

## DIPHTHERIA IMMUNISATION CAMPAIGN.

A national campaign for the immunisation of children against diphtheria was launched by the Ministry of Health towards the end of 1940.

The long-term intention was to stamp out diphtheria as an epidemic disease. The short-term object was to guard against the danger that diphtheria would increase owing to war conditions.

The campaign got under way in 1941. From the next year to the end of 1945—when it was estimated that 58 per cent. of the children under 15 years of age in England and Wales were immunised—figures for both notifications and deaths declined steadily, with new low records established in each successive year.

The 1946 figures so far show a slight increase—for the first time since the campaign began. Figures for London and 124 big towns to April 6th, this year, were 4,066 cases and 125 deaths, as compared with 3,505 cases and 107 deaths in the same period last year.

### Fall in Our Diphtheria Figures since 1940.

Pre-war figures for diphtheria averaged more than 50,000 cases and about 2,900 deaths a year. The 1945 figures—(the lowest ever recorded)—show that cases are now about half and deaths about a quarter of the pre-war average. Though it must not be forgotten that diphtheria epidemics are liable to a certain periodicity, these figures indicate that the immunisation campaign has already gone a considerable way towards defeating diphtheria.

### Numbers Immunised in England and Wales.

The campaign is directed towards immunising all children up to the age of 15. The Government's immediate target is 75 per cent. of this total. This is regarded as the minimum necessary to maintain progress until diphtheria is entirely defeated as an epidemic disease.

The position is that there are at least 3,500,000 children, representing about 42 per cent. of the child population, who have not been immunised.

### Plan of the Campaign.

Since the campaign began, the Government has provided local authorities with free prophylactic material and with help towards publicity campaigns. Other expenses are borne by the local authorities.

The chief initial success was amongst school children because they are more accessible than infants. By the end of 1941, about 36 per cent. of children of school age had been immunised, but only about 19 per cent. of the younger children.

The 1942 campaign, while continuing to advocate immunisation for all children, concentrated particularly on those under 5—the age group for whom diphtheria is most deadly—and about 600,000 of them were immunised that year, in addition to nearly 800,000 older children.

Again, in 1943, the local authorities paid special attention to the problem of "under-fives," and were encouraged by the Ministry to use family doctors for immunising young children at home as well as at centres.

The 1944 campaign started late in many districts owing to flying bombs. It was directed particularly to persuading parents to immunise their children at about the first birthday, or at any rate, before school age.

As immunity takes three months to develop and as the epidemic seasons for diphtheria are autumn and winter, special efforts are made each year to get as many children immunised as possible during the spring and summer.

Precautions are all the more urgent now that the end of the war has brought increasing contact with continental countries, where diphtheria of the most malignant variety is known to be prevalent.

### A Deadly Danger to Children.

Diphtheria is caused by a germ which grows in the throat and there produces a poison or toxin. This poison is absorbed into the body and, if the process is not stopped by early treatment, attacks the heart muscle and the nervous system. This may cause a long illness, accompanied by paralysis or heart weakness and it may cause death through heart failure or paralysis either early or late in the illness. Sometimes, if the windpipe is affected the patient is choked by the accumulation of so-called membrane and may die from sheer strangulation.

The diphtheria germ is spread chiefly by "droplet" infection—through sneezes, coughs, or even speech.

General good health does not of itself indicate resistance to diphtheria.

Nor does a clean, healthy home spell protection. This disease has no connection with drains or dirt.

The years of greatest risk are up to 15. (Of the 934 people who died from diphtheria, in 1944, nearly 800 were under 15).

The younger the child the greater the risk of death; 8 out of 10 of the children who die from diphtheria are 10, or under. The most dangerous years of all are up to 6.

Diphtheria is most common between the ages of 4 and 6 because that is usually when the child first comes into contact with numbers of other children.

In spite of the decline in diphtheria figures since the immunisation campaign began, nearly 9,000 children died from this disease during the war years—about 1,000 more than were killed by bombs; and most of these diphtheria deaths were among children under 10.

Most adult city dwellers are naturally immune.

An immune person, whether an adult or a child, can be a diphtheria "carrier."

### Cases and Deaths among Immunised Children.

Immunisation affords a good degree of protection—though not complete protection—against an attack of diphtheria. It affords a very high degree of protection indeed against the risk of death from diphtheria. Immunised people, if they get diphtheria, nearly always get it very lightly.

Of 135,431 children's cases notified between 1940 and December, 1944, 17,084 had been immunised and 118,347 had not; and of 3,346 who died, 118 had been immunised and 3,228 had not. Out of every 30 children who died from diphtheria in the years 1942–1943, 29 had not been immunised. In 1944, the death rate among the unimmunised was about 27 to 28 times as great as among the immunised. In 1943 and 1944, of the number of children suffering from diphtheria about 1 in 4 had been immunised.

### Some Facts about Diphtheria Immunisation.

Diphtheria is one of the diseases of which doctors have had a good deal of knowledge for quite a long time.

Immunisation against diphtheria was known nearly a generation ago. Its value was recognised after the 1914–18 war. The Maternity and Child Welfare Act, 1918, included provisions under which local authorities could make schemes for immunisation, and a number of local authorities approved its use in Welfare Centres for children under 5. The Ministry of Health issued its first memorandum on the Production of Artificial Immunity against Diphtheria in 1932.

Immunisation consists of the injection of a specially-prepared toxoid, the effect of which is to call up and strengthen the body's natural defences against diphtheria. There is in the body a natural antidote to the poison produced by the diphtheria germ, but this natural antidote is often not sufficient to render the poison harmless. The purpose of immunisation is to enable the body to produce

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