitals. It was anticipated that there would be a steady flow of patients along the radiating lines of the sector system to subsidiary hospitals. In this way convalescent casualties would end up at a distant hospital in a more remote part of England or Wales.

Interchange of hospital accommodation was also considered. An area A might be heavily bombed and its hospital accommodation severely strained, while an area B with ample unoccupied beds might be untouched. Arrangements would be in force for B to receive the surplus casualties of A.

The basis of the scheme which has been worked out by the two departments is that casualties should not be retained in hospitals in the most populous areas for longer than can be avoided, and accordingly efforts have been concentrated on increasing the hospital accommodation in the relatively safer areas and providing adequate transport. None of the hospitals in the danger areas can be abandoned as they will need to be used both as receiving stations for casualties and as hospitals for ordinary sick in urgent need of treatment. In the inner areas of London it is proposed, if possible, substantially to reduce the number of beds in occupation in order that the staff may be freed to serve the beds in the outer areas, and it is hoped that it may be practicable to move casualties out within a few hours of their reception. In other English towns there are not enough existing beds to make it practicable to contemplate reduction, and the Ministry have avoided increasing the number of beds in the inner areas on the assumption that casualties will be immediately evacuated. In Birmingham and Newcastle it was considered that it would not be safe to rely on the existing number of beds and they have been increased.

Every hospital and institution considered capable of treating casualties and convalescent cases has been included in the scheme with the exception of infectious diseases hospitals and maternity units in areas scheduled to receive evacuated children. All the hospitals have been divided into two classes: Class 1 being hospitals which are capable of doing surgical work and have been allocated for the reception and treatment of casualties, Class 2 hospitals being those which will undertake convalescent and medical work. Every hospital has been informed of the class in which it is placed, of the number of beds which it is expected to accommodate and of the number it is expected to clear on receiving warning. For working purposes within the departments Class 1 hospitals in the areas which are being evacuated are regarded as casualty receiving hospitals, whilst those in neutral or reception areas are regarded as advanced base or base hospitals.
Mental hospitals play an important part in the emergency scheme. It is not proposed to send home mental patients on the outbreak of war, but the Board of Control has estimated that in emergency the existing beds in mental hospitals could be increased by 25 per cent without injury to the patients. Detailed proposals have been made by the medical superintendent of every hospital; the majority are able to take extra beds. This has been done by re-arranging the patients' accommodation and thus setting free one block for casualties. In a few cases mental patients would be transferred to other hospitals and the cleared hospitals converted into base hospitals. This has been done at Horton, Epsom (2,500 beds), Hill End, Hertfordshire (1,400 beds), and the Park Prewett, Basingstoke (2,000 beds). These three will be base hospitals for London. There are very few general hospitals in being in rural or semi-rural areas where base hospitals must be located. Accordingly, in addition to the mental hospitals, public assistance institutions, sanatoria, and one or two miscellaneous buildings (such as the Royal Blind School at Leatherhead) are being designated as base hospitals. None of these institutions are normally capable of undertaking acute surgical work and they are to be "up-graded" to Class I status by the provision of the necessary equipment. This includes operating theatres, X-ray rooms, dark rooms, etc. Arrangements have been made for up-grading 156 hospitals and institutions in England and Wales.

The provision of first-aid posts is the responsibility of local authorities, who are charged with the duty by the Air Raid Precautions Act of 1937. Responsibility for approving such schemes was transferred to the Ministry from the Home Office in December, 1938.

In every Region there will be a certain number of first-aid posts, generally supervised by the medical officer of health and under the control of a medical practitioner who will be remunerated by the Government for his services. It is considered undesirable to bring contaminated but unwounded casualties into aid posts which are situated in hospital premises. Local authorities are meeting this either by providing cleansing stations in public baths or other suitable buildings, or by erecting decontaminating stations in the grounds of hospitals. The doctors in first-aid posts will generally be part-time officers and the staff will consist of volunteers. The posts will generally be in existing medically equipped buildings not required for use as hospitals, at out-patient departments and health clinics.

The supply of medical personnel for hospitals, first-aid posts, and generally for the allocation of medical men to appropriate posts in time of war was arranged for by a Central Emergency Committee formed by the British Medical Association, which asked all the medical practitioners in Great Britain to register with it on a voluntary basis for a national emergency. The response was general, and doctors were classified into their appropriate services, so many for the Army, so many for the Navy, so many for the Air Force, so many for specialist services, so many for hospitals, so many to continue in official posts or in general practice. The British Medical
Association devised a scheme whereby a man’s practice will be carried on during his absence on war work by another practitioner and kept intact for him, as far as possible.

In London the Royal College of Physicians and the Royal College of Surgeons have set up a Committee of Reference for the staffs of London hospitals in the same way. For additional hospital officers the Government will call up the doctors they require from these committees and will pay them at rates corresponding to R.A.M.C. ranks—Colonel, Major, and Captain.

A sufficient number of practitioners has been selected to staff 200 medical boards estimated to be required in the event of an extended measure of conscription, and about 150 of these boards are now being used for the purposes of the Military Training Act.

In connexion with the difficult task on air-raid precautions the Ministry have obtained the advice of the leaders of the medical profession through its Medical Advisory Committee, which is permanent and can be consulted on all forms of health projects.

On the advice of the Presidents of the three Royal Colleges, consulting experts have been appointed by the Ministry in medicine, surgery, orthopaedics, jaw and face injuries, dentistry, neurology, and psychotherapeutics.

The Medical Research Council have been made responsible for the laboratory organization in the country required in time of war. The Ministry have linked up this work with the public health and hospital regional organization, and with the work of county and municipal laboratories.

At the end of Section V there is a note which states: “Since this chapter was written war has been declared and the vast organization here described has come into being. Certain modifications and adjustments have had to be made, but on the whole it has stood the test of experience to a remarkable degree.” The real test has yet to come.

There has been much criticism of the scheme in the medical papers. The scheme was devised to meet circumstances which, although thought to be inevitable, have not yet eventuated. In principle the emergency scheme was considered sound in detail, but in London it was thought to have defects in regard to existing boundaries and the number of beds available in the inner and outer zones owing to the alleged necessity to have a voluntary teaching hospital at the apex of each sector.

To those who were responsible for the medical arrangements in the Great War the relationship between the War Office and the Ministry of Health in the existing arrangements seems most important. The Secretary of State for War in his speech in Parliament said he did not regard the present position as altogether satisfactory, but it has to be borne in mind that the plans were made at a time when emphasis was laid on the bombing of towns and the civilian casualties which it was expected would result, rather than on land warfare and military casualties. Discussions were now being carried
on to ascertain whether it would not be possible, without abandoning the principle, to arrange that although hospitals should still be able to accommodate civilian casualties, more effective control could be established with regard to the number and the location of beds required for military cases.

In 1938 there was an increase in the notifications of cerebrospinal fever, and the Report states that the possibility we are approaching another period of epidemic prevalence cannot be disregarded. During the twelve months from April, 1938, to March 31, 1939, meningococci from 104 cases were examined at the Ministry's laboratory. Of these 71 per cent belonged to Group I and 29 per cent to Group II. Reference is made to the paper by Dr. Banks on the treatment of 113 cases of acute meningococcal meningitis with serum and sulphanilamide. The results were encouraging, and later reports were received on the treatment with M & B 693. The number of reports received is considered too small to draw dogmatic conclusions, but it is thought reasonable to suggest that a patient with cerebrospinal fever should be given a dose of one of the sulphanilamide products as soon as possible after diagnosis.

The rise in cerebrospinal fever in 1937 and in 1938 was not great, but its occurrence just before the outbreak of war caused some concern as to what would happen to young men now concentrated in barracks. Unfortunately there has been a great increase in cases of cerebrospinal meningitis during the present year. Active preventive measures and adequate treatment with sulphanilamide were early advocated by the War Office and a memorandum was issued by the Director-General. As a result, the case mortality has fallen from about 40 per cent to 6 or 7 per cent.

We have had to devote so much space to a description of the Emergency Hospital Organization that a consideration of the remaining sections of Sir Arthur MacNalty's Report will have to be deferred to another issue of the JOURNAL.
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