[Report 1934] / Medical Officer of Health and School Medical Officer of Health, Swindon Borough.

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Borough of Swindon.

Education Committee.

ANNUAL REPORT

FOR THE YEAR 1934

OF THE

School Medical Officer

(DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.)

SWINDON.
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STAFF.

School Medical Officer—DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Assistant School Medical Officers—
J. STEVENSON LOGAN, M.B., Ch.B., D.P.H.
VIOLET REDMAN KING, M.B., Ch.B. (Leeds).

Specialist Ophthalmic Surgeon.
OLIVER BEAKLEY PRATT, M.A., M.B., B.Ch., (Oxon.) D.O., M.R.C.S., L.R.C.P.

Specialist Nose, Throat and Ear Diseases.
F. COURTENAY MASON, B.A., Lond. M.S., M.B., B.S., F.R.C.S.(Eng.)

Orthopaedic Surgeon.
M. F. FORRESTER BROWN, M.D. (Lond.) M.S.

Dental Surgeons—W. KENYON BERRIE, L.D.S., R.F.P.S.G.
KENNETH W. MASSEY, L.D.S. (Liverpool).

Head Clerk—S. MANSFIELD DEE.

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SCHOOL NURSES AND HEALTH VISITORS.

Miss I. D. Sampson.
3 years Certificate of Training.
Certificate for Tuberculosis (Royal Chest Hospital, London).
Queen's Nurse.
Certificate of Central Midwives Board.
State Registered Nurse.

Miss E. M. Pilcher.
3 years Certificate of Hospital Training.
School Nurses and Health Visitors and Tuberculosis Certificate.
Certificate of Royal Sanitary Institute.
State Registered Nurse.

Miss O. Marker.
4 years Certificate of Hospital Training.
Certificate of Central Midwives Board.
Health Visitors Certificate of the Royal Sanitary Institute.
State Registered Nurse.

Miss M. Evans.
3 years Certificate of Hospital Training.
Queen's Nurse.
Certificate of Central Midwives Board.
Health Visitors Certificate of the Royal Sanitary Institute.
State Registered Nurse.

Mrs. K. M. D. Francis.
3 years Certificate of Hospital Training.
Certificate of Central Midwives Board.
Health Visitors Certificate of the Royal Sanitary Institute.
State Registered Nurse.

SCHOOL NURSES.

Miss A. M. Hoare.
2 years Certificate of Hospital Training.
Certificate of Central Midwives Board.
Certificate of Royal Sanitary Institute.
State Registered Nurse.

Miss A. Hawkins.
4 years Certificate of Hospital Training.
Certificate of Central Midwives Board.
State Registered Nurse.

BOROUGH OF SWINDON.

EDUCATION COMMITTEE.

Area	6,021 acres
Number of Elementary Schools	16
Number of School Departments	34
Recognised Accommodation	11,392
Number of Children on Register	9,246
Average Attendance	8,329

Number of Secondary Schools	3
Number of Scholars on Roll :—	
The College, Secondary School	301
Euclid Street Secondary School	276
The Commonweal Secondary School	316

To the Chairman and Members of the Education Committee of the Borough of Swindon.

LADIES AND GENTLEMEN,

I have pleasure in presenting the report upon the Medical Inspection and Treatment of School Children in the Borough for the year 1934.

STAFFING.

In pursuance of the policy of complete co-ordination of the health and school medical services, the post of school nurse was abolished on 1st April, 1934, and the work of school nursing and health visiting combined, so that in the future no nurse will be appointed either wholly for school work, or for health visiting. Of the nurses employed by the Education Committee on the appointed day, two, Misses Sampson and Pilcher, had the necessary qualifications to be accepted as health visitors under the regulations of the Ministry of Health. Miss Hawkins was not so qualified and for the time being had to confine her work to the school medical department, but in September, 1934, she was granted leave of absence to undergo the course necessary for her to qualify for the health visitors' certificate. Miss Hoare, the senior nurse in the service, has for many years been employed solely in the school dental department, and it was decided that during the remaining years of her service she should continue in the dental department and take no part in the general work of school nursing and health visiting.

Dr. J. S. Logan resigned at the end of 1934, but he continued in office up to the end of the year.

CO-ORDINATION.

Co-ordination of the work of the school medical department is necessary in three directions. First with the general public health service of the borough, particularly with child welfare; secondly with the machinery of education; and thirdly, with supervision and treatment, both preventive and curative, which are available for citizens when they pass from school into industry. As regards the first, co-ordination is complete. The school medical service in Swindon was not at any time separated from child welfare and the artificial barriers between the two departments established for administrative purposes have been levelled, so that at present they have little tangible existence. Co-ordination

with the education machinery is also complete in so far as the school medical department has become an integral part of education and the teachers, school nurses, and school doctors act in unison with a single aim. But there is another side of co-ordination, fitting the school environment to the needs of the child, which is by no means so satisfactory. The majority of schools in Swindon are, as elsewhere in the Country, unsuitable places for the segregation of children, in which it is difficult to impress the laws of hygiene and personal health, for the environment is in flagrant contradiction to the teaching. The new school at Pinehurst, which we may take as an example of what a school ought to be and which we hope will be the pattern of what all our schools will be, satisfies hygienic requirements so that therein it should be possible to educate children in the routine of healthy living in a way which cannot be done in the older schools. Two of our schools, Queenstown and Clifton Street are particularly bad. These should be scrapped as soon as possible and rebuilt in style and surroundings which would render education in its full sense feasible within them.

Co-ordination of the school and child welfare departments with the health services of industry and adult life is hopelessly faulty ; no use is made of the records of the medical histories of our citizens during the most important years of their lives, and the child when he leaves school departs from a system of supervision and help which is fairly complete and well co-ordinated to one where there is no continuity, and health supervision is either absent, or fragmentary. Probably in the present state of our knowledge we are not in a position to give health supervision of a particularly valuable kind to adults, but we could extend the supervision, which now ceases when children leave school, through adolescence to maturity.

FINDINGS OF MEDICAL INSPECTION.

The tables which make up the bulk of this report give statistical evidence of the various defects found in the examination of school children, of the various forms of treatment that are given to them, and some evidence of the results of the treatment and supervision which they receive. The numbers and rates of the various items on the schedules vary comparatively slightly from year to year and such variations as do occur are not always of much significance. But these schedules do not show a complete picture and from their evidence it is not possible to gather that information which is most valuable, namely :—" What is the physiological value of the children ?" ; " Is it improving or deteriorating ?" ; " Is the treatment that is given to the children wholly and completely beneficial to them ?"; " Is it the most

that can be done to improve their vitality and are the results of this treatment, if any, capable of demonstration and evaluation ?" The child is a physiological unit and the point which above all we have to determine is whether that unit is satisfactory and fits in satisfactorily with its time-space environment. When we consider such a point as nutrition, for instance, we have to determine not a factor separable from the child, but a potential of the child himself. This we can measure only by his reactions to his environment as a whole, and not by any particular function. We know that a child cannot be properly nourished unless he is supplied with food of known quantity and quality, but this alone is insufficient to ensure his proper nutrition.

The defects found in school children are of various kinds. Some, fortunately the majority, are temporary pathological states from which recovery to normal, complete and permanent, is to be expected. Some are merely biological variations and departures from arbitrary standards which are of little consequence to the physiological integrity of the child, though they may render him less capable than others of fitting his environment. Some are serious in nature, crippling the child, temporarily, or permanently, physically, mentally, or morally, rendering his rearing as an able-bodied citizen difficult, problematical, or impossible. Some are of such a character that it is out of the question to rear the child as a citizen and his future is the truly dismal one of a parasite upon the State until death releases him. Much so called defect is not defect nor disease at all, but normal temporary physiological stress connected with the process of development and adaption.

THE WORK OF THE SCHOOL MEDICAL OFFICER.

Let us look upon school medicine from a new angle and instead of medical inspection and treatment of children, substitute the expression " biological rearing of citizens." Then shall we see that we must face the great problems of school medicine seriously. We must do all we can to undo the errors of heredity ; we must, where possible, fit the environment to the capacity of the child and not attempt to squeeze the child into an unfavourable environment where it is within our powers to alter the latter ; we must ensure that the intake side of nutrition is of full physiological value ; we must defeat the menace of infection by the application of what knowledge of parasitism we possess ; we must strive to understand the child's mind and its unfolding, to educate him by guidance, by instruction, by answering his questions, by allaying his fears, by consoling him in his troubles, with a blind eye to his temporary delinquencies and a keen eye on his tendencies ; and, above all, we must be sure that what we do, though useful in one direction is not pernicious in others, resulting in a state which is worse than if we had done nothing.

The work of the school medical officer is to supervise the health of the child as a whole. It may be that from time to time the child requires some active form of medical treatment; it may be that he requires the advice and skill of specialists for some special elements, but the child as a whole is what mainly concerns the school medical officer and whether or not he himself administers any special treatment, he should be satisfied that the treatment is serviceable and beneficial to the whole microcosm and not only to some fragment of it. Those engaged in school medicine have to do many odds and ends of treatment as a matter of expediency. Minor ailment clinic work is done by the school medical officer because it is quicker, cheaper and easier for him than anyone else to do; but it is no part of his main work. Much specialist work is required for certain school children, so we must employ orthopaedic and throat surgeons, ophthalmologists, psychologists and so forth; but these experts are not school medical officers, they are unfitted to do the work of the school medical officer, and must not supersede him.

Since children possess neither money, nor power, nor votes (and most of our children though in course of time they will get the last, will never command the first and second) the work of the school medical officer is not attractive to those who worship the common God. A lot has to be put into the work and little is to be got out of it, so school doctors come at the tail end of the medical hierarchy. There is consequently a tendency to get away from the work and to leave its problems to settle themselves, for there is nothing sensational about them. The solution of some of our greatest difficulties, which would materially alter the whole future of mankind, would scarcely receive so much notice as an operation on a club-footed bishop to enable him to wear his gaiters with becoming elegance. Nor can we conceive any inducement that can be offered, or any rewards which could be bestowed on those who seek to improve the health and well-being of the generation which is about to supplant us, which would make school medicine generally attractive. " Interesting cases " are few, fortunately, and the points of real interest and importance can only be appreciated by those with some knowledge and enthusiasm for biology and sociology; consequently school medicine is apt to become patchy and to miss its main theme. The supply of spectacles for children with defective sight, the supply of facilities for throat and ear operations are part, but only a small part, of school medicine and the sum of these and allied amenities does not constitute the whole.

Of supreme importance to the school medical officer is a knowledge of development, a subject upon which we are in the main ignorant, for though the facts can be observed (though they

seldom are) the explanation of the facts of development is too often beyond us. Much which is 'normal' in the adult is abnormal in the child and the reverse is still more true, and often there is a temporary phase between two more stationary states which, though in itself healthy, appears unhealthy when contrasted with standard conditions. This applies equally to bodily structure, to physiological function and to mentality. In the developing child there is a prolonged but discontinuous and irregular change from infancy to maturity. A new-born child is much like a new-born chimpanzee. The two are much more alike to each other than is either to the adult, and the adults of both species are more unlike their own infants than they are to each other. In the course of development the two babies diverge. To understand how this divergence comes about is the theory, and its direction is the object, of school medicine.

CONCERNING NUTRITION.

Of recent years nutrition has become the predominant factor in preventive medicine ; for so fruitful has been the experimental work in the laboratory, and its practical application in the field, of unravelling the physiology of nutrition that we are in a far better position to insure good nutrition and to abolish the ills of malnutrition than we are to remedy any other of the troubles from which we suffer. We do not know so much about the nutrition of adults as we do about that of children, especially school children and infants, because we do not give to adults the same continuous care which we bestow on children, but so far as school children are concerned we can say definitely that we are in a position to ensure their complete nutrition if we will grant the money, time and trouble necessary for the purpose.

We may accept the following propositions as resting upon sufficient evidence to be taken as true :—

1. Judged by the ordinary tests in use, the nutrition of our school children is, on the whole, good.
2. Judged by the usual standards, the nutrition of school children improved steadily and somewhat briskly from 1908 to 1931.
3. There is no evidence of deterioration either during, or resulting from, the war period.
4. Since 1931 there has been a slight decline in nutrition.
5. The percentage of school children obviously ill-nourished is very small.
6. A general improvement in nutrition is possible by an improved intake of better foods.

7. The diagnosis of illnutrition and the estimation of nutrition are in the province of the physician, for though gross cases of ill-feeding are obvious on inspection, the finer departures from health can only be recognised by an expert, who can estimate degrees and varieties of illnourishment and differentiate their causes.
8. Though lack of sufficient food intake of good quality is the chief cause of illnutrition it is not the only cause.
9. The food requirements of the average person of any age are known with some accuracy and the specific requirements of any individual can be determined, though somewhat less accurately.
10. Malnutrition from lack of quantity does not occur amongst our children, but the quality is generally below optimum and the balance faulty.
11. Malnutrition is nearly, but not quite, as frequent amongst the children of those with sufficient means as amongst those near the poverty line.
12. The cause of malnutrition, other than unsatisfactory intake are of great importance, especially in early adolescence.

The main practical response to our studies in nutrition is the supply of milk to school children at a reduced cost, or free in necessitous cases. This is the logical outcome of our knowledge, so we should like to think that the provision was introduced solely in the interests of health. If we cannot claim this in full, we can still defend the provision so strongly that we shall insure its permanence and that it will not be withdrawn, even if the factors which actually brought it into being cease to have any political bearing. The provision has all the elements of a good preventive measure ; it is cheap, easy and founded on sound physiology. It has been criticized on the grounds that one-third of a pint of milk per diem is insufficient ; that it is not needed by all children who get it ; that there are many children who should get it and do not. These objections are slight and time and experience will settle them. On the introduction of this important measure, the Board of Education insisted upon certain safeguards and required, on paper, a somewhat elaborate system of control. But in practice, in those districts where the medical inspection and treatment of school children are fully carried out, the Board's requirements in connection with the supply of milk add nothing significant to the work and duties of the school medical department.

The figures for 1934 show an apparent rise in the numbers of malnourished school children in Swindon. Thus, in routine inspections of elementary school children 19 cases of malnutrition were discovered against 14 for 1933, and amongst the specials 83

against 33. Moreover, in the secondary schools 32 pupils were described as poorly nourished, whereas in previous years no pupils were so described. As regards the routine inspections in elementary schools, the standards were similar in 1933 and 1934, so the figures for the two years are comparable. But with the specials this is not so, the criterion in 1934 being whether or not the children are in need of extra nourishment and should be granted milk free if necessary. The alleged poor nutrition of the secondary school children (adolescents) is a somewhat different matter ; it is not apparent by the ordinary tests of nutrition, nor is it, in general, caused by lack of sufficient intake. Behind the heading of ' Nutrition-poor,' which appears for the first time on the return of defects by medical inspection of secondary school children, lies a great advance in the practice of communal physiology which gets us nearer to medical inspection being an estimation of physiological values than a process to discover disease. This particular change came about mainly from the experiences of the thyroid clinic which has been in existence for fifteen years and which has gradually changed from a clinic to deal with goitre to one embracing all endocrine disturbances and, by extension, all errors of nutrition and growth. Fifteen years ago the thyroid clinic was started because goitre, obvious enlargement of the thyroid outside physiological adaptions and biological variations, was so common in Swindon children that it was the chief cause of rejection for employment of children who had left school. Goitre has practically ceased to exist amongst our children of to-day, the cases that come to the clinic now being few in number and mainly physiological disturbances which have not progressed to pathological changes. This satisfactory abolition of one of the outstanding troubles of children locally was within expectation as soon as we had found our bearings and came about not from any sensational discovery, or dramatic line of treatment, but from patient study of adverse environmental factors and slight touches of treatment and direction. It was found, as might have been expected, that the causes of goitre are mainly nutritional and that in the prevention of the error by nutritional treatment, other results of malnutrition were suppressed also.

We are able to recognise the earliest stages of the results of various deficiencies in diet and errors in the balance of the numerous chemical substances required by the body, and as these admit of remedy which is quite simple, there is no valid excuse for the continued existence of malnutrition due to deficiencies of diet, whether general or special. The economic factor has, of course, to be taken into consideration, but as it is cheaper to ensure the full nutrition of a dozen children than to attempt to restore to health one whose nutrition has failed, it is more profitable to prevent malnutrition than to cure it.

Even with a perfectly balanced dietary, nutrition may still be faulty. Insufficient sleep, lack of exercise, lack of water, embarrassed respiration from breathing air which is still, or warm and saturated, from clothing which hinders chest expansion, or from faulty positions which interfere with the respiratory muscles, and mental stresses and strains which interfere with the body assimulating food which in itself is nourishing, all cause malnutrition. Lastly, least important and steadily sinking in importance as a cause of malnutrition, is physical disease.

CONCERNING MEDICAL TREATMENT.

In the past, medicine was almost wholly concerned with grave physical diseases. Even thirty years ago, or less, the work of the doctor was mainly attending to persons who were seriously ill with processes which had damaged their physical integrity and threatened, if not the life, at least the capacity of the sufferers. Many of these diseases once common, have become rare ; more are not now allowed to progress to a stage when damage done by them is irretrievable, or even obvious. Some states, formerly called disease and still popularly so regarded, are now considered within the ambit of physiological adaption. Even in his surgery, when he is seeing people who come to him because they are ill, the doctor sees comparatively little physical disease. In the schools where he sees all children, few or none of whom are ill, he will see still less physical disease. But both in surgery and in school he will see scores of people who are ill at ease from failure of physiological adaption to their environments, whose powers of keeping fit are strained to, or even beyond, the limits of physiological comfort and if these receive correct management (we shall not call it treatment) disease can be averted and physiological balance restored.

PROBLEMS CONNECTED WITH THE THROAT.

" Tonsils and Adenoids " and the associated abnormal conditions which are connected, or are believed to be connected, causally with them, occupy a large part of the work of the school medical officer. They should be considered as a biological problem in a wide sense. The surgical removal of deseased tonsils, though it may be highly desirable or, in fact, essential to health, is not a preventive measure ; it does not cure the conditions which led to the disease of the tonsils, nor does it throw any light upon its causes. These must be sought in a different field, in the unravelling of the physiology of the lymphatic apparatus of the throat and the complex part played by it in the establishment of symbiosis. In the days when surgical procedures were only undertaken for the relief of disease calling imperatively for treatment, the operations for enlarged tonsils and for adenoids produced remarkably good

results and were seldom undertaken injudiciously. But with the rise of preventive medicine, those who formerly dealt solely with the diseased imagined, completely erroneously, that measures which produced excellent results in the mitigation of the results of disease would be suitable also for preventing those diseases from arising. So operations for tonsils became common as a *preventive* measure, to prevent the possibility of disease of the tonsils arising and to prevent those forms of illhealth which were alleged to be concurrent with, or consecutive to it. As our knowledge of physiology advanced, especially when physiology itself was recognised to be a detail of general biology, the prevention of disease, which was a dream, evolved into the maintenance of health, which is a reality. So a new conception of prevention came into being, a conception which even now is not generally known, nor appreciated. In this conception, the removal of any structure to prevent it from becoming diseased can find no place, so a re-action against the removal of tonsils, except on proof that they are actually harming health, began to filter into medical philosophy. But it was not philosophy but finance which brought about the reaction against the wholesale removal of tonsils and adenoids. In the present state of the controversy, reduction in the numbers of throat operations is therefore sought largely to save expense and not wholly upon the grounds of physiological soundness. During the past few years much research has been undertaken which is on the whole unfavourable to throat operations, but it must be understood that the validity of operations for the relief of definite present disease is not assailed. The operation is required somewhat extensively, not in the interests of preventive medicine, but because our knowledge of prevention is rudimentary and therefore its practice frequently fails. With our present knowledge we have gone as far as we can to limit operations on the throat to these cases in which the advantages of the procedure obviously outweigh the disadvantages and we can make no further progress until we know more of tonsillar function and the part played by the tonsils and allied structures in the struggle for existence. Here our knowledge might be greater than it is and our teaching much improved if we paid more practical attention to epidemiology and accepted without equivocation that infection is *not* disease and the reaction to it normally a physiological and not a pathological process. In reaction, especially that to the endemic parasites spread usually by droplets, the tonsils and associated structures play a conspicuous part though it must be admitted that the meaning of their play is not altogether clear. The behaviour of the tonsil and its associated lymphatic structures in scarlet fever suggests a line of research which might be profitable. Scarlet fever is one of the commonest reactions to the commonest of human parasites and usually at the present time is a reaction which may well be considered within the limits of physiological

adaption. Sore throat, generally trivial, is a constant feature of the acute stage, but this passes off in a day or two. In convalescence the tonsils enlarge and this is followed by enlargement of the tonsillar lymphatic glands. Both tonsils and glands subside slowly, if they are left alone, though exceptionally they do not. Concurrently with these obvious anatomical changes, alterations in the cytology of the blood occur, the chief of which is that if the tonsils enlarge instead of subsiding there is a rise in the lymphatic elements in the blood. These cases do badly if operated upon. Over thirty years ago I found, or thought I had found, a connection between the results of tonsillectomy and the differential blood count prior to operation and with the assistance of Dr. Violet King, observations have been continued during the past seven years. These researches, in which one person has been engaged for thirty years and another for seven, bid fair to add a small fragment to our knowledge of reaction.

'Tonsils and Adenoids' has become a familiar phrase, around which has grown up much theory which is false and much treatment which in part at least is injurious. This has been largely laid low during the past few years, but we must be sure that in place of a building which was partly rotten, we rebuild one which is sound. It is essential to remember that removal of tonsils or of adenoids by surgery is frequently imperative, though it is open to question whether any state of ill-health exists in which the removal of both at the same time is the best form of treatment.

Associated with tonsils, though not so closely as was at one time held, diseases of the ears hold a place in school medicine second only to diseases of the throat from their frequency and even exceeding them in trouble and anxiety. The ordinary forms of treatment for ear diseases are far from satisfactory, so we have every sympathy with those who advocate somewhat drastic methods. But we must admit that the results of 'radical' treatment are generally bad and, in the experience of the writer, so seldom good that he would discard all severe surgical interference, except when it is imperative to ward off an imminent fatality.

DENTAL DISEASE.

Dental treatment is satisfactory. In the course of time this will become entirely conservative so that the teeth will not be sacrificed. But we make no headway at all with the prevention of dental decay. Mr. Berrie in the school report states that the teeth of entrants become worse from year to year and this is the general finding of school dentists in all parts. This is bitterly disappointing, for the researches in the nutritional factors in dental caries, with which the name of Mellanby is intimately

connected, and in dental function, which is largely associated with the name of Sims Wallace and his school, suggest that if either of these is right, a diet and system of mouth hygiene which satisfies both should produce an improvement. But though the diet of infants and children, at all events locally in Swindon, has become much more consonant with the teaching of Mellanby and Sims Wallace than it used to be, no improvement, but rather the reverse, has happened to the dental situation.

CHRONIC INFECTION.

Chronic infection may be defined as a state of physiological unbalance between the host and certain parasites to which the host cannot develop a complete immunity. In children the two parasites which cause most chronic infection are *mycobacterium tuberculosis* and *streptococcus haemolyticus*. The former is becoming less important than it was, for though infection with tubercle is no less frequent than formerly and the body does not develop immunity to it, a satisfactory working arrangement between the host and the parasite is generally established, so that in the present age the damage done by tuberculosis to children has much lessened. Of the chronic reactions against streptococci, the most important is rheumatism, which locally and topically is uncommon in Swindon. Other forms of chronic infection are largely hypothetical and almost wholly obscure.

ACUTE INFECTION.

Acute infection is as much a part of child life as is teething, or education and therefore must be considered not as an accident, but as a incident. Our object in managing infection should be to make it safe for the host to submit to it rather than to avoid it, except in regard to those parasites which are rare, with which persons in any given locality are unlikely to become acquainted, or which can be prevented from reaching the host. The common parasites which infect persons in this country :—Numerous varieties of pneumococcus and streptococcus, some species of staphylococcus, the viruses of measles, chicken pox, smallpox, influenza (?) and whooping cough (?) the highly specialised parasites of diphtheria and tuberculosis and so forth, cannot by any feasible means be prevented from reaching all of us, generally on exceedingly frequent occasions throughout life. We cannot prevent infection, but we can minimise the risks attending it. Thus vaccination and immunisation are convenient ways of preventing damage from smallpox and diphtheria ; spacing and management can delay massive infection in infancy of measles and other diseases ; improving nutrition can give the host an advantage in his struggle, and skilled treatment of the reactions which occur as part of the process of symbiosis *when these reactions pass beyond physiological adaption* can avert fatality and permanent damage. We shall not pursue this subject here except to emphasis the following points :—

1. Isolation of children with the idea of saving them from becoming infected is, with few exceptions, pernicious. Some isolation of young infants (1 to 3 years) is advisable, but after three years of age congregation is necessary for their mental development and adaption to live in harmony with parasites from which escape is impossible.
2. In the congregation of children (*e.g.*, in schools) adequate spacing, light, ventilation, and freedom of movement are essential. All schools spread infection, but whereas a good school spreads much immunity and little disease a bad school spreads much disease.
3. The popular means of preventing infection, by disinfection, gargling, drugging, etc., are all useless and most of them are dangerous.
4. The nutrition of all children at all ages must be assured.
5. Facilities for convalescence of children recovered from severe reactions to infection should be available. This we have not got in Swindon, but we should have. Many attacked by what are called infectious diseases need no treatment and recover rapidly and completely. But if the fight has been a severe one the vitality is temporarily exhausted and the host will not return to complete health except after a somewhat prolonged convalescence. A convalescent home and school can be a cheap proposition. No special treatment is required, simply a somewhat better system of feeding, exercise, sleeping, amusement, etc., than the children can command in their own homes. Even after the severest fights against the most formidable reactions of acute infection, provided that immediate fatality can be averted, recovery complete and permanent can be obtained by judicious management.

ON PERMANENT DISEASE AND DISABLEMENT RESULTING FROM ACUTE INFECTIONS.

This is a most important group of human diseases. These conditions are incurable, lead to premature death and are enormously expensive to the community, for they cost much money for very poor results. Therefore no expense should be spared to prevent them. Their prevention is 'special,' that is applicable only to a small section of the community, not 'general,' applicable to all citizens, and consists of improvement in the management of the acute infections. The chief of them are as follows :—

Scarlet Fever	Endocarditis	Chronic heart disease
Rheumatism	Endocarditis	Chronic heart disease
Scarlet Fever	Nephritis	Chronic Bright's disease
Measles	Broncho pneumonia	Chronic lung disease
Poliomyelitis	Paralysis	Crippling

The most important element in prevention is the management of acute endocarditis which is common in school children, difficult to recognise as it gives no symptoms and very tedious in its treatment. But there is abundant evidence that if endocarditis is treated well, much resulting chronic heart disease can be averted.

ON THE REMOTE EFFECTS OF TREATMENT.

A matter of the utmost consequence to school medicine is the estimation of remote effects of processes carried out in all good faith to relieve temporary embarrassments. Medicine is in no way different from any other human endeavour in that a move which at the time of making seems brilliant eventually loses the game through unforeseen developments ; so where, as in child welfare, the opportunity occurs of watching the game right through, the most should be made of it. The treatment of disease is generally such an urgent business that those who undertake it can scarcely be blamed for not considering remote possibilities of measures which are at the time clearly indicated to overcome a present serious situation ; but where alternative methods of treatment are available it is advisable to know that the remote results of one may be better than those of another, even if the latter may have some superiority immediately. Some examples may clarify my meaning.

The operation for appendicitis may be performed through an inguinal, or a paramedian incision. Generally the latter is preferred, both for immediate convenience and because the inguinal incision is far more apt to be followed by hernia. In children, at all events, there is another side to the question. The inguinal scar is not exposed except in a state of nudity, the paramedian scar can be seen above bathing drawers. This does not sound very serious, but the exposure of this scar produces consciousness of it which sets up a psychological disturbance which frequently reduces materially the child's ultimate citizen value. Several surgeons have called attention to grave mental effects which are apt to follow removal of the navel in abdominal operations in children; but any scar or blemish, especially if it is connected in the child's mind with a recollection of some accident or illness, is liable to impress the mentality unfavourably. Scars are of course unavoidable, but every endeavour should be made to reduce them in number and size and to arrange them as far as possible so that they are not seen.

In the treatment of neurosis, physical measures are often indicated, for there is often fixation in some abnormal structure. The remedy of this abnormality often " cures " the neurosis, but if it does not it may make the neurosis incurable by any means.

This is one of the great difficulties of medicine. Formerly we were but little troubled by neuroses in children, but unfortunately they are common enough now. They offer great difficulty both in diagnosis and treatment and call for a new orientation of our methods of handling them. A false step may turn the child into a worthless chronic invalid, correct management at the right moment may save him.

Partly owing to a great fall in the birth rate and consequent reduction in the size of familes and also to many other causes, of which the attention paid to the health of children is one, a profound change has come into the practice of child medicine. For thirty-eight years I have been continuously occupied with the problems of child life on a somewhat extensive scale and am fully conscious of the changes which have occurred in the problems themselves during that period. In the earlier years of my experience, the troubles of children were mainly physical, amenable to physical measures. Children were dirty, ill-clothed, ill-fed, they suffered severely from rickets, catarrhs, tuberculosis, rheumatism, syphilis and many other diseases which affect young humans in unfavourable physical environments. If a child complained spontaneously of headache (which he seldom did) cerebral tumour, or meningitis was the most likely cause ; if of bellyache, appendicitis or other form of peritonitis. At all events, if a child spontaneously complained of a symptom some definite physical explanation was usually forthcoming. But it is not so now, for the children of to-day complain of symptoms as readily as do adults and the explanation of their symptoms is, as is the case with adults, as frequently connected with unhealthy mentality as with physical disease. It is fashionable to attribute the rise of neuroses in children to our educational system, but my experience is that though some things in our educational system are unfavourable to the child's mentality, the system as a whole is much more preventive than causal of neurosis. For it is amongst those children who don't go to school, or are kept away from school, or whose parents are antagonistic to school, or to some part of the school curriculum, that the bulk of the neuroses, are found. Education is the great preventive of neuroses ; broadly it is the only preventive and many as are the faults in our schools and in our system of education, it is our bulwark against chronic mental rot. For this reason I am extremely chary of keeping children away from school, or in any way of interfering with their teaching or discipline. If a child is sick he should be in bed ; if he is not in bed he should be in school. This sounds drastic, but I have seen so much harm done to children by keeping them from school and no good accrue from keeping them away that I must submit that the practice of keeping children away from school for long periods on account of chronic disease, or suspected chronic disease, is pernicious. Treatment of school children who require it should whenever

possible be given in school and as far as possible as part of the school regime and where this is not possible in schools appropriate to healthy children, in schools special for unhealthy children. This doctrine may not please parents, teachers, education committees, the Board of Education or His Majesty's Treasury, but as School Medical Officer I am concerned solely with the interests of the children.

PROBLEMS CONNECTED WITH MENTAL CAPACITY.

The normal intellectual capacity of man lies about a binomial curve with its mode at 100 in theory, but in practice at about 97. Consequently half of us have an intelligence below what is considered to be the 'normal.' 75% have intelligence between 85% and 115% of the normal and 12.5%, or one in eight, an intelligence below 75%. This is the great tragedy of democracy and more than everything else put together delays our progress. The only way to raise the level of intelligence is by selective breeding; but we suffer from a vicious circle, for with our present level of intelligence we are incapable of appreciating selective breeding and until we do, the level of intelligence will remain unchanged. Mental defection is a legal, not a biological, expression. The Law fixes mental defection by a legal definition, but biologically there is no line of demarkation between normals and defectives. Some of the conditions which cause, or are connected with, mental defection are biological characteristics, some hereditable, either as dominants, or recessives; others are environmental, possibly amenable to management, especially ante-natal treatment; but mental defection, as mental defection, cannot be studied biologically. The factors, apart from intelligence, which make up mentality are not capable of accurate estimation, nor have we yet any clear conception of their physiology, but we are making some progress in their elucidation.

The emotions play a major part in child rearing, producing special problems which are purely emotional and influencing and modifying all others, even those which lie mainly in the physical plane. Psychologists have helped us much in recent years. Indeed a psychologist is an essential consultant for the school medical officer, but may we suggest that the latter is not helped by circumlocution.

By endurance tests we can estimate the capacity of the vital forces and by performance and efficiency tests we can discover strengths and weaknesses in sense perceptions, co-ordination and rapidity and reliability of responses to stimuli. Here we have a tremendous help for the guidance of children which at present is almost totally neglected. The work of the Industrial Health Board, of the late Colonel Flack, of Professor Haldane and of

numerous other workers in the modern school of physiology opens up the possibility of settling questions by science in a few minutes which at present we allow to answer themselves by a hit and miss method which squanders youth. In many directions we could stem the appalling waste of life which results from misfitting children to occupations for which they are ill-equipped, for the majority of us are far better fitted for some occupations than for others. We know that education cannot alter the make-up of the mind, it can only lead and feed what is there to be led and fed. Quite early in life, without experimenting with time by trial and error, we can determine the general composition of the child's mind and estimate the strengths and weaknesses of the mental-sensory-motor reactions upon which skill is dependent and so really give every child the best chance possible by deciding wherein that best chance lies. In this direction much progress may be made in the near future if we can bring our minds to pay attention to what we can do and not seek remedies for what is unalterable.

FINANCE.

School medicine costs about 10/- per child per annum. About half of this money is required for the general supervision and guidance of all children ; the other half is a special tax on behalf of diseased and defective children. From the communal point of view, the first moiety gives a great return, but from the latter little, if anything, is gained. Last year two of our children cost £250 between them and about twelve others cost up to £30 each for special treatment. Not one of these children will ever be an able-bodied citizen, nor is any likely to be self-supporting. Reduction of expenditure on this most unsatisfactory item of State medicine is naturally desirable, not that the money is begrudged, but because the return is so poor that it is open to question if what is spent might not be spent to better advantage for those who should benefit by it. Obviously much more effort should be given to prevention, which is cheap, than to remedy, which is dear and too often remedial only in name. When no further effort in prevention is possible, it is well to consider if it is worth while pursuing futile and costly hopes of medical treatment and education which are of little benefit to the child whilst he is receiving them and end suddenly when the school leaving age is reached. Since the suppression of the monasteries, four hundred years ago, the problem of physically and mentally useless citizens has been approached in numerous ways, all of which are unsatisfactory. Whether in medieaval times the problem was, or was not, tackled satisfactorily is a contentious matter, but in theory it was less miserable than anything which has been tried since. From the medical point of view prevention always pays ; treatment for acute conditions from which recovery to useful citizenship can be

expected always pays ; treatment of chronic conditions from which such partial recovery is likely that the recipient can return to a life with some measure of happiness and usefulness generally pays ; treatment which merely converts a 100% useless citizen into one 90% useless does not pay.

PROVISION OF MEALS.

Under Sections 82-84 of the Education Act, 1921, free dinners have been provided for necessitous school children on week-days during term time and school holidays. The number of children fed during the year was 72, and the total number of meals supplied was 12,925. The meals are cooked and served at the Cookery Centres.

SPECIAL INQUIRIES : SCHOOL BATHS : EMPLOYMENT OF CHILDREN AND YOUNG PERSONS : INFECTIOUS DISEASE : FOLLOWING UP : CO-OPERATION : NURSERY SCHOOLS : AND SPECIAL DEPARTMENTS.

In the year 1934 there were no changes in these functions.

HEALTH EDUCATION.

The chief means of health education in Swindon are by lectures given by various societies, clubs, etc., and by the circulation of the Journal ' Better Health ' of which we have a local edition which is well circulated and which directly and indirectly maintains a certain amount of liveliness in matters concerning health.

DUNSTAN BREWER,
School Medical Officer.

March 1935.

THE ORTHOPAEDIC CLINIC.

The close of 1934 marks the end of the first complete year's work of this re-organised Clinic.

The 'Children's Orthopaedic Clinic' conducted by Mrs. Norris with the help of voluntary workers continues to organise the work as previously. Miss Forrester Brown who attends for one session per month is now employed by the Committee which also pays for the attendances made by the children under its care, both at the Surgeon's and at Sister's Clinic. Notwithstanding the fact that payment is made towards the funds of the Clinic it would be ungracious not to acknowledge the very fine work of Mrs. Norris and her associates. The Clinic is well organised and the voluntary workers, by their punctuality and regularity of attendance, their courtesy, good discipline and enthusiasm are of the utmost assistance. The professional members of the staff—Miss Goddard and Sister Cook do excellent work, and the latter's skill in the fitting of appliances, the making of plasters and unremitting attention to remedial exercises are invaluable.

One of your Assistant Medical Officers attends each Surgeon's Day. This is considered a very desirable innovation as the often considerable knowledge possessed by the School Medical Department of the child is put immediately at the Surgeon's disposal, while an opportunity of discussing the treatment and prognosis with Miss Forrester Brown enables us to exercise a more satisfactory supervision over the child's progress. This liaison has resulted in speedier consideration of cases for hospital treatment, more satisfactory administrative arrangements for the provision of appliances and much more attention being given to ancillary methods of treatment such as vitamin therapy, massage and limitation of school attendance. There are other advantages more difficult to describe but none the less real. The presence of the "school doctor" re-assures both parent and child in new surroundings and gives a sense of continuity. It enables the parent's difficulties to be placed before the Surgeon briefly and succinctly and permits of the advice being explained to the parent and of any difficulty which arises being cleared up. It also brings the work of the Orthopaedic Clinic demonstrably into line with the other sections of the School Medical Service.

Dr. T. P. Berry, Chief Medical Officer of the G.W.R. Medical Fund Society has always given us the greatest assistance over cases from his Society and Mr. Fessey of the Council of Social Service has supplied several pairs of boots to young children, which while not being in the nature of appliances are integral parts of a proper scheme of treatment.

Several difficulties remain to be overcome. The number of children who fail to keep the appointments made for them is particularly high, notably among the secondary scholars. This makes it difficult for us to avoid delays, as when the attendances are in doubt one cannot space the appointments with true economy of time. Some of the parents fail to realise the necessity of the child being undressed and are inclined to regard our insistence on this matter as 'fussy!' But the chief obstacle to be overcome is inherent in all preventive medicine. People are often anxious and willing for treatment particularly if it be of a spectacular nature, but they lack the foresight and imagination which will enable them to desire the slow methods of observation and carefully executed exercises necessary in this type of work. Finally, the comparatively remote situation of the Clinic militates against attendances particularly in bad weather.

It would be unfair, however, to represent the bulk of the parents as ungrateful or indifferent. Their gratitude and trust, together with their obvious determination to do their best for their children is at once the justification and inspiration of the work.

ORTHOPAEDIC CLINIC—1934.

DEFECT.	Elementary School Children										Maternity & Child Welfare Children										Secondary School Children										Totals.			
	New	Old	Consultations with Surgeon	Attendances at Sister's Clinics	Defaults	Visits by Health Visitors	X-rays	Appliances	Hospital treatment recommended	Admitted to Hospital	New	Old	Consultations with Surgeon	Attendances at Sister's Clinics	Defaults	Visits by Health Visitors	X-rays	Appliances	Hospital treatment recommended	Admitted to Hospital	New	Old	Consultations with Surgeon	Attendances at Sister's Clinic	Defaults	Visits by Health Visitors	X-rays	Appliances	Hospital treatment recommended	Admitted to Hospital	New	Old	Consultations with Surgeon	Attendances at Sister's Clinics
CONGENITAL—																																
1. Dislocation of hip	....	2	5	4	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	5	4
2. Talipes	....	3	6	14	1	....	....	1	....	1	1	2	5	13	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	5	11	27
3. Torticollis	4	....	5	8	1	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	....	5	8
4. Deformity of coccyx	1	....	2	....	....	....	1	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	2	....
5. Metatarsus varus	....	....	....	....	....	....	....	....	....	....	1	....	3	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	3	6
6. Spina bifida	1	....	3	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	3	2
7. Congenital pseudo-hypertrophic paralysis	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....
8. Amyotonia congenita	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....
9. Achondroplasia....	....	1	2	6	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	2	6
10. Birth injury	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	2	1	....	....	....	....	....	....	1	....	....

3. Spastic paraplegia	2		2	9					1	1	1		1						1	1									3		3	9
4. Post-encephalitis lethargica		1	1		3	2																								1	1	
TOTALS	5	5	18	35	11	7		1	3	2	1	1	4	9					1	1									6	6	22	44
Rickets—																																
1. Acute											7	1	15	17	5	4		2	1	1									7	1	15	17
2. Sequelae of old rickets	9	8	16	46	6	4						4	6	7	4	2													9	12	22	53
TOTALS	9	8	16	46	6	4					7	5	21	24	9	6		2	1	1									16	13	37	70
Hammer toe	3	3	6	13	4	2															2		1	2	1				5	3	7	15
Flat foot	3	6	11	19	5	2					3	1	8	12	1	1					1	1	3	6					7	8	22	37
Faulty Posture	6	6	18	43	4	2	1		1		2		4	3							1	5	6	11	1				9	11	28	57
Fibrositis	1		2	1																									1		2	1
Arthritis	1		1	1																									1		1	1
Injuries	2		2																		1		2	2	1				3		4	2
Various	3	5	3	9	3	1	2	1			2	2	6	17			1				2	1			3				7	8	9	26
TOTALS	19	20	43	86	16	7	3	1	1		7	3	18	32	1	1	1				7	7	12	21	6				33	30	73	139
GRAND TOTALS	40	39	101	201	35	18	5	4	7	4	18	11	52	84	11	7	1	2	2	2	7	8	12	21	8	1			65	58	165	306

PROVISION OF SPECTACLES.

In November, 1933, the contract for the provision of spectacles for school children was awarded by the Committee to a local firm. Stronger and more suitable frames are now provided, there is a larger selection of types from which to choose and the cost has been reduced materially. It is pleasing to be able to report that the dispensing has been uniformly accurate and that repairs have been done promptly at a fair price.

At the end of 1933 the spectacles prescribed for 53 children had not been obtained. These cases were scrutinised and in every instance where spectacles were considered to be essential intensive efforts secured their provision. A few corrections, mainly of a small cylindrical nature were deemed less essential and when it became obvious that the ordinary methods of persuasion would continue to be ineffectual, no further steps were taken, but the children continued to be under observation.

During this year all instances where no attempt has been made to provide spectacles within a month of their being prescribed have been referred to the School Medical Officer. A series of letters has been sent to the parents and they have been visited by the School Nurses. The parent has been invited to see the School Medical Officer where any difficulty in providing the spectacles is experienced, in the hope that where economic circumstances were the cause of the non-provision other means could be employed. The 'Curry Memorial Fund' has been of great assistance, and grateful acknowledgement is made of the services of the head teachers who made the recommendation in suitable cases. Where the parents have been in receipt of Public Assistance, the appropriate committee was approached, and the few cases not suitable for either of the foregoing procedures were reported to the School Medical Inspection Sub-Committee.

Where persuasiveness has failed the facts were reported to the Director, and at the present moment there is only one case outstanding where this has been done.

The head teachers have lists of all children who require to wear spectacles, and indication is made as to whether they are for constant or near wear. Similarly, all cases of high myopia are specially distinguished. Most of the head teachers take great pains to secure the proper and sustained use of spectacles and in some schools it is exceptional to find a child not wearing his glasses unless there be an adequate reason. This supervision also results in the prompt reference of children with whom the head teacher suspects that the spectacles are no longer totally adequate.

J. STEVENSON LOGAN,
Assistant School Medical Officer.

March 1935.

APPENDIX I.

REPORT OF THE SCHOOL DENTAL SURGEON.

LADIES AND GENTLEMEN,

I have pleasure in presenting the Annual Report on Dental Inspection and Treatment for the year 1934.

9 Elementary Schools comprising 21 departments have been dentally inspected and it was found that 73.9% of the children require treatment. This percentage is fairly high and gives some food for thought. It is an extraordinary thing, but for some unaccountable reason the children born since 1928 are showing more caries than those born immediately after the Great War.

2,661 children were referred for treatment and 3,229 attended the Clinic.

ELEMENTARY SCHOOLS.

5,876 appointments were made.
5,671 or 96.5% of appointments were kept.
2,502 teeth were extracted and 545 were filled.
11,037 other operations (including dressings, scalings and root treatments) were carried out.

3 Regulations were completed by means of appliances and a cleft palate case was supplied with an artificial plate.

The X-ray was used in many cases as a help to diagnosis in obscure cases.

The practice of seeing all children up to nine years of age, and following up those who accept treatment is being continued.

The Dental Nurse was present at practically all sessions. Her services are greatly valued and appreciated.

Casuals (*i.e.*, those having no appointments) are seen every morning between 11 and 12 o'clock.

INFANT WELFARE.

342 children were treated from the Infant Welfare Centre and 22 patients from the Ante-Natal Clinic were treated or given advice.

ROUTINE INSPECTION.

3,598 Children were inspected at the schools.

837 or 23.2% were found to be free from caries.

100 or 2.77% were found to require no treatment.

2,661 or 73.9% were recommended for treatment.

3,229 Children attended the Clinic.

2,388 were rendered dentally fit.

5,671 attendances were made.

SECONDARY SCHOOLS.

Dental Inspections were carried out at the three Secondary Schools (The College, Euclid Street and The Commonweal).

844 pupils were examined.

467 or 55.3% were referred for treatment, and treatment is being carried out at present.

226 pupils were treated at the Clinic, making 339 attendances.

85 teeth were extracted.

241 permanent teeth were filled.

102 other operations (including crowns, scalings, dressings and root treatments) were carried out.

An analysis of the result of dental inspection and treatment will be found in the statistical tables for Higher Education.

On behalf of the Dental Staff I wish to thank all who helped in carrying on the work.

W. KENYON BERRIE, L.D.S., R.F.P.S.G.
School Dental Surgeon.

February, 1935.

APPENDIX II.

REPORT OF THE OPHTHALMIC SURGEON.

LADIES AND GENTLEMEN.

For the first part of the year the work of the Eye Clinic was carried on normally, but later it was interrupted for a time by my illness, until arrangements were made for Dr. J. M. Browne, of Wolverhampton, to act for me.

In the first months of the year I carried on, with the co-operation of Dr. Brewer and his Staff, observations on the effect of changes of diet in the treatment and control of certain diseases and departures from health which were commonly met with at the Eye Clinic. The results proved to be of much interest and value and were embodied in a Paper which I read at the Oxford Ophthalmological Congress in July. I hope to continue and extend these observations during 1935.

I wish to thank all those who helped me to record these results and all who assisted in carrying on the Clinic.

OLIVER B. PRATT, M.A., M.B., M.R.C.S., L.R.C.P.
Ophthalmic Surgeon.

March 4th, 1935.

APPENDIX III.

REPORT OF THE AURAL SPECIALIST.

LADIES AND GENTLEMEN,

There were 8 sessions of the Special Aural Clinic held during the year 1934.

The children attending the clinic were for the most part those who had been under the observation of Dr. King and who were needing special investigation or treatment.

The work of the Clinic was very satisfactory and was of much the same character as that of the previous year.

I wish to thank all those who assisted me for their courtesy and help.

F. COURTENAY MASON, B.A., M.B., M.S., F.R.C.S.

March 13th, 1935.

SUMMARY OF CASES SEEN AT THE SPECIAL AURAL CLINIC, 1934.

Number of Clinics held	8
Number of cases examined	76
Number of consultations at Clinic	87
Number of attendances at Clinic	87

Defects Discovered.

NOSE & THROAT—	
Adenoids only	9
Enlarged tonsils and adenoids	30
Enlarged tonsils only	6
Enlarged glands	18
Nasal catarrh and nasal obstruction	21
Deflected septum	24
Rhinorrhoea and Rhinitis	24
Inflamed turbinates	2
Hypertrophy of turbinates	2
Inferior turbinate hypertrophied posteriorly	1
? Sinusitis	1
Cleft palate	1
Pus under middle turbinates	1
EAR—	
Otitis media	2
Deafness	6
Otorrhoea	5
Mastoid	1
Thickened, scarred, perforated, indrawn, injected and opaque membranes	20
Meatal ulceration	1
Granulations of tympanum	2
Wax in ears	1
X-ray EXAMINATIONS. Nasal sinuses etc.	6

Operations.

	Recommended.	Performed.	Awaiting operation.	Refused
Tonsils & adenoids	35	29	4	2
Adenoids only	6	4	1	1
Sub-mucous resection	8	5	3	....
Mastoid	1	1	....	....
Reduction of turbinates	2	2	....	....
Cleft palate	1	....	1	....
Eustachian inflation	1	1	....	....
Investigation of Antra under anaesthesia	1	1	....	....
Examination of Antra & Nasopharynx under anaesthesia	1	1	....	....

ELEMENTARY EDUCATION.

Statistical Tables.

TABLE I.—Return of Medical Inspections.

A.—ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspections:	
Entrants	871
Intermediates	922
Leavers	915
TOTAL	2708
Number of other Routine Inspections	Nil

B.—OTHER INSPECTIONS.

Number of Special Inspections	2684
Number of Re-Inspections	7483
TOTAL	10167

TABLE II.—A.—Return of Defects found by Medical Inspection in the Year ended 31st December, 1934.

DEFECT OR DISEASE.	Routine Inspections. No. of Defects. Requiring treatment.	Routine Inspections. No. of Defects. Requiring to be kept under observation but *not* requiring treatment.	Special Inspections. No. of Defects. Requiring treatment.	Special Inspections. No. of Defects. Requiring to be kept under observation but *not* requiring treatment.
(1)	(2)	(3)	(4)	(5)
Malnutrition	8	11	75	8
Skin—				
Ringworm :				
Scalp	4	....	3	....
Body	1	....	3	....
Scabies	....	....	2	....
Impetigo	2	....	54	....
Other Diseases (Non-Tuberculous)	29	3	405	....
Eye—				
Blepharitis	31	2	17	....
Conjunctivitis	9	....	40	....
Keratitis	....	....	....	....
Corneal Opacities	1	2	2	....
Defective Vision (exclud. Squint)	165	....	36	13
Squint	16	5	8	....
Other Conditions	13	12	129	2
Ear—				
Defective Hearing	35	9	12	17
Otitis Media	26	7	118	29
Other Ear Diseases	22	9	197	26
Nose and Throat—				
Chronic Tonsillitis only	33	55	118	105
Adenoids only	11	5	18	13
Chronic Tonsillitis and Adenoids	20	8	42	8
Other Conditions	53	37	189	44
Enlarged Cervical Glands (Non-Tuberculous)	13	15	86	48
Enlarged Thyroid Gland	20	13	26	1
Defective Speech	....	4	....	....

TABLE II. A.—(Continued)

DEFECT OR DISEASE.	Routine Inspections — No. of Defects.		Special Inspections — No. of Defects.	
	Requiring treatment.	Requiring to be kept under observation but *not* requiring treatment.	Requiring treatment.	Requiring to be kept under observation but *not* requiring treatment.
(1)	(2)	(3)	(4)	(5)
Heart and Circulation—				
Heart Disease :				
Organic	....	....	8	5
Functional	4	25	2	6
Anaemia	5	4	1	....
Lungs—				
Bronchitis	3	....	5	2
Other Non-Tuberculous Diseases	7	12	8	5
Tuberculosis—				
Pulmonary :				
Definite	....	....	....	....
Suspected	....	1	2	5
Non-Pulmonary :				
Glands	....	2	2	1
Bones and Joints	....	....	1	2
Skin	....	....	....	....
Other Forms	....	....	....	....
Nervous System—				
Epilepsy	1	3	3	1
Chorea	2	2	5	2
Other Conditions	17	12	25	10
Deformities—				
Rickets	13	7	....	....
Spinal Curvature	8	4	6	1
Other Forms	12	13	10	2
Other Defects and Diseases	51	30	772	38
TOTALS	635	312	2430	394

B. Number of INDIVIDUAL CHILDREN found at ROUTINE Medical Inspection to Require Treatment (Excluding Uncleanliness and Dental Diseases).

GROUP.	Number of Children.		Percentage of Children found to require treatment
	Inspected	Found to require treatment	
(1)	(2)	(3)	(4)
CODE GROUPS :			
Entrants	871	128	14.7
Intermediates	922	215	23.3
Leavers	915	178	19.4
Total (Code Groups)	2708	521	19.2
Other Routine Inspections	....	....	....

TABLE III.

Return of all Exceptional Children in the Area.

CHILDREN SUFFERING FROM MULTIPLE DEFECTS.

Children suffering from any combination of the following types of defect :—

Blindness (Not Partial Blindness).
Deafness (Not Partial Deafness).
Mental Defect.
Epilepsy.
Active Tuberculosis.
Crippling.
Heart Disease.

Number of children suffering from any combination of the above defects	3

BLIND CHILDREN.

A blind child is a child who is too blind to be able to read the ordinary school books used by children, and can only be appropriately taught in a school for blind children.

At Certified Schools for the Blind.	At Public Elementary Schools	At Other Institutions	At no School or Institution	Total
4	....	....	....	4

PARTIALLY BLIND CHILDREN.

Children who, though they cannot read ordinary school books or cannot read them without injury to their eyesight, have such power of vision that they can appropriately be taught in a school for the partially blind

At Certified Schools for the Blind	At Certified Schools for the Partially Blind	At Public Elementary Schools	At other Institutions.	At no School or Institution	Total
....	....	1	1	2*	4

* Two infants. Final result may be better than "Partially Blind".

DEAF CHILDREN

Children who are too deaf to be taught in a class of hearing children in an elementary school, and can only be appropriately taught in a school for the deaf.

At Certified Schools for the Deaf.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total
3	1	....	....	4

TABLE III.—(Continued).

PARTIALLY DEAF CHILDREN.

Children who can appropriately be taught in a school for the partially deaf.

At Certified Schools for the Deaf.	At Certified Schools for the Partially Deaf.	At Public Elementary Schools.	At Other Institutions	At no School or Institution	Total
....	....	1	....	....	1

MENTALLY DEFECTIVE CHILDREN.

FEEBLE-MINDED CHILDREN

Mentally Defective children are children who, not being imbecile and not being merely dull or backward, are incapable by reason of mental defect of receiving proper benefit from the instruction in the ordinary Public Elementary Schools but are not incapable by reason of that defect of receiving benefit from instruction in Special Schools for mentally defective children.

At Certified Schools for Mentally Defective Children	At Public Elementary Schools.	At other Institutions.	At no School or Institution	Total
18	4	....	3	25

EPILEPTIC CHILDREN.

CHILDREN SUFFERING FROM SEVERE EPILEPSY

Children who are epileptic within the meaning of the Act, *i.e.*, children who, not being idiots or imbeciles, are unfit by reason of severe epilepsy to attend the ordinary Public Elementary Schools.

At Certified Special Schools.	At Public Elementary Schools.	At other Institutions	At no School or Institution.	Total
....	....	....	....	....

TABLE III.—(Continued).

PHYSICALLY DEFECTIVE CHILDREN.

Physically Defective children are children who, by reason of physical defect, are incapable of receiving proper benefit from the instruction in the ordinary Public Elementary Schools, but are not incapable by reason of that defect of receiving benefit from instruction in Special Schools for physically defective children.

A. TUBERCULOUS CHILDREN

In this category are only cases diagnosed as tuberculous and requiring treatment for tuberculosis at a sanatorium, a dispensary, or elsewhere. Children suffering from crippling due to tuberculosis which is regarded as being no longer in need of treatment are recorded as crippled children, provided that the degree of crippling is such as to interfere materially with a child's normal mode of life. All other cases of tuberculosis regarded as being no longer in need of treatment are recorded as delicate children.

I. Children Suffering from Pulmonary Tuberculosis.

(Including pleura and intra-thoracic glands)

At Certified Special Schools.	At Public Elementary Schools †	At other Institutions	At no School or Institution	Total
....	....	....	....	....

II —Children Suffering from Non-Pulmonary Tuberculosis.

At Certified Special Schools	At Public Elementary Schools †	At other Institution	At no School or Institution	Total
2	....	....	3	5

† Tuberculous children who are, or may be, a source of infection to others are promptly excluded from Public Elementary S hools.

B. DELICATE CHILDREN.

Children (except those included in other groups) whose general health renders it desirable that they should be specially selected for admission to an Open Air School.

At Certified Special Schools.	At Public Elementary Schools	At other Institutions.	At no School or Institution	Total
....	93	....	....	93

TABLE III.—(Continued).

C. CRIPPLED CHILDREN

Children (other than those diagnosed as tuberculous and in need of treatment for that disease) who are suffering from a degree of crippling sufficiently severe to interfere materially with a child's normal mode of life, *i.e.*, children who generally speaking are unable to take part, in any complete sense, in physical exercises or games or such activities of the School curriculum as gardening or forms of handwork usually engaged in by other children.

At Certified Special Schools.	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
5	20	....	1	26

D. CHILDREN WITH HEART DISEASE.

Children whose defect is so severe as to necessitate the provision of educational facilities other than those of the Public Elementary School.

At Certified Special Schools.	At Public Elementary Schools.	At other Institutions	At no School or Institution	Total
....	....	....	....	....

Number of Children Suffering from Multiple Defects.

Defect or Disease.	School (if any)	Boys	Girls
Epileptic and Mentally Defective	None	1	....
Organic Heart Disease and Severe Torticollis	Private	....	1
Blind and Epileptic	None	....	1
TOTAL	....	1	2

Statement of the number of Children notified during the Year ended 31st December, 1934, by the Local Education Authority to the Local Mental Deficiency Authority.

Total Number of Children notified — 11.

ANALYSIS OF THE ABOVE TOTAL.

Diagnosis.	Boys.	Girls.
1. (i) Children incapable of receiving benefit or further benefit from instruction in a Special School :		
(a) Idiots	....	1
(b) Imbeciles	1	....
(c) Others	....	....
(ii) Children unable to be instructed in a Special School without detriment to the interests of other children :		
(a) Moral defectives	....	....
(b) Others	....	....
2. Feeble-minded children notified on leaving a Special School on or before attaining the age of 16	9	....
3. Feeble-minded children notified under Article 3, *i.e.*, "special circumstances" cases	....	....
4. Children who in addition to being mentally defective were blind or deaf	....	....
Grand Total	10	1

TABLE IV.—Return of Defects Treated during the Year ended 31st December, 1934

TREATMENT TABLE.

Group I.—Minor Ailments (excluding Uncleanliness, for which see Group VI).

DISEASE OR DEFECT.	Number of Defects treated, or under treatment during year.		
	Under the Authority's Scheme.	Otherwise	Total.
Skin—			
Ringworm—Scalp	6	....	6
Ringworm—Body	3	....	3
Scabies	1	....	1
Impetigo	52	....	52
Other Skin Disease	199	....	199
Minor Eye Defects (External and other, but excluding cases falling in Group II).	174	....	174
Minor Nose, Throat & Ear Defects, &c.	145	....	145
Miscellaneous .... (e.g. Minor injuries, bruises, sores, chilblains, etc.)	831	11	842
TOTAL	1411	11	1422

TABLE IV.—(Continued).

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

DEFECT OR DISEASE	No. of Defects dealt with			
	Under the Authority's Scheme.	Submitted to refraction by private practioner or at hospital apart from the Authority's Scheme.	Otherwise	Total.
Errors of Refraction (including Squint)	634	....	....	634
Other Defect or Disease of the Eyes .... (excluding those recorded in Group I).	48	....	....	48
TOTAL	682	....	....	682

Total number of children for whom spectacles were prescribed :
(*a*) Under the Authority's Scheme 381
(*b*) Otherwise .... —
Total number of children who obtained or received spectacles :
(*a*) Under the Authority's Scheme 360
(*b*) Otherwise 2

Group III.—Treatment of Defects of Nose and Throat

NUMBER OF DEFECTS.

Received Operative Treatment.												Received other forms of Treatment.	Total number Treated.
Under the Authority's Scheme, in Clinic or Hospital for :				By Private Practitioner or Hospital apart from the Authority's Scheme				Total					
(1)				(2)				(3)				(4)	(5)
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)		
....	9	91	13	....	....	....	....	....	9	91	13	172	285

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils and Adenoids.
(iv) Other defects of the nose and throat.

TABLE IV.—Continued.

GROUP IV. — ORTHOPAEDIC AND POSTURAL DEFECTS.

	Under the Authority's Scheme			Otherwise			Total Number treated.
	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic.	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic.	
Number of children treated.	4	....	79	....	....	....	79

TABLE IV.—(Continued)

Group V.—Dental Defects.

(1) Number of Children who were :—

(i) Inspected by the Dentist :

	Age		
Routine Age Groups	3	50	Total 3598
	4	147	
	5	276	
	6	388	
	7	385	
	8	439	
	9	392	
	10	355	
	11	382	
	12	310	
	13	284	
	14	189	
	15	1	

Specials	68
GRAND TOTAL	3666

(ii) Found to require treatment 2661

(iii) Actually treated 3229

(2) Half days devoted to : { Inspection 41 / Treatment 412 } Total 453

(3) Attendances made by children for treatment 5671

(4) Fillings { Permanent teeth 494 / Temporary teeth 51 } Total 545

(5) Extractions { Permanent teeth 265 / Temporary teeth 2237 } Total 2502

(6) Administrations of general anæsthetics for extractions 1

(7) Other operations { Permanent teeth 898 / Temporary teeth 10075 } Total 10973

TABLE IV—(Continued).

Group VI.—Uncleanliness and Verminous Conditions.

(i)	Average number of visits per school made during the year by the School Nurses	9
(ii)	Total number of examinations of children in the Schools by School Nurses	32148
(iii)	Number of individual children found unclean	822
(iv)	Number of children cleansed under arrangements made by the Local Education Authority	421
(v)	Number of cases in which legal proceedings were taken :	
	(a) Under the Education Act, 1921	Nil
	(b) Under School Attendance Byelaws	Nil

TABLE V.—RETURN SHOWING DEFECTS TREATED AT MINOR AILMENT CLINIC. YEAR ENDED 31st DECEMBER, 1934.

Disease or Defect	No. of Defects treated under Authority's Scheme.			No. of Defects cured.	No. of Defects remaining under treatment.	No. of attendances at Clinic	No. of consultations.
	From previous year	New	Total				
Contagious Skin Diseases							
Impetigo	1	51	52	51	1	340	212
Scabies	....	1	1	1	....	2	2
Non-Contagious Skin :							
Dermatitis	....	5	5	5	....	10	9
Eczema	2	9	11	7	4	352	180
Seborrhoea	....	5	5	5	....	12	8
Abscesses	....	2	2	2	....	3	3
Boils	....	31	31	31	....	138	116
Warts	4	36	40	38	2	357	91
Herpes	....	12	12	11	1	44	34
Acne	....	1	1	1	....	12	5
Urticaria	....	4	4	4	....	4	4
Psoriasis	....	2	2	2	....	53	21
Alopecia	....	2	2	2	....	4	4
Other diseases	5	73	78	76	2	223	161
Ear, Nose and Throat Diseases :							
Glands	1	36	37	37	....	101	94
Rhinitis	....	5	5	5	....	10	9
Tonsillitis	....	33	33	33	....	86	80
Earache	....	5	5	5	....	22	19
Laryngitis	....	1	1	1	....	2	2
Other Diseases	2	62	64	63	1	196	169
Wounds and Injuries :							
Grazes	....	82	82	82	....	246	181
Injuries	....	55	55	55	....	229	175
Bites and Stings	....	29	29	29	....	86	76
Burns, Scalds, Cuts,&c.	1	77	78	78	....	365	235
Septic Sores	2	186	188	183	5	985	630
Bruises and Sprains	....	69	69	69	....	195	190
Others	1	68	69	69	....	222	156
External Eye Diseases :							
Foreign Body	....	11	11	11	....	19	19
Stye	....	34	34	33	1	117	93
Blepharitis	2	10	12	12	....	92	76
Conjunctivitis	....	37	37	36	1	155	137
Corneal Ulcer	....	2	2	2	....	98	44
Corneal Opacity	....	1	1	1	....	6	6
Pink Eye	1	42	43	43	....	235	212
Other Diseases	1	33	34	34	....	85	72

TABLE V.—(Continued).

Disease or Defect	No. of Defects treated under Authority's Scheme.			No. of Defects cured.	No. of Defects remaining under treatment.	No. of attendances at Clinic	No. of consultations.
	From previous year	New	Total				
Infectious Diseases :							
Chicken Pox	....	4	4	4	....	6	6
Whooping Cough	....	11	11	10	1	15	15
Diphtheria	....	3	3	3	....	4	4
Mumps	....	2	2	2	....	4	4
Scarlet Fever	....	3	3	3	....	3	3
Croup	....	2	2	2	....	4	4
General :							
Ill-health, &c.	....	106	106	103	3	266	234
Totals	23	1243	1266	1244	22	5408	3795

Total number of children treated—920.

TABLE VI.—TREATMENT OF DEFECTS OF NOSE, THROAT AND EAR AT SPECIAL CLINIC.

No. of cases referred for treatment.	No. of Consultations.	No. of attendances for treatment.	DEFECTS.															
			Tonsils considerably enlarged.	Tonsils enlarged.	Tonsils and Adenoids	Adenoids	Tonsillitis.	Inflamed Turbinates	Cervical and other Glands	Nasal Spurs, Deflections & obstructions.	Rhinorrhoea and Rhinitis	Cleft Palate	Nasal and Aural Polypi.	Catarrh	Myringitis Diseases and Perforation of Membranes	Mastoid	Discharging ears.	Furuncle in ear.
464	1515	1578	64	101	47	28	9	7	86	54	57	1	4	23	30	1	88	8

DEFECTS (Continued)								No. for whom operation for tonsils and adenoids was advised.	No. who received operative treatment for tonsils and adenoids	No. of other operations performed.	No. of cases cured.	No. of cases remaining under treatment or kept under observation	No. of cases for whom no report is available.
Foreign body in ear.	Inflamed Membranes	Thickened Scarred and Opaque Membranes	Indrawn Membranes	Deafness (Slight)	Deafness (Severe)	Wax in ears	Other Condi-						
3	16	23	61	22	2	48	77	127	100	14	311	148	5

TABLE VII. ELECTRICAL IONISATION.

Number of cases referred for treatment	Number of Consultations.	Number of attendances for treatment	Defect		Number of cases cured	Number of cases still under treatment or observation	Number of cases for whom no report is available
			Ears.	Nose.			
12	15	15	11	1	8	2	2

TABLE VIII. TREATMENT OF RINGWORM.

Number of cases			Number of consultations with Doctor	Number of attendances made by children at Clinic	Number of bacteriological examinations	Number of cases cured	Number of cases still under treatment		Number for which no report is available
Old	New	Total					Attending School	Not attending School	
3	6	9	27	38	5	8	1	....	....

TABLE IX. ELECTRICAL TREATMENT.

Number of cases					Number of attendances for treatment.	Disease or Defect		
Boys		Girls		Total		Infantile Paralysis	Paralysis Optic Nerve	Naevus
Old	New	Old	New					
4	3	4	3	14	167	6	2	6

TABLE X. SUMMARY OF SCHOOL ACCIDENTS WHICH OCCURRED DURING THE YEAR 1934.

(ELEMENTARY SCHOOL CHILDREN)

Number of cases			Total number of attendances made by children at Clinic.	Number of cases where treatment was completed at Clinic.	Number of X-ray exposures	Number of cases referred to Hospital or Private Practitioner for further treatment	Number of cases resulting in permanent disability.
Serious	Minor	Total					
....	166	166	584	155	39	11	....

NOTE.—Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries.

TABLE XI. SHOWING NUMBER OF CHILDREN DISCOVERED AT ROUTINE INSPECTION WITH ENLARGEMENT OF THE THYROID GLAND. — YEAR 1934.

Group examined.	Number of children examined.			Number of children found with enlargement of the Thyroid Gland.		
	Boys	Girls	Total	Boys	Girls	Total
Entrants	430	441	871	1	3	4
Intermediates	495	427	922	2	6	8
Leavers	479	436	915	9	22	31
TOTAL	1404	1304	2708	12	31	43

TABLE XII. TREATMENT OF ENLARGED THYROID AT SPECIAL CLINIC.

Number of cases			Number of attendances for treatment.	Number of consultations	Number of cases cured.	Number of cases still under observation and treatment.
Old	New	Total				
39	25	64	225	221	32	32

TABLE XIII BACTERIOLOGICAL AND OTHER EXAMINATIONS CARRIED OUT DURING THE YEAR 1934.

THROAT :	Swabs examined	31
PUS AND DISCHARGES :—		
	For Tubercle bacilli	2
	For other organisms (cultures)	12
HAIR :	Examinations for Ringworm fungus	5
BLOOD :	Histological examinations	182
SPUTUM :	For Tubercle bacilli	1
	For other organisms	....
URINE :	Chemical examinations	13
	Microscopical examinations	7
X-RAY :	Number of examinations	123
	Number of photographs taken	93

TABLE XIV. RETURN OF ELEMENTARY SCHOOL CHILDREN MEDICALLY EXAMINED AND FOUND TO BE FULLY EFFICIENT DURING THE YEARS 1925 to 1934.

Year.	Upper Departments					Infant Departments					Totals			
	Efficient		Defective		%	Efficient		Defective		%				
	Boys	Girls	Boys	Girls	Efficient	Boys	Girls	Boys	Girls	Efficient	Efficient	Defective	Total examined	% Efficient
1925	428	398	457	499	46	294	278	387	329	44	1398	1672	3070	45
1926	393	318	287	248	57	345	336	273	257	56	1392	1065	2457	57
1927	553	635	373	471	58	321	344	259	242	57	1853	1345	3198	58
1928	785	633	532	513	58	367	394	342	267	56	2179	1654	3833	57
1929	474	361	291	257	60	213	202	152	117	60	1250	817	2067	60
1930	687	633	297	299	69	367	407	212	224	64	2094	1032	3126	67
1931	579	459	243	295	66	363	257	165	145	65	1658	848	2506	66
1932	687	572	240	211	74	356	344	93	73	81	1959	617	2576	76
1933	696	726	252	325	71	328	367	117	93	77	2117	787	2904	73
1934	725	579	244	268	72	327	381	108	76	79	2012	696	2708	74

HIGHER EDUCATION.

Statistical Tables.

HIGHER EDUCATION.

TABLE I.—NUMBER OF CHILDREN ATTENDING THE SWINDON SECONDARY SCHOOLS INSPECTED DURING THE YEAR ENDED 31st DECEMBER, 1934.

A.—ROUTINE MEDICAL INSPECTIONS.

	AGE GROUPS.											TOTAL
	10	11	12	13	14	15	16	17	18	19	20	
Boys	1	39	98	87	94	106	74	17	15	8	3	542
Girls	2	29	75	67	53	52	35	10	7	1	....	331
TOTALS	3	68	173	154	147	158	109	27	22	9	3	873

B.—OTHER INSPECTIONS.

Number of Special Inspections	 209
Number of Re-inspections	 866
	1075

TABLE II.—A.—RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31st DECEMBER, 1934.

Defect or Disease.	Routine Inspections		Special Inspections	
	Number of Defects		Number of Defects	
	Requiring treatment.	Requiring to be kept under observation but not requiring treatm't	Requiring treatment.	Requiring to be kept under observation but not requiring treatm't
Nutrition :				
Poor	13	12	2	5
Skin :				
Seborrhoea	1	....	....	....
Other Diseases, Acne, etc., (non-Tuberculous)	5	....	14	....
Eye :				
Conjunctivitis	2	....	....	....
Blepharitis	8	....	....	....
Defective vision	66	12	9	....
Squint	1	....	....	....
Other conditions	1	3	6	.. .
Ear :				
Defective Hearing	7	1	....	2
Otitis Media	2	....	3	....
Other Ear Diseases	1	....	5	....
Nose and Throat :				
Adenoids	1	....	1	....
Enlarged Tonsils only	6	8	3	4
Enlarged Tonsils & Adenoids	1	....	3	....
Other conditions	10	2	11	3
Glands :				
Enlarged, Cervical and Sub-max : (non-Tuberculous)	....	....	3	2
Enlarged Thyroid	35	1	1	....
Heart and Circulation :				
Anaemia	3	1	....	....
Heart Disease—Functional	1	1	....	1
Lungs :				
Other Non-Tuberculous Diseases	....	....	....	....
Nervous System :				
Asthma	1	2	....	....
Overstrain	5	9	....	....
Other conditions	3	7	9	6
Deformities :				
Spinal Curvature	2	1	....	1
Posture	52	....	....	....
Flat Foot	59	....	....	....
Torticollis	....	1	....	....
Other Forms	5	....	2	4
Other Defects or Diseases :	2	15	101	7

TABLE III. SUMMARY OF ACCIDENTS WHICH OCCURRED TO SECONDARY SCHOOL CHILDREN DURING THE YEAR ENDED 31st DECEMBER, 1934.

Number of Cases.			Total number of attendances made by children at Clinic.	Number of cases where treatment was completed at Clinic.	Number of X-ray exposures	Number of cases referred to Hospital or Private Practitioner for further treatment	Number of cases resulting in permanent disability.
Serious	Minor	Total					
....	68	68	199	67	11	1	....

NOTE.—Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries.

TABLE IV.—RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31st DECEMBER, 1934.

TREATMENT TABLE.

Group I.—Minor Ailments (excluding Uncleanliness)

DISEASE OR DEFECT.	Number of Defects treated or under treatment during the year.		
	Under the Authority's Scheme	Otherwise	Total
Skin—			
Other Skin Disease	13	....	13
Minor Eye Defects	6	....	6
Minor Ear Defects	....	....	....
Miscellaneous .... (e.g., minor injuries, bruises, sores, etc.)	86	....	86
TOTAL	105	....	105

TABLE IV.—(Continued).

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

DEFECT OR DISEASE	No. of Defects dealt with			
	Under the Authority's Scheme.	Submitted to refraction by private practioner or at hospital apart from the Authority's Scheme.	Otherwise	Total.
Errors of Refraction (including Squint)	111	....	....	111
Other Defect or Disease of the Eyes .... (excluding those recorded in Group I).	5	....	....	5
TOTAL	116	....	....	116

Total number of children for whom spectacles were prescribed :
(*a*) Under the Authority's Scheme 57
(*b*) Otherwise .... —
Total number of children who obtained or received spectacles :
(*a*) Under the Authority's Scheme 57
(*b*) Otherwise .... —

Group III.—Treatment of Defects of Nose and Throat

NUMBER OF DEFECTS.

Received Operative Treatment.												Received other forms of Treatment.	Total number Treated.
Under the Authority's Scheme, in Clinic or Hospital for :				By Private Practitioner or Hospital apart from the Authority's Scheme				Total					
(1)				(2)				(3)				(4)	(5)
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)		
....	1	6	....	....	....	....	....	....	1	6	....	9	16

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils and Adenoids.
(iv) Other defects of the nose and throat.

TABLE IV.—Continued.

GROUP IV. — ORTHOPAEDIC AND POSTURAL DEFECTS.

	Under the Authority's Scheme			Otherwise			Total Number treated.
	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic.	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic.	
Number of children treated.	4	....	15	....	....	....	15

TABLE IV.—(Continued)

Group V.—Dental Defects.

(1) Number of Children who were :—

(i) Inspected by the Dentist :

Routine Age Groups	Age	10	6
		11	98
		12	161
		13	148
		14	166
		15	150
		16	69
		17	20
		18	18
		19	8
		Total	844
Specials			—
GRAND TOTAL			844

(ii) Found to require treatment 467

(iii) Actually treated 226

(2) Half days devoted to : Inspection 9, Treatment 95 } Total 104

(3) Attendances made by children for treatment 339

(4) Fillings { Permanent teeth 241, Temporary teeth — } Total 241

(5) Extractions { Permanent teeth 49, Temporary teeth 36 } Total 85

(6) Administrations of general anæsthetics for extractions —

(7) Other operations { Permanent teeth 48, Temporary teeth 17 } Total 65

TABLE IV.—Continued.

GROUP V. CONDITION OF TEETH OF SCHOLARS DENTALLY INSPECTED AT THE SECONDARY SCHOOLS DURING THE YEAR ENDED 31st DECMEBER, 1934.

THE COLLEGE SECONDARY SCHOOL.

BOYS

Year of Birth	Number of carious teeth						Number free from caries.	Total number exam-ined
	1	2	3	4	5	6		
1915	....	....	....	1	....	....	3	4
1916	2	1	1	....	....	....	6	10
1917	3	1	....	....	....	....	2	6
1918	7	3	1	....	....	....	5	16
1919	11	5	....	....	....	....	15	31
1920	12	3	2	1	....	....	19	37
1921	6	....	....	....	....	....	8	14
1922	10	4	2	1	1	1	13	32
1923	9	2	2	4	....	....	4	21
1924	1	....	....	1	....	....	....	2
TOTAL	61	19	8	8	1	1	75	173

GIRLS

Year of Birth	Number of carious teeth.			Number free from caries	Total number exam- 5 ined
	1	2	3		
1915	....	....	....	1	1
1916	3	....	....	....	3
1917	....	....	....	3	3
1918	1	1	....	4	6
1919	9	3	....	11	23
1920	12	....	....	8	20
1921	4	3	....	8	15
1922	11	3	2	8	64
1923	7	2	2	4	15
1924	1	....	....	....	1
TOTALS	48	12	4	47	111

EUCLID STREET SECONDARY SCHOOL.

BOYS

Year of Birth	Number of carious teeth						Number free from caries	Total number exam-ined
	1	2	3	4	5	6		
1917	....	....	....	....	....	....	2	2
1918	7	3	....	....	....	....	6	16
1919	12	4	....	1	....	....	19	36
1920	14	4	....	1	....	....	14	33
1921	13	2	2	....	1	1	26	45
1922	7	4	1	2	....	....	15	29
1923	6	....	....	....	1	....	5	12
1924	....	1	....	....	....	....	....	1
TOTALS	59	18	3	4	2	1	87	174

TABLE IV. (Continued).

GROUP V. (Continued).

EUCLID STREET SECONDARY SCHOOL.

GIRLS.

Year of Birth	Number of carious teeth					Number free from caries	Total number examined
	1	2	3	4	6		
1917	....	....	....	....	....	1	1
1918	2	....	....	....	1	2	5
1919	2	2	3	....	....	7	14
1920	4	2	....	1	....	11	18
1921	11	3	2	....	....	6	22
1922	7	4	3	1	....	5	20
1923	1	....	....	....	....	7	8
TOTALS	27	11	8	2	1	39	88

THE COMMONWEAL SECONDARY SCHOOL

BOYS

Year of Birth	Number of carious teeth					Number free from caries.	Total number examined
	1	2	3	4	6		
1915	1	....	1	....	....	1	3
1916	1	2	....	....	....	....	3
1917	1	....	....	....	....	3	4
1918	6	2	....	....	....	9	17
1919	10	2	2	....	....	17	31
1920	15	15	1	....	....	13	44
1921	6	3	2	1	....	11	23
1922	4	4	3	2	1	10	24
1923	8	7	4	3	....	6	28
TOTALS	52	35	13	6	1	70	177

GIRLS

Year of Birth	Number of carious teeth				Number free from caries	Total number examined
	1	2	3	4		
1916	....	....	....	....	2	2
1917	....	....	....	....	4	4
1918	1	2	....	....	6	9
1919	9	....	1	....	5	15
1920	6	....	3	2	3	14
1921	8	3	2	....	16	29
1922	11	1	2	....	18	32
1923	2	6	1	1	4	14
1924	....	....	....	1	1	2
TOTALS	37	12	9	4	59	121

TABLE IV. (Continued).

GROUP V. Continued). SUMMARY OF RESULTS OF DENTAL INSPECTION AT THE SECONDARY SCHOOLS, YEAR 1934.

Secondary School.	Entrants		Re-Inspections		Total Number Inspected	Total Number referred for treatment	Number free from caries
	Number Inspected	Number referred for treatment	Number Inspected	Number referred for treatment			
The College	66	49	218	113	284	162	122
Euclid Street	96	67	166	69	262	136	126
The Commonweal	102	74	196	95	298	169	129
Totals	264	190	580	277	844	467	377

Percentage of Entrants requiring treatment	71.9
Percentage of children Re-inspected requiring treatment	47.7
Percentage of Total number of children inspected requiring treatment	55.3

TABLE V. TREATMENT OF ENLARGED THYROID AT SPECIAL CLINIC.

Number of cases			Number of attendances for treatment	Number of consultations	Number of cases cured	Number of cases still under observation and treatment
Old	New	Total				
26	11	37	91	91	22	15

TABLE VI. BACTERIOLOGICAL AND OTHER EXAMINATIONS CARRIED OUT DURING THE YEAR ENDED 31st DECEMBER 1934.

Number of Blood examinations—Histological	10
Number of X-ray examinations	18
,, ,, ,, photographs	11

Borough of Swindon.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1934

AND THE

Isolation Hospital Annual Report

From the 1st April, 1934, to the 31st March, 1935,

BY

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Report of the Chief Sanitary Inspector

FOR THE YEAR 1934.

SWINDON.
JOHN DREW (PRINTERS) LTD.,
51, BRIDGE STREET.

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BOROUGH OF SWINDON.

Health Committee.

Chairman—Alderman S. E. WALTERS

Vice-Chairman—Councillor Mrs. S. ANDREWS

Members.

THE MAYOR (Councillor F. T. HOBBS)

Alderman T. MANNING
,, L. J. NEWMAN
,, A. H. WHEELER
,, MRS. M. GEORGE
,, A. E. HARDING
,, A. W. HAYNES
Councillor Mrs. L. E. WHITE
,, M. ASHBY

Councillor G. H. HUNT
,, C. C. PRICE
,, F. E. AKERS
,, R. GEORGE
,, A. SNOW
,, F. E. ALLEN
,, W. SEATON

Maternity and Child Welfare Sub-Committee.

Chairman—Alderman Mrs. M. GEORGE.

Members.

Alderman T. MANNING
,, L. J. NEWMAN
,, S. E. WALTERS
,, A. H. WHEELER
,, A. E. HARDING
,, A. W. HAYNES
Councillor G. H. HUNT
,, Mrs. S. ANDREWS
,, R. GEORGE
,, Mrs. L. E. WHITE
,, M. ASHBY
,, F. E. AKERS

Councillor C. C. PRICE
,, W. SEATON
,, A. SNOW
,, F. E. ALLEN
Miss K. J. STEPHENSON
Miss D. P. CHAPPELL
Mrs. ARNOLD FORSTER
Mrs. WESTON
Mrs. SCHMITZ
Miss I. F. MOORE
Mrs. L. E. FRY

Town Clerk—W. H. BENTLEY, ESQ.

BOROUGH OF SWINDON.

PUBLIC HEALTH DEPARTMENT.

STAFF.

Medical Officer of Health, School Medical Officer and Medical Superintendent of the Isolation Hospital and Maternity Home.

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Deputy Medical Officer of Health.

J. STEVENSON LOGAN, M.B., Ch.B., D.P.H.

Assistant Medical Officer of Health.

VIOLET KING, M.B., Ch.B.

Chief Sanitary Inspector.

F. H. BEAVIS.

Certificate of the Royal Sanitary Institute.
Certificate of the Royal Sanitary Institute for Meat Inspection.
Certificate in Building Construction.

Assistant Sanitary Inspectors.

H. A. BANWELL.

Certificate of the Royal Sanitary Institute.
Certificate of the Royal Sanitary Institute for Meat Inspection.
Certificate of the Worshipful Company of Plumbers and Final Certificate City and Guilds.
Certificate in Hygiene.

R. N. HUGHES.

Certificate of the Royal Sanitary Institute and Sanitary Inspectors Examination Joint Board.
Certificate of the Royal Sanitary Institute for Meat Inspection.
Liverpool University Certificate in Meat and Food Inspection.
Liverpool University Certificate in Sanitary Science.

F. R. G. SELWOOD.

Certificate of the Royal Sanitary Institute.

Head Clerk—ERNEST A. BEASANT.

Assistant Clerks—W. M. WATTS.
W. H. PAUL.
F. YATES.

Assistant Clerk and Clinical Assistant—Miss E. M. KEY.

Matron of the Isolation Hospital.

Miss J. MCKINNON SMITH, A.R.R.C.

Matron of the Maternity Home and Training Centre.

Miss F. R. SILLICK.

PUBLIC HEALTH DEPARTMENT. **STAFF**—*Continued.*

Health Visitors (and School Nurses from 1-4-34).

Miss M. HANNA
(Retired on 28-5-34).
3 years General Training.
State Registered Nurse.
Certificate of the Central Midwives Board.

Miss M. HUGHES.
(Resigned on 30-4-34)
4 years Certificate of Hospital Training.
State Registered Nurse.
Certificate of the Central Midwives Board.
Health Visitor's Certificate of the Royal Sanitary Institute.

Miss I. D. SAMPSON.
3 years Certificate of Hospital Training.
Certificate for Tuberculosis (Royal Chest Hospital, London).
Queen's Nurse.
Certificate of the Central Midwives Board.
State Registered Nurse.

Miss E. M. PILCHER.
3 years Certificate of Hospital Training.
School Nurse's and Health Visitor's and Tuberculosis Certificate.
Certificate of Royal Sanitary Institute.
State Registered Nurse.

Miss O. MARKER
4 years Certificate of Hospital Training.
State Registered Nurse.
Certificate of the Central Midwives Board.
Health Visitor's Certificate of the Royal Sanitary Institute

Mrs. K. M. D. FRANCIS.
(Commenced on 1-6-34.)
3 years Certificate of Hospital Training.
Certificate of Central Midwives Board.
Health Visitor's Certificate of the Royal Sanitary Institute
State Registered Nurse.

Miss M. EVANS
(Commenced on 1-6-34.)
3 years Certificate of Hospital Training.
Queen's Nurse.
Certificate of Central Midwives Board.
Health Visitor's Certificate of the Royal Sanitary Institute.
State Registered Nurse.

Disinfector—G. GREENAWAY (to 9-3-34).
A. C. MOLE (from 26-2-34).

Voluntary Helpers at Maternity Centres.—

Mrs. E. SCHMITZ
Mrs. OSMOND
Mrs. CHAPMAN
Mrs. HUMPHRIES

LIST OF CONSULTANT & SPECIALIST STAFF.

MATERNITY DEPARTMENT.

Obstetricians on the Rota :

A. W. Bennett, M.R.C.S. (Eng.), L.R.C.P. (Lond.).

J. Holland, M.B., B.Ch., B.A.O.R.U.I.

S. J. C. Mackay, M.B., Ch.B.

W. Glasgow, M.B., Ch.B.

Honorary Consulting Physician :

T. P. Berry, M.D. (Lond.), M.R.C.S., L.R.C.P.

Consulting Surgeon :

J. Ewart Schofield, F.R.C.S. (Eng.), M.B., Ch.B.

Consulting Obstetrician :

A. W. Bennett, M.R.C.S. (Eng.), L.R.C.P. (Lond.)

Ophthalmic Surgeon :

Oliver B. Pratt, M.A., M.B., B.Ch., D.O. (Oxon), M.R.C.S L.R.C.P.

Surgeon for Throat, Nose and Ear Diseases :

F. Courtenay Mason, B.A. (Lond.), M.S., M.B., B.S., F.R.C.S (Eng.)

Orthopaedic Surgeon :

M. F. Forrester Brown, M.D. (Lond.) M.S.

Cardiologist :

C. E. K. Herepath, M.D. (Lond.), M.B., B.S., M.R.C.S., L.R.C.P. (Lond.)

Honorary Consultant for Nervous and Mental Diseases :

J. F. W. Leech, M.D., M.B., B.Ch., B.A.O., D.P.M., R.C.P.S.I.

To the Chairman and Members of the Health etc., Committee.

LADIES AND GENTLEMEN,

1934 was another favourable year for the health of the inhabitants of Swindon, not the most favourable we have had, but one well up to the average for recent years. The meteorological conditions of the year were, on the whole, favourable, especially the warm, wet December. The long drought did not adversely affect Swindon, either by interfering with its water supply, or by increasing the danger of diarrhoeal diseases, which in former years became very prevalent at the end of dry Summers.

In reading through the report that follows you will find much cause for satisfaction, but also much indication that the health of the town is not so good as it might be, so efforts to improve it must not be relaxed. In spite of the industrial depression and consequent unemployment, the inhabitants of Swindon were certainly better housed and probably better fed in 1934 than in any year in their history, but this is no reason why they should not be still better fed and still better housed in the future. Indeed, the fact that in a time of depression it was possible to make some progress, leads us to expect that with improvement in economic conditions progress will be much more rapid.

We can expect—and we do expect—that all improvement in human health which can be effected by social means will materialize, but we must not delude ourselves with the idea that the most perfect physical environment will put an end to human disease. The rise of Public Health and the practical application of physiology, which is its essence, has done much to raise the level of the health of the community and it can do more in the future than it has done in the past, for our knowledge of human biology is increasing very rapidly. We cannot always make full use of the knowledge that we acquire, for we are hampered by the real difficulty of inventing the means to apply it and by the artificial difficulties of finance and social customs and very often of prejudice.

The best hope for the future lies in the education of all people to guard their health, but this is not an easy matter, for even when we know what the people should be told and educated to do, we are at a loss to know how the knowledge can be imparted and how we can get them to re-act to it. The rules of personal physical hygiene are fairly simple and can, or could, be impressed, at all events upon children whose minds are developing, without any particular difficulty ; but since they are not sensational and make no appeal to the emotions and the results of their neglect do not become immediately apparent, there is generally very marked

slackness in obeying them. For all of us will at all times find excuses for not doing what we ought to do and for doing what we ought not to do and since we are all in the same boat there is no difficulty in obtaining sympathy in our delinquencies. If we say that good feeding is necessary for health, the people will re-act immediately by clamouring for better dinners, but if we say that it is necessary for them to get up at sunrise and dig a quarter of an acre of potatoes, we shall find the validity of our argument challenged immediately, for we all want to be well fed, but very few of us want to work. Indeed, nine people out of ten who read this will say—and possible try to make themselves believe it—that when I say that good food is necessary for health I am talking sense and when I say that getting up early and working in the fields is necessary for health I am talking nonsense. It is indeed no good asking or expecting the people to do what they do not want to do, for they wont do it. Education in health is to teach people to want to do what they ought to do. This can be done in childhood, so it is in the education of the children that we base our hope.

STAFF OF THE PUBLIC HEALTH DEPARTMENT.

In 1934 the Council abolished the distinction between school nurses and health visitors, so that in future all the nurses in the Public Health Department will be designated health visitors and must perforce hold the Health Visitor's Certificate. A joint sub-committee of the Health Committee and Education Committee was formed to make appointments of health nurses in future. This eases certain minor difficulties in the administration of the Health Office.

Miss Mary Hanna, Health Visitor, who was appointed in December, 1914, the senior servant in the Public Health Department, retired on superannuation in May 1934, and two new health visitors, Mrs. Francis and Miss Evans, were appointed to take the places respectively of Miss Hanna and of Miss Hughes who left the service of the Corporation on obtaining employment elsewhere. It was with great regret that we lost the services of Miss Hanna, who had been one of the chief active agents in the development of the child welfare department. Her knowledge of the people of Swindon and of how to deal with them was remarkable and of immense value in the beginning of a service which requires a good deal of explanation to make the people accept and appreciate it. So long as the maternity and child welfare scheme in Swindon continues, the name of Nurse Hanna will be remembered as one of the outstanding personalities in its foundation.

GENERAL PUBLIC HEALTH AND SANITATION OF THE TOWN.

This being an ordinary report, it is unnecessary to refer to any matters connected with the general sanitation of the town, except such as were introduced or changed during the year under review. There is nothing to report, save that the new waterworks at Latton were completed and the Works were officially opened in June by the Minister of Health. The citizens of Swindon are less appreciative of their water supply than they should be. Few of them realize how lucky they are in having a supply which is abundant, of perfect purity and reliability and that even in the severest drought in history they could use water without restrictions. We do not hear of appreciations, but we do hear of complaints and these were somewhat numerous in 1934, all connected with the presence of small quantities of iron derived from the new water fittings. From the Public Health point of view, this iron is not of the least consequence, even when it is present in sufficient quantity to colour, or cloud the water and to give it an astringent taste. Apart from the traces of iron Swindon waters gave us no trouble in 1934. Naturally we have to keep a sharp look-out for local foulings of the water from broken mains, repair work, etc., but during 1934 nothing deleterious got into the water anywhere.

Samples of the household supply are taken periodically by the Medical Officer of Health and on any occasion in which there is a complaint, or in which there is reason to suspect that the water might not be of standard purity, samples are taken and analysed. In 1934 all samples were above suspicion.

Now that the troubles of obtaining a satisfactory water supply for the Borough have been overcome, the time has arrived when all W.C.'s should be supplied with flushing cisterns and all flushing cisterns should be supplied with water. Nearly one-third of the W.C.'s in Swindon are still without flushing cisterns. In a few instances nuisances arise in connection with their absence, but these are exceptional ; but a water closet minus a flushing cistern is a survival of a past age and should no longer exist. As the law stands at present it is impossible to insist upon a flushing cistern being supplied with water. The law was reasonable at the time when it was passed, but it is a little difficult to understand how the younger generation puts up with laws which have long become incompatible with progress.

HOUSING.

During the year 273 new houses were erected in the Borough, 23 by the local authority and 250 by private enterprise. No houses were closed or demolished, but 3 are awaiting demolition as soon

as alternative accommodation is provided. The Registrar General gives us 60,827 as the population of Swindon in the middle of 1934 and there are in the town 16,790 private houses, of which 294 were void at the end of the year. The house population density is, therefore, 3.69 persons per house and the persons per room density, according to the 1931 census, the latest that is available, was 0.79. So Swindon **as a town** is well housed and not overcrowded. But we have fairly numerous cases of overcrowding and of premises which, though not unfit for habitation, are not reasonably good. It is impossible to deal satisfactorily with overcrowding at present, but in 1934 the Minister of Health promised on many occasions that he would introduce a new Housing Act to deal specially with it. This promise he fulfilled by introducing a Bill in the early part of 1935. At the time of writing we know not the fate of this Bill, but presuming that it passes without any drastic alteration, it will enable the problem of overcrowding to be tackled properly.

Swindon being a young town, we have very little old or dilapidated property and we have no slums or obstructed areas, the great fault of the town being lack of a good lay-out, so except to keep individual houses up to the mark in the way of repairs, the housing problems of Swindon are more pertinent to town planning than to public health. Though bad housing and overcrowding are undoubtedly menaces to health, health requirements are satisfied by a level which is below that which does, or should, satisfy citizenship. Under Public Health we cannot insist upon, nor may we justly ask for, anything which is unnecessary for Public Health purposes alone, though we can put a very wide interpretation upon Public Health. It is, however, important that in the prosecution of such a vast and important social action as the housing of the people, each and every department of sociology should take a part and keep to that part which is within its province. There are some streets in Swindon which should be demolished, but as we have no reason to suppose that their demolition would influence the Public Health, the Medical Officer of Health of the Borough cannot advocate their destruction in his official capacity.

NUTRITION AND THE INSPECTION AND CONTROL OF FOODSTUFFS.

If housing is only partly within the province of Public Health, nutrition and the guardianship of foods are entirely within it. We eat and drink largely for pleasure much which is of no particular value for nutrition, but as the proposition that all members of every community shall be adequately nourished is the foundation of health, control of all foods is one of the primary duties of a health department. Our knowledge is sufficient for us to determine what

quantity and quality of food is required by man and the states of production and distribution are such that there is not the slightest trouble in satisfying these requirements. We know what man requires and we live in a world which produces more than his requirements, so the presence of illnutrition anywhere, or in anybody is inexcusable. There is, on the whole, not much severe illnutrition to-day and there is definitely much less than there ever has been in the past, but there is evidence that the nutrition, particularly of children, is not as good as it is possible for it to be and that it might be raised to a higher level at an expense which is insignificant. There is, therefore, amongst all parties of all political complexions a determination to ensure the full nutrition of the people ; the only differences of opinion being as to how this should be done and the rate at which we can do what ought to be done.

In 1934 was introduced the very important provision of supplying school children with milk at a reduced price, or free in necessitous cases. Much benefit will accrue from this. The provision does not extend to children below school age, who perhaps need it more even than those attending school, but these can be supplied under Maternity and Child Welfare. In former years we used to supply milk to expectant mothers and children under one year of age and only exceptionally to those who were older, but during 1934 this provision was extended considerably to those between one year of age and the time when they enter school. In the appendix we publish a short account by Dr. Logan, Deputy Medical Officer of Health in 1934, of the results obtained by supplying free milk to these under-nourished children. The results are most encouraging.

Swindon is not the authority for carrying out the Sale of Foods and Drugs Act, this being a County function, but this Act becomes less important as time goes on, for it deals mainly with adulteration and owing to the cheapness of good food, the comparative expense of adulterants and the somewhat severe penalties which are incurred by those who are caught adulterating food, adulteration has almost passed out of existence. The inspection of food as regards its soundness is governed by the Public Health Acts and administered by the Sanitary Department of the Borough. The law is generally sufficient, if it is conscientiously administered, to prevent the sale of unsound or diseased food, but in all other directions our food laws are out of date and primitive when compared with those in operation in other countries. Though generally in public health legislation Britain is in advance of other countries, we are a long way behind in many functions, particularly in connection with the dispensing of food. In this country, premises where food is sold are not subject to inspection ; we have no control over eating houses and shops where food is served for

human consumption ; food is allowed to be exposed in conditions which make the absence of food poisoning epidemics in this country a matter of luck rather than of management ; we have no control whatever over persons who handle food unless they are suffering from tuberculosis, or are carriers of typhoid. So we exercise no control worth speaking of over those diseases which might be spread by foodstuffs. We have a legal code regulating the milk supplies, which is complicated and mainly futile, for most of it is either contradictory or obsolete. It is an offence in law to sell milk to which one per cent. of water has been added, but it is no offence to sell milk infected with tuberculosis. In practice our distribution and dispensing of foods is nothing like so bad as the aw allows it to be, for the customers have some say in the matter and will not consume food which is obviously filthy, or served in unappetising surroundings. Yet the fact remains that it is quite legal to serve meals in a place where it would not be legal to keep pigs.

LABORATORY FACILITIES, HOME NURSING, CLINICS AND TREATMENT CENTRES AND AMBULANCE FACILITIES.

There was no change of any importance in the laboratory facilities, home nursing, or clinics and treatment centres in 1934.

The ambulance service had been settled satisfactorily in 1933. It consists of a fleet of three motor ambulances available for all purposes and at all hours of the day and night. It is run in conformity with Circular 1356 of the Ministry of Health.

THE HOSPITAL SITUATION IN SWINDON.

In 1934 a large amount of work was done with the object of improving the general hospital provision of the Borough. Apart from the Isolation Hospital and the Maternity Home, Swindon has a voluntary hospital—the Victoria—of about 80 beds and a temporary hospital containing about 32 beds belonging to the G.W.R. Medical Fund Society. This provision is insufficient for the needs of the population. For fourteen years attempts have been made to co-operate the two hospitals, but these have proved abortive owing to the difference in principle between the voluntary hospital and the G.W.R. Medical Fund Society. The Town Council therefore, decided to explore the possibility of uniting the work of the two hospitals and developing one hospital sufficient in size and equipment to serve the whole needs of Swindon Borough and the neighbouring district. In pursuance of this object the Town Council appointed a Committee, which, with great thoroughness, explored all possibilities and eventually submitted the following

skeleton scheme, which was accepted by the Council as a basis for action :—

"CO-ORDINATION OF THE HOSPITAL SERVICES FOR SWINDON.

The special committee appointed by the Swindon Town Council to explore the question of co-ordinating the hospital services of Swindon after careful examination of the position recommend the following :—

1. No scheme other than that of a municipal hospital is feasible. They therefore suggest a scheme which will entail the Corporation of Swindon taking over the Victoria Hospital, closing the temporary G.W.R. Medical Fund Hospital, except the permanent accident portion, and building upon the Victoria Hospital site such extra accommodation as is required to meet the full needs of the Borough.

2. Swindon Town Council shall negotiate with the Victoria Hospital to take over the existing Victoria Hospital buildings with their assets and liabilities, so that the Hospital shall become the property of and its maintenance be a liability upon the Corporation. To equip the existing Victoria Hospital to serve the needs of the area it will be necessary to build forthwith an extra wing containing 48 beds and an entirely new Out-patient and Special Treatment Department with a recovery ward of 6 beds and 12 private cubicles. It is estimated that the additions, with their equipment, will cost approximately £35,000.

The Hospital would be acquired under Section 131 of the Public Health Act, 1875, and in all probability special local powers to be obtained from Parliament, and would be administered in accordance with those powers, the Local Government Act of 1929 and any other General and Local Acts and Orders which might be in force. In accordance with this every citizen in the Borough of Swindon would have the right of admission to the Hospital upon such terms as the Corporation might determine. Right of entry would also be extended to citizens outside the Borough of Swindon, who at present have the right of treatment in the Victoria Hospital, in such manner and upon such terms as might be settled by negotiation with the Wilts County Council and any other bodies or authorities concerned.

3. The Hospital would be administered by a special committee appointed by the Swindon Town Council and responsible to the Council. This committee would be so constituted that at least two-thirds of its members would be Aldermen or Councillors of the Corporation, the remaining third to be co-opted members representing the Wilts County Council, the G.W.R. Medical Fund Society, persons in the hospital area of experience and interest in hospital administration, to be nominated in the first instance by the Committee of the Victoria Hospital before that Committee ceases to exist, the local medical profession and such other bodies as the committee might decide should be represented.

Under the committee the Hospital would be managed and staffed in the manner set down in the first schedule.

The running expenses of the Hospital would be met in the manner set forth in the second schedule.

Schedule No. 1.

Suggestions for the Staffing of the Proposed Municipal Hospital.

The special circumstances ruling in Swindon and the desire not to interfere with existing arrangements more than necessary would be taken into consideration and the Committee would be willing to interview representatives of the British Medical Association and other bodies directly interested in the staffing of the Hospital before a final scheme was prepared in detail, but it is suggested that a system of staffing somewhat on the following lines would eventuate :—

(1) The Hospital would be part of the public health provisions of the Borough and as such would be under the administrative control of the Medical Officer of Health of the Borough. The duties of the Medical Officer of Health in connection with the Hospital would be those of co-ordination of the Hospital with the remainder of the health services.

(2) The internal administrative control of the Hospital would be by a Medical Superintendent resident in or near the Hospital. Since the administrative duties would not be a whole-time occupation, it is proposed that the Medical Superintendent should have other duties assigned to him, not of an administrative character. It is suggested that the Medical Superintendent might also serve as Pathologist to the Hospital. Persons able and willing to work in this dual capacity are available.

(3) House Surgeons and Physicians. These would be appointed for a limited time and be resident in the Hospital. At first two would be required, but this number might have to be increased with the growth of the Hospital.

(4) Visiting Surgeons, Physician, Gynaecologist, Throat and Ear Specialist, Ophthalmologist, Radiologist and Psychiatrist would be appointed. The holders of these offices would be medical practitioners engaged in consulting practice. They would be part time officers and would be paid for their services. The Psychiatrist would, in all probability, be attached to Devizes Mental Hospital and be supplied by the Wilts County Council, but the other officers of this class would be appointed and paid by the Corporation of Swindon.

(5) Assistant Visiting Surgeons and Physicians. These would be medical practitioners in private practice in the town and neighbourhood. They would be appointed by the Committee

and paid for their services. The number of these required, their method of appointment, their remuneration and terms of office would require to be settled.

(6) A number of visiting anaesthetists would be appointed from medical practitioners in general practice in Swindon and the neighbourhood.

Schedule No. 2.

(1) Every citizen of the Borough of Swindon and of those districts outside Swindon which are served by the Hospital should have a right to treatment within the Hospital. Every person treated in the Hospital must, so far as he is able, either directly or indirectly, pay for the expense of his treatment.

(2) The Corporation may under Section 16 of the Local Government Act, 1929, contract with any society or guild, or similar body, for the treatment of patients on the payment of an agreed sum. Thus the Corporation might enter into an agreement with the G.W.R. Medical Fund Society and with the Trustees of any local Contributory Scheme to accept liability for the treatment of patients belonging to such Fund or scheme for an annual payment of so much per head for the persons covered. In the case of patients not covered by any such agreed scheme, the Corporation would recover from such persons, or their guardians, the cost of treatment, or such proportion of the cost of the treatment as in the opinion of the Hospital Committee each patient might be in a position to pay.

Any deficit between the receipts and the expenditure of the hospital would be met by the Corporation of Swindon as a charge upon the rates of the Borough as regards the citizens of Swindon, and as regards patients who were not citizens of Swindon would be met by such arrangement as might be made with the other bodies and authorities concerned.

Addendum.

It is reckoned that at first the Hospital will contain 130 public beds and 12 private beds. It is recognised that this number may not be sufficient, but it is desirable that the scheme should be put into operation as soon as possible and to start with a minimum that is known to be essential, as it will at any time be capable of expansion. It is recognised that the whole of the Out-patient Department and Special Departments must be totally re-organised. There is no intention to attach to the Hospital an out-patient department similar to those which are in being in the great teaching hospitals, the out-patient department contemplated being entirely in the nature of special departments dispensing advice and treatment for patients who are not resident in the Hospital. It is proposed to

make this out-patient department the central clinical unit in the district."

At the time of going to press the whole matter of the co-ordination of the hospital services for Swindon is under consideration. It would, therefore, be unseemly to discuss the negotiations, or to say anything that might influence or offend any party to them, but the people of Swindon should know that the special committee appointed by the Town Council and their officers did a great deal of hard work in 1934 to help to bring about a solution of the hospital difficulty. The points to be settled are numerous and intricate and it is only on very rare occasions that the Town Council is in a position to tell the people what progress is being made. What is needed in Swindon is indicated in the Committee's memorandum. There is no contention regarding what is required, but there is much difference of opinion as to how these requirements should be satisfied and tremendous difficulty in getting them satisfied by any means whatever. The most contentious point is in section 1 of the memorandum. This question whether the hospital should belong to the municipality or not is one that the people must decide. How, it is not for us to say. Since, however, the settlement of this hospital question has become a matter of some urgency, as the uncertain state in which it is in at present is embarrassing the Town Council, the Victoria Hospital and the G.W.R. Medical Fund Society, it is earnestly to be desired that it may be settled as quickly as possible.

Maternity and Child Welfare.

ANNUAL STATISTICS RELATING TO THE MATERNITY HOME, 1934.

	Borough	County	Total
(1) Number of cases in the Home on 1st January, 1934	5	6	11
(2) Number of cases admitted during 1934.	318	107	425
(3) Number of cases remaining in the Home on 1st January, 1935	14	6	20
(4) Average duration of stay	13.36 days	14.64 days	13.65 days
(5) No. of cases delivered by :—			
(a) Midwives	250	73	323
(b) Doctors	40	19	59
No. of cases in which no delivery took place	28	15	43
(6) No. of cases in which medical assistance was sought by the midwives	131		
(7) No. of cases notified as :—			
(a) Puerperal Fever	(a) —		
(b) Puerperal Pyrexia	(b) 32*		
(8) No. of cases of pemphigus neonatorum.	Nil.		
(9) No. of cases notified as ophthalmia neonatorum, with result of treatment in each case.	Nil		
(10) No. of infants not entirely breast-fed while in the Institution.	11		
(11) No. of maternal deaths, with causes.	2 1 Hyperemesis gravidarum. 1 Sepsis following haemorrhage from placenta praevia.		

* 11 only of these are notifiable under the Puerperal Pyrexia Order, 1926. Of these, three were removed to the Isolation Hospital and recovered and one died in the Maternity Home. Another case, not notifiable under the Puerperal Pyrexia Order, also died in the Maternity Home.

ANNUAL STATISTICS RELATING TO THE MATERNITY HOME, 1934—Continued.

(12) No. of foetal deaths :—

(a) still-born
(b) within 10 days of birth, showing the cause of death in each case, and results of post-mortem examination (if obtainable)

Abortion 1.
20 weeks. Macerated. Syphilis.

STILLBIRTHS 16.
2 macerated. No cause discovered
14 fresh :—
3 were anencephaly.
5 were premature in cases of placenta praevia.
2 full-term, died during breech delivery.
1 full-term, died after version.
1 full-term, after delivery with impacted shoulder.
1 full-term, after delivery by induction.
1 34 weeks premature, no explanation of the death.

DEATHS WITHIN 10 DAYS 16.
9 were full-term babies.
(1) Died on the first day, blue asphyxia.
(2) Died on second day, hydramnios.
(3) Died on first day, no explanation.
(4) Died on fourth day, no explanation.
(5) Died on third day, no explanation.
(6) Died on third day, no explanation.
(7) Died on the first day, no explanation.
(8) Died on the seventh day, jaundice.
(9) Died on the first day, no explanation.

7 were premature.
(1) 38 weeks. Died on fourth day, no explanation.
(2) 34 weeks. Died on the sixth day, hydramnios.
(3) 7 months. Died on the sixth day, no explanation.
(4) 7 months. Mother albuminuria. Died on the second day.
(5) 7 months. Died on the fourth day, ante-partum haemorrhage.
(6) 7 months. Died on the first day ,ante-partum haemorrhage.
(7) 30 weeks. Died on the first day, no explanation.

Of the 382 cases delivered in the Maternity Home, 39 were delivered by forceps, giving a forceps rate of 10.2%, against 13.7% for last year. This is the lowest forceps rate in the history of the Home and considering that the Home accommodates the great majority of abnormal midwifery cases in Swindon and a large part of Wiltshire, this rate is satisfactory. Amongst the forceps cases there were 18 with ruptured perineum, giving a rate of 46%. Among the 343 cases not instrumentally delivered there were 64 with ruptured perineum, giving a rate of 19%, the same as last year. Generally in the history of the Home there has been a steady decline in the forceps rate and a steady decline in the ruptured perineum rate, but the ruptured perineum rate for normal deliveries remains fairly constant. There were three caesarean sections. There were three medicinal inductions, all failures, and 14 surgical inductions with six failures. The total number of inductions was, however, only 14, for those which failed medicinally were treated surgically. There is a distinct reaction against induction.

The Home is used increasingly for the treatment of ante-natal disorders and in this direction serves its greatest purpose in the reduction of mortality and morbidity. Amongst the more serious ante-natal conditions dealt with in 1934 were 7 cases of ante-partum haemorrhage, all due to placenta praevia, 11 cases of the so-called—and probably miscalled— toxaemia of pregnancy and 6 cases of hyperemesis. One of the last ended fatally. The other ante-natal cases all recovered and, so far as we have been able to judge, without any permanent damage to the mothers.

EXTERN MIDWIFERY DEPARTMENT.

On the district there were 132 deliveries, consisting of 128 lives births, 1 stillbirth and 3 abortions. 2 cases were transferred to the Maternity Home. There were 2 infant deaths. In 35 cases a doctor was called in under the Midwives Acts and in 21 cases the Extern Staff acted in the capacity of maternity nurses to doctors' cases.

During the year 22 probationers were under instruction. Of these, 8 obtained the certificate of the Central Midwives Board.

REPORT ON WORK DONE AT THE MATERNITY CLINIC, 1934.

(By Dr. Violet King, Assistant Medical Officer of Health.)

More mothers attended the Centre during 1934, and made a larger number of attendances. It would seem they could not be more eager to come even if and when we move into better quarters. The present consulting room is dark, damp and depressing, the waiting room is far from cheerful and lacks comfort. The best feature is the position, which is fairly central, and we do not have complaints about distances and difficulties of access.

There were eleven stillbirths, against sixteen last year, but double the number of neo-natal deaths.

The nine cases admitted to the Maternity Home from the ante-natal clinics were sent in for the following reasons :—one for general ill-health, albuminuria and haematuria ; one for albuminuria and severe varicose veins ; one for albuminuria and oedema of hands and feet ; one for special examination with regard to disproportion ; one for rising blood pressure, albuminuria and general oedema ; one for high blood pressure and albuminuria ; one for induction suggested by the Consultant at his clinic ; one for bleeding associated with sickness and headache, and one, with a history of kidney trouble and albuminuria, for rest and observation.

Of the 45 women who had albuminuria, 29 had it on one occasion only, 11 on two occasions, 3 on three occasions, 1 on five occasions, and 1 on six. Two of the babies died in under three days, two were premature and lived, one was induced, and one was still-born following ante-partum bleeding. Six mothers have not yet been delivered, and all the other confinements were normal, including the two in whom the albuminuria had been most constant.

Fifteen women attended for examination in whom pregnancy was not established. Five of these were between 40 and 50, an age when another pregnancy is usually dreaded. The idea becomes an obsession, and it is well nigh impossible to convince them to the contrary. One girl of 18 was sent to the Consultant's clinic for corroboration. Another had a tumour suspected of being an ovarian cyst and was referred to her own doctor, who supported the diagnosis. An Aschheim-Zondek test on the urine proved to be negative for pregnancy.

There seems to be a general tendency for women to be more willing to mention and discuss abortion, and the means whereby they try to procure it. We need all the information that can be gathered on this subject, which at present is largely a matter of surmise and suspicion. Fuller knowledge may lead us to form an opinion as to how far this influences prematurity, still-births and neo-natal mortality, and possibly also maternal morbidity.

There were no cases of eclampsia and no maternal deaths.

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STATISTICS RELATING TO THE MATERNITY CLINIC, 1934.

No. of Mothers attending the Maternity Centre	563
Attendances at Matron's Clinics	1832
Attendances at Doctor's Clinics	976
Attendances at Consultant's Clinics	75
TOTAL	2883
Primigravidae	198
No. of Cases referred to Consultant's Clinic	47
No. of cases referred to Dental Clinic	22
Specimens of urine tested	2594
Gynaecological cases	5
Post-natal cases	20
Cases of suspected pregnancy	15
Admitted to Maternity Home from Ante-Natal Clinic	9
Deliveries elsewhere than in County of Wilts	8
Cases X-rayed	2
Wassermann tests	3

Conditions found at Clinics :—

Albuminuria	45
Enlarged thyroid	8
Varicose veins	83
Anaemia	2
Otitis Media	1
Fibroid	2
Deformed Hands	1
Mentally Deficient	3
Epilepsy	1
Rheumatism	1
Chorea	1
Epistaxis	7
Cardiac Disease	5
Prolapse	3
Hernia	1
Enquiries for Birth Control	2

Confinement Results with Particulars :—

No. of deliveries	451
Of these :—	
Twins	2
Breech	18
Posterior	19
Face	1
Transverse	2
Premature	10
Still-born, full time	6
Still-born, premature	5
Induced	11
Forceps	40
Caesarian Section	1
Abortions	5
Ante-partum haemorrhage	5
Notifiable puerperal pyrexia	17
Transferred to Gorse Hill	1

Foetal Abnormalities :—	5
Deformed hands and feet	1
Cleft palate	1
Spina bifida	1
Cleft palate and double talipes	1
Extra digit on right hand	1

The following table gives the details of confinements of women who had attended the Ante-natal Department, but in whom the child failed to survive:—

No.	Age	Para	Visits	Details of Confinements.	Ante-natal and Previous History.
1	24	1	6	Admitted to Maternity Home for surgical induction about a week before term. Both that and medical induction were unsuccessful. Severe bleeding took place on the 9th day; the head was high and not fixed. Version was performed to stop bleeding and delivery took place later on the same day.	Paralysis of right foot at 13 months; no serious illnesses. Pregnancy uneventful. Disproportion between head and pelvis. Mother sent to Consultant's Clinic; position diagnosed as occipito posterior and extended. Trace of albumin in urine on one occasion. Blood pressure 120.
2	34	5	1	A twin, born out of the borough. No details available.	The mother suffers from rheumatism and has slight varicose veins. Blood pressure 120.
3	43	3	7	Born on district. Difficult forceps case. Patient very difficult to manage.	Mother of nervous temperament. Both confinements difficult and instrumental. During present pregnancy sent several times for nurses owing to pains and cramp.
4	36	1	15	Admitted to Maternity Home at 7 months for ante-partum bleeding. Labour began 10 days after and was normal. The child was in the breech position.	Mother had nervous breakdown in 1923. Has varicose veins. Had slight bleeding off and on from the 5th month.
5	16	1	3	Admitted to Maternity Home from Consultant's Clinic for induction. Baby in breech position; born 3 days later quite normally.	A healthy girl. Head would not fit into the brim. Referred to Consultant's Clinic; on the second visit the presentation had become a breech. Blood pressure 120.

No.	Age	Para	Visits	Details of Confinements.	Ante-natal and Previous History.
6	24	1	2	Booked for district, but admitted to Maternity Home as an emergency in the 6th month for bleeding. Delivered in the 8th month of a baby in breech position. Bleeding caused by placenta praevia. Blood transfusion carried out.	A healthy mother. A history of slight bleeding in the 5th month.
7	21	1	10	Admitted, at term, from Consultant's Clinic for observation and induction. Transverse lie of child changed by cephalic version. Induction started on 8th day, forceps delivery 6 days later.	A healthy mother. Sent to Consultant's Clinic for difficult presentation, was sometimes a breech and sometimes transverse. Blood pressure 122.
8	39	10	2	Booked as district case, sent into Home as emergency for bleeding in the 7th month. Delivery took place the same day. Evidence of lateral placenta praevia.	No serious illness, but some anaemia after last pregnancy which ended as a placenta praevia and induction was carried out.
9	24	1	9	Slow labour in Maternity Home. Complicated breech delivery.	Healthy mother. Very well throughout pregnancy. Some hydramnios and difficulty in diagnosing presentation. Blood pressure 125.
10	41	10	2	Admitted for severe bleeding at 7 months. Delivery the same day.	A mother of rather poor physique and condition. Last three confinements bad, the 9th ending with concealed haemorrhage. Eligible for free milk.
11	26	1	4	Premature breech delivery in the Maternity Home. Easy birth. Anencephalic monster Wassermann negative.	Mother appeared healthy. Legs swelled slightly and some varicose veins present. Blood pressure 115.

NOTE.—The number of visits includes those paid by the District Sister and Nurses to the mothers in their homes.

Neo-Natal Deaths in relation to Ante-Natal Work, 1934.

No.	Age	Para	Visits	Mother's History	Confinement.	Infant's History.
1	36	1	8	Good health. Well all through pregnancy. Baby appeared to be small. Blood pressure 135.	Patient admitted to Maternity Home in labour, 5 days after her given date. Normal delivery. Baby weighed 4lbs. 12ozs. At the end of 3 weeks both were discharged, the baby weighing 4lbs, 15¾ozs. It was having haliverol, lemon juice and cream at that time.	3 weeks later the child seemed very poorly and had slight eye discharge. It weighed 5lbs. 8 ozs. On its 2nd visit to the Baby Clinic it was given a nutrient enema, but died later on the same day.
2	24	1	3	Pneumonia in infancy. Apparently healthy now. Slight earache during pregnancy, some headache and faintness. Two of the ante-natal visits were to the Consultant's Clinic. Blood pressure 122.	Normal delivery in Maternity Home 9 days after given date. Baby weighing 7lbs. 4ozs, was blue and shocked, but recovered and cried well. The next day it seemed ill and died in the afternoon.	

Neo-Natal Deaths in relation to Ante-Natal Work, 1934—Contd.

No.	Age	Para	Visits	Mother's History.	Confinement.	Infant's History.
3	24	5	3	Had had operations on appendix and ovary. (Has a few bad teeth.) One normal confinement the previous year, preceded by 3 abortions. Fairly well during present pregnancy, but some faintness.	Admitted to Maternity Home in 7th month with history of bleeding and delivered the same day of a living but very feeble infant which died the same day.	
4	31	1	6	Good health. Has 2 bad teeth. Complaint of cold and cough, also cramp. Blood pressure 150. Had a fall early in pregnancy.	Normal delivery in Maternity Home. Baby's weight 7lbs. 10ozs.	Child born with spina bifida. Condition weakly on discharge. Lower extremities paralysed and back suppurating. Died 2 days after discharge.
5	30	2	10	Curettage in 1932. Normal 1st confinement. Has varicose veins and bad teeth, also vaginal discharge. Much pain in legs.	Admitted to Maternity Home 10 days before confinement, for dangerous varicose veins. Normal delivery. Infant weighed 6lbs. 6ozs.	Baby born with double talipes and cleft palate, and was dangerously feeble. It died on the following day.
6	28	2	7	Good health. Normal 1st confinement. At present has some bad teeth, backache and numbness of fingers.	Normal delivery in Maternity Home. Child weighed 8lbs. 10ozs.	Cord very tightly round neck. Child at first responded to treatment but gradually became more distressed and died the next day.

Neo-Natal Deaths in relation to Ante-Natal Work, 1934—Contd.

No.	Age	Para	Visits	Mother's History.	Confinement.	Infant's History.
7	25	1	3	No serious illness. Well during pregnancy.	Premature delivery in Maternity Home. Baby weighed about 4 lbs.	Very feeble infant. Died the same day.
8	18	1	5	Recent influenza. Well during pregnancy. Blood pressure 135. Head of child not fixed in brim 9 days before delivery.	District case. Baby premature and delivered as a complicated breech. 4½lbs.	Very feeble infant. Died the same day.
9	33	4	3	Had several operations in Hackney Infirmary. Severe varicose veins. General condition very poor. All children illegitimate. Blood pressure 134.	Admitted to Maternity Home 2 months before full term. Marked hydramnios and difficult presentation. Difficult delivery the same day, by instruments. Baby weighed 4¼ lbs.	Infant very feeble and cyanosed. Died 2 days later.
10	42	6	6	Good general health. Has varicose veins. Other confinements normal, but had albuminuria with the last baby. Pain in left groin during this pregnancy. Blood pressure 125.	Delivered in Maternity Home of slightly premature baby in extended breech position. Easy birth. 4 lbs. 5½ ozs.	4 days after birth, child had a convulsion and died the same day. The posterior fontanelle was wide open and tense. There was some bleeding from the nose.
11	38	2	9	Chronic rheumatoid arthritis. Had an abortion in 1926. Fairly well during pregnancy. Blood pressure 120.	Rather slow and difficult instrumental delivery in Maternity Home. Extensive tear of perineum.	Infant weighed 5 lbs. 14 ozs. and appeared rather feeble. Had a slight convulsion 2 days later and died the following morning.

No.	Age	Para	Visits	Mother's History.	Confinement.	Infant's History.
12	21	3	11	A rather pale, quiet, delicate woman. Operation in Victoria Hospital in 1931 for hernia. Two babies stillborn. Had free milk during pregnancy, during which she felt well. Had trace of albumen once. Owing to former history was sent to Consultant's Clinic. Induction advised.	Labour started normally 2 days after and mother was delivered of an apparently healthy child in Maternity Home. Wassermann test proved negative	Baby weighed 5 lbs. 4 ozs. 2 days later convulsions set in and death occurred on the 3rd day.
13	24	2	10	An apparently healthy mother. Had albuminuria during 1st pregnancy 1932. Birth was instrumental, with ruptured perineum, 3 sutures. Since then frequency of micturition. During this pregnancy some difficulty in walking, headaches and albuminuria. Blood pressure 105.	Admitted to Maternity Home in labour and had normal confinement.	Baby weighed 5 lbs. 11 ozs. was jaundiced and appeared rather weak. It died in 7 days.
14	18	1	4	Mother healthy. Well during pregnancy.	Mother delivered in Maternity Home of 7 months baby weighing 3 lbs. 7 ozs.	Infant very feeble and cyanosed. Died in 6 days.
15	32	6	2	Mother always healthy. All confinements normal. Well during this pregnancy.	Quick easy delivery on district. Transferred to Isolation Hospital 4 days later.	Baby weighing 6½ lbs. Died 39 hours after from congenital heart disease.
16	30	5	2	Appendicectomy. Operation on left ovary 1932. All confinements normal. Had abortion after operation. Present pregnancy, has carious teeth, vaginal discharge and frequent bleeding during first few months. Otherwise well.	Admitted to Maternity Home at 7 months for bleeding. Delivered of a premature and very feeble child.	Baby weighed 3 lbs. 4½ozs. Died on 5th day.
17	21	1	6	Good health. Well during pregnancy but had frequent headaches during early months. Blood pressure 116.	Admitted a month before full term to Maternity Home, Normal easy delivery.	Infant weighed 4 lbs. 5ozs. Cried well, but colour rather poor. Condition became worse and it died the next day.

NOTE.—The number of visits includes those paid by the District Sister and Nurses to the mothers in their homes.

REPORT ON THE INSPECTION OF MIDWIVES AND NURSING HOMES, 1934.

(By Dr. VIOLET KING, Assistant Medical Officer of Health and Inspector of Midwives.)

During the year, 36 midwives signified their intention to practise, 13 of them privately. Of these, one has given up work owing to illness and another has left the town owing to scarcity of work.

Thirty-one routine visits were paid to midwives in their homes, and three special ones. Each nursing home was inspected twice.

The following forms, other than for medical help, were sent in by midwives :—

Artificial feeding 5. The following reasons were given : "Infant adopted," "Mammary abscess of mother," "Spina bifida, doctor's orders," "Unable to obtain breast milk from mother," and "Doctor's request, mother very ill."

Notification of deaths in midwives practices 20. 2 mothers and 18 infants.

Notification of laying out of dead bodies 18. 3 mothers and 15 infants.

Notification of infectious conditions and contact with them :— 9, for the following conditions :—

1 Hyperpyrexia
3 Pyrexia,
3 Rise of Temperature,
1 Pneumonia, and
1 Influenza.

Notification of still-birth 9.

No. of medical help forms sent in :—

For mothers	229
For babies	30
	259

CONDITIONS FOR WHICH MEDICAL HELP WAS SOUGHT BY MIDWIVES, 1934.

MOTHER.		CHILD.	
Prolonged Labour	32	Prematurity	4
Ruptured perineum	103	Prematurity with dangerous feebleness	5
Uncertain, or malpresentation	21	Dangerous feebleness	7
Ante-partum haemorrhage	13	Abnormalities	4
Post-partum haemorrhage	4	Discharging eyes	5
Retained or adherent placenta	1	Bleeding per rectum	2
Disproportion	1	Injury at birth	1
Induction	12	Difficult breathing	1
Hyperemesis gravidarum	3	Cyanosis	1
Albuminuria	7		—
Uterine Inertia	1		30
Abortion	4		—
Toxaemia of pregnancy	1		
Poor general condition	4		
Poor mental condition	1		
Unsatisfactory condition of patient after second stage	1		
Hydramnios & prolapsed hand	1		
Rise of temperature	2		
Rigid os	1		
Severe abdominal pain	1		
Pain in right breast	1		
Abnormal hymen	1		
Prolapsed cord	1		
Swelling of feet	1		
Swelling of legs and face	1		
Varicose veins	1		
Collapse after delivery	1		
Patient's own request	8		
	229		

V. REDMAN KING.
Asst. Medical Officer of Health
and Inspector of Midwives.

PUERPERAL PYREXIA.

For several years past the Medical Officer of Health of Swindon has been studying the puerperal pyrexias in their epidemiological aspect. Being completely dissatisfied with the lack of progress in the diminution of the infectious processes which are apt to arise in connection with childbirth and particularly with the apparently stationary condition of those which end fatally, he has come to the conclusion, not unnaturally, that we are working at the subject from a wrong view-point and that there must be some method, at least of understanding, if not of reducing, the puerperal fevers in some way comparable to that which has enabled us to grapple with other forms of human infection.

The high maternal mortality of 1933 stimulated all those who had anything to tell us—and a greater number who had nothing worth saying—to speak in volumes. Wading through this immense amount of literary matter has been an onerous and thankless task, for its value is incredibly small. Most of the authors merely repeated what has been said over and over again, much of which was not true when it was first said and does not gain in veracity by repetition, and those who did give us any original thought were promptly contradicted by others. So except for the relief of unemployment amongst printers, we were little better off at the end of 1934 than we were at the beginning. Yet though the bulk of material dealing with puerperal morbidity that was *published* in 1934 is rubbish, there was a considerable amount of useful research work being prosecuted silently, which, in course of time, will become available. In my last annual report I made a threat that in 1934 I might publish a monograph on puerperal pyrexia, but I thought better of it and said nothing. This was wise for during the year just past I have had the opportunity of exploring some matters of great interest to the epidemiology of puerperal pyrexia and of testing the validity of certain suppositions, and as I know that several of my colleagues are working on this subject in somewhat similar directions, it may be that before many years we may give an explanation of the puerperal fevers which will conform to the theory of epidemics.

46 cases of puerperal pyrexia and 1 case of puerperal fever were notified in the Borough of Swindon in 1934, against 51 in 1933. In addition, 6 other cases of puerperal infection, mainly severe in character, which occurred in the outlying districts, were treated in the Isolation Hospital. So that altogether 53 cases were investigated. Of the 47 cases notified in Swindon, 32 were notified from the Maternity Home. These cases were not all natives of Swindon. 2 were notified from a private nursing home, 1 from the Isolation Hospital and 12 from the patients' own homes.

Of these cases, 3 from the Maternity Home, 2 from the private maternity home, 1 from the G.W.R. Medical Fund Hospital (not notified until she entered the Isolation Hospital) and 8 of the cases which occurred in their own homes were removed to the Isolation Hospital.

The large number of notifications from the Maternity Home is due to the enforcement of the New South Wales Convention within the Home but not outside it. Under this convention, which requires the temperature to be taken four-hourly throughout the puerperium and every case notified in which a temperature of 100.4 or over is recorded on more than one occasion, the notifications of puerperal pyrexia are very much higher than under the official British convention ; so in order to get figures and rates which are comparable with those of the rest of England and Wales, it is necessary to separate the pyrexias notified from the Maternity Home into those which are and those which are not notifiable in accordance with the Puerperal Pyrexia Order. Of the 32 cases notified from the Maternity Home, 11 only were notifiable under the Puerperal Pyrexia Order, so that the number of pyrexias in Swindon in 1934 which were strictly notifiable according to English law was 26. Of these, one notified from the Isolation Hospital should be excluded as she was not delivered in Swindon, so that the total number of notifiable pyrexias and fevers accreditable to the Borough was 25. Many of these cases were in women not natives of Swindon, who had come into the Municipal Maternity Home, or to a private nursing home, for delivery, so the pyrexia rate must be cast upon births notified in the Borough and not upon those registered as natives of Swindon. Thus cast, the puerperal pyrexia rate was 27.2. The rate for the Maternity Home was 28.8. These rates are high, the normal rate in districts where the Puerperal Pyrexia Order is carried out efficiently being 20.

3 of the cases, 2 officially notifiable and 1 not, died, so the puerperal pyrexia fatality rate, which is cast on cases notifiable under the Order, was 4%.

MATERNAL MORTALITY.

In the consideration of maternal mortality for local purposes the New South Wales Convention is adopted. By this Convention the death of every female between the ages of 15 and 50 is presumed to be due to, or connected with, the reproductive process unless and until it is proved otherwise. This Convention requires that every female death between the ages of 15 and 50 must be investigated. This sounds a formidable business, but in a small borough entails very little work, for deaths in females of this age are not frequent and most of them can be proved on superficial inquiry not to be connected with reproduction. Some, however, require a somewhat extended scrutiny.

In 1934, 9 deaths were investigated. Of these, 5 could be excluded as being unconnected with the reproductive process. Of the 4 cases which were connected with reproduction, the first was not a native of Swindon and died in Victoria Hospital, the second was not a native of Swindon and died in the Maternity Home, the third was a native of Swindon and died in the Maternity Home, the fourth was a native of Swindon and died in the Isolation Hospital.

In accordance with the requirements of the Ministry of Health, complete notes of the circumstances connected with the deaths accreditable to Swindon are furnished in confidence to the Ministry and of those maternal deaths not accreditable to Swindon, such notes as are available from Swindon are transmitted in confidence to the County Medical Officer. Since the investigation into maternal mortality which is conducted by the Ministry of Health is of a strictly confidential nature, it is inadvisable for us to say anything more about the fatal cases, except that two maternal deaths only can be accredited to Swindon, of which one was not due to infection and the other was due to scarlet fever, probably accidental and not incidental to the puerperium. The Registrar General accredits Swindon with one maternal death, giving us a maternal mortality of 1.25.

REVIEW OF THE MATERNITY SERVICE IN SWINDON.

When the new Maternity Home at Kingshill was opened and Swindon became the local supervising authority for the administration of the Midwives Acts, an attempt was made to give the Borough a midwifery service which would cover completely all local requirements. The proposition before us was to introduce a scheme whereby no woman could be damaged by any preventable cause or suffer unnecessarily from any unpreventable condition incidental to reproduction if the machinery for the prevention of such troubles were fully utilized. It is an essential not only that all facilities for treatment should be available, but that they should be available immediately, without delay, or formality. This presented no real administrative difficulties in a small and compact borough, but success depends upon the doctors, midwives and patients making full use of it. The doctors and midwives, with rare exceptions, do make full use of it, so that no preventable maternal death is likely to occur in Swindon from doctors or midwives not utilizing facilities that are available ; but the same cannot be said in regard to the women themselves, so the further reduction of maternal mortality largely rests with education of the people to utilize the facilities provided.

Consideration of the various maternity schemes in different parts of this country and abroad shows that the main element in obtaining a minimum mortality rate is the attitude of the mothers towards what is done to help them. In districts where the mothers

look upon the maternity service as something which belongs to them, the mortality rate is always low, but where they consider the service as something thrust upon them, only to be utilized in emergency, the rates are high. One can well understand why this should be so, so the problem must be faced of how to inculcate a favourable attitude amongst all women towards their maternity service. We shall not achieve this by exaggerating the dangers of childbirth, but by drawing attention to its safety in a properly organized maternity scheme where the whole business can be made remarkably safe, for most of the complications that are liable to end disastrously can be foreseen and averted. We cannot in the present state of our knowledge reduce maternal mortality to zero and probably we never shall be able to do so, but it certainly can be reduced to something between 1 and 2 per 1,000. Actually the mortality amongst childbearing women is less than amongst sterile women, so though there is a fatality of childbearing special to that process, it is more than set off in other directions.

OPHTHALMIA NEONATORUM.

The number of cases of ophthalmia neonatorum notified in the Borough during 1934 was 4, of which 2 were treated by the Public Health Department throughout. Neither of these was gonorrhoeal; one was bacteriologically sterile and the other was caused by a non-haemolytic streptococcus. 2 were treated privately. No bacteriological examination was made in these cases, but they were visited by the Public Health Department and were trivial, so that in all probability neither of these was gonorrhoeal.

41 cases of sore and discharging eyes were notified by midwives. 3 of these were cases which had been notified by medical men. The fourth case notified by a medical man was not notified by a midwife, but was brought up to the Clinic for treatment. Of the others, 24 occurred in the Maternity Home, where notification is enforced rigidly. Of these 24 cases which occurred in the Maternity Home, 20 were cured before the discharge of the mothers and 4 were transferred to the Clinic. None of these cases was gonorrhoeal. All these cases were bacteriologically examined and all recovered without injury to the eyes.

14 cases occurred privately, other than notified cases. 4 of these were treated at the Clinic. None of these was gonorrhoeal. The remaining 10 were treated privately, but they were all visited from the Health Office. None of these was examined bacteriologically, but they were all trivial.

In addition, 17 cases which had not been notified by midwives were treated at the Clinic, of which 3 were cases left over from last year. None of these cases was gonorrhoeal and all recovered completely, or are on their way to recovery.

Locally in Swindon every case of sore and discharging eyes in new-born infants, however trivial, has to be reported to the Medical Officer of Health by the midwives. The majority of these cases are treated throughout by the Public Health Department and those which are not are supervised by the Health Visitors. All cases which come to the Public Health Department are bacteriologically examined. The scheme was introduced in Swindon before the Ophthalmia Neonatorum Regulations came into force and was designed primarily to put an end to blindness resulting from ophthalmia neonatorum. In this object it has succeeded, for since the scheme came into force in 1921 no child has lost his sight from this disease.

It will be seen from the table and from the reports which are published yearly, that ophthalmia neonatorum of gonorrhoeal causation has temporarily—and, one hopes, permanently—died out of Swindon, though in the early years of the scheme the number of gonorrhoeal cases in natives of Swindon was high.

Of recent years the scheme has served another function. New-born babies are much troubled by blocking of the lacrimal canal and this requires continuous treatment, sometimes for several months, to prevent atresia with troublesome epiphora in after years. The cases of ophthalmia which are not notified either by doctors or midwives, but are first seen at the Clinic, are mostly cases of blocked ducts. This condition is not generally an ophthalmia of the new-born, but takes origin in the first " cold " which the child contracts and, therefore, as might be expected from the theory of epidemics, happens late in the puerperium when the child becomes more or less at large in the general population.

It was mentioned last year that a new value had been found for the study of sore and discharging eyes in new-born babies in unravelling the epidemiology of puerperal pyrexia. The remarks in the last paragraph bear upon this, for it would follow from Topley's mice experiments that an infection transferred from a mother to her baby, or from an extraordinary source to her baby, would be liable to be re-transferred to the mother and produce a reaction which, without the intermediary, would not be detectable.

It will be noticed that in 1933 no case of gonorrhoeal ophthalmia was recognized in Swindon. We cannot be certain that the gonococcus was not present in the cases which were not examined bacteriologically, but the clinical condition of these cases certainly suggests that they were not gonorrhoeal. Presuming they were not, 1934 would be the fourth year in succession in which no case of gonorrhoeal ophthalmia has occurred in an inhabitant of Swindon, for the two cases which occurred respectively in 1932 and 1933 were in babies born to visitors to the town.

OPHTHALMIA NEONATORUM.

Year	No. Notified	Cases of Infantile Ophthalmia due to Gonococcus	Where Treated				Result.				Not Notified as O.N.
			Home	Gorse Hill.	Clinic	Maternity Home.	Cured	Blind	Injured	Died.	
*1921	7	?	3	—	4	—	7	—	—	—	19
1922	21	?	2	....	19	....	20	....	1	....	16
1923	34	23	5	4	25	....	30	....	2	2	11
1924	15	13	....	3	10	2	15	....	....	....	12
1925	9	4	1	2	5	1	9	....	....	....	11
1926	8	3	....	....	8	....	8	....	....	....	22
1927	11	5	1	3	6	1	11	....	....	....	15
1928	4	4	....	2	2	....	4	....	....	....	30
1929	3	2	....	1	2	....	2	....	1	....	28
1930	11	8	1	4	6	....	11	....	....	....	58
1931	4	....	....	1	2	1	4	....	....	....	55
1932	5	1	1	....	4	....	5	....	....	....	49
1933	3	1	1	1	1	....	2	....	1	....	46
1934	4	....	2	....	2	....	4	....	....	....	52

* These figures are incomplete.

Table showing number of cases of Ophthalmia Neonatorum notified, the number treated, the results of treatment, and the number of deaths occurring. 1934.

No. of Cases Notified.	4	No. of Cases	Vision Unimpaired	Vision Impaired	Total Blindness	Deaths
Treated at Clinic		2	2	....	....	....
Treated at Gorse Hill Clinic		....	....	....	....	....
Treated at Maternity Home		....	....	....	....	....
Treated Privately		2	2	....	....	....
TOTALS		4	4	....	....	....

PEMPHIGUS NEONATORUM.

No case of pemphigus neonatorum occurred in the Borough of Swindon during 1934.

CHILDREN ACTS, 1908 and 1932.

The five Health Visitors are the Infant Protection Visitors under this Act. There were on the register at the end of 1934, 29 boarded-out children under the age of nine. These are kept under supervision and in every case conditions are satisfactory.

We meet with many technical breaches of the 1932 Children Act due to ignorance of its provisions. It is the duty of the local authority to bring the provisions of this and similar Acts to the notice of the people. The law is satisfied that this has been done if the provisions of the Act in their legal jargon are advertised in the local newspapers and on hoardings, but as noboby ever pays any attention to what is put on hoardings unless it is pictorial and nobody wastes his time reading legal advertisements in newspapers, it is necessary in the interests of the people to find some other means of bringing the provisions of new Acts of Parliament to the comprehension of the man in the street. As regards the provisions of the Children Acts, this can be done quite satisfactorily through the Health Visitors, who can explain individually to persons concerned what the Acts require them to do, and where breaches have been committed, to explain what those breaches are and that they must not continue. No case of breach of the Acts occurred in which it would have been sensible to prosecute, but it is necessary to keep the sharpest look-out to see that the provisions are observed.

Table Showing the Number of Visits Paid by the Health Visitors to Mothers and Children and to cases of Tuberculosis.

	1930	1931	1932	1933	1934
No.of first visits paid to mothers and children	975	910	896	778	857
No. of revisits	4240	4250	4445	4528	3690
No. of visits paid to expectant mothers	260	294	299	263	183
No. of visits paid to cases of deaths and stillbirths	109	95	103	77	80
No. of visits to cases of Tuberculosis	161	168	105	81	83
No. of visits paid to children aged 1—5 years	5419	5497	5686	5877	4859
	11164	11214	11534	11604	9752

Record of Work done at the Infant Welfare Centres during the Years 1930—1934 inclusive.

	1930	1931	1932	1933	1934
No. of separate Infants who attended the Centre at—					
Eastcott Hill	1278	1303	1310	1315	1280
Gorse Hill	245	244	267	255	212
Rodbourne	233	253	230	203	195
Pinehurst	139	145	159	153	158
TOTAL	1895	1945	1966	1926	1845
Number of Attendances—					
Eastcott Hill	8232	8488	8048	7584	6850
Gorse Hill	2098	1774	1869	2047	1644
Rodbourne	2156	2258	2118	2034	1487
Pinehurst	920	929	1108	842	884
TOTAL	13406	13449	13143	12507	10865
Number of cases which received medical advice and treatment	1050	1049	1020	1050	1108
Total Consultations	3567	3445	3169	2874	2899

SUMMARY OF CONDITIONS SEEN AND TREATED AT THE INFANT WELFARE CLINICS DURING THE YEAR 1934.

	Infants	Toddlers	Total
Disease and Defects due to Ante-Natal Causes—			
Phimosis	96	2	98
Congenital defects of nervous system	6	4	10
Squint	19	15	34
Congenital diseases of the blood	—	—	—
Other congenital deformities and defects	52	4	56
	173	25	198
Specific Infections—			
Congenital syphilis	1	—	1
Gonorrhœa other than O.N.	—	—	—
Ophthalmia neonatorum	27	—	27
Pemphigus neonatorum	—	—	—
Tuberculosis	1	2	3
Diphtheria, scarlet fever, measles, whooping cough	10	7	17
Pneumonia	6	—	6
Rheumatism	—	—	....
Nervous system	1	2	3
Ear disease	35	20	55
Various infections	58	26	84
	139	57	196
Deficiency States—			
Ill-feeding	247	15	262
Scurvy	4	—	4
Rickets	24	2	26
Anaphylaxis	10	4	14
Asthma	4	3	7
Skin	22	4	26
Teeth	22	54	76
Tonsils and Adenoids	2	11	13
Various	1	3	4
	336	96	432
Injuries	31	17	48
Miscellaneous	175	59	234
	854	254	1108
No. of Operations for the removal of Tonsils and Adenoids	—	4	4
No. of Bacteriological examinations	35	2	37
No. of Haematological examinations	4	9	13
No. of X-Rays examinations	9	4	13
No. of Mental Defectives	6	6	12
No. of Physical Defectives	2	2	4
No. of Blind Children	—	—	—
No. of Deaf Children	—	1	1
No. of Mute Children	—	1	1

Table Showing the Number of Infants and Toddlers referred to Special Departments for Treatment during 1934.

	Infants	Toddlers	Total
Dental Clinic	22	342	364
Eye Clinic	6	9	15
V.D. Clinic		1	4
Orthopaedic Clinic	9	7	16
Throat, Nose and Ear Clinic	—	7	7
Electrical Clinic	2	—	2
Tuberculosis Clinic	—	1	1
Rheumatic Clinic	—	—	—
Total	42	367	409

THE MILK (MOTHERS AND CHILDREN) ORDER.

	1930	1931	1932	1933	1934
No. of applications granted	100	158	270	265	206
Total quantity of Milk issued (Galls)	2195	3069	7025	8320	7105
Total Cost £ (approx.)	200	270	635	770	720

THE PROVISION OF FREE MILK FOR CHILDREN AGED 1—5.

(By J. Stevenson Logan, Deputy Medical Officer of Health.)

During 1934 twenty-two children were granted one pint of milk daily. All these cases were specially selected by the Medical Officers and kept under observation, milk being granted for periods of one month only, at the end of which time the situation was reviewed and a fresh recommendation made. In the following table the cases are analysed and belief in the soundness of the scheme appears inescapable.

Two cases stand out in the memory and appear worthy of comment. One, a child a year old, was making no effort to sit up and was so backward and feeble that a diagnosis of mental deficiency was considered, but rejected in favour of illnutrition. Poverty and lack of knowledge were probably responsible, as the mother made every effort to follow the advice given. Within a few weeks the child made rapid progress and her condition is now satisfactory. The other instance is a child who had phlyctenular ulceration of the eye—the parent being unemployed. In our experience this is most often a concomitant of illnutrition and focal sepsis. No local treatment was given but the child received a little concentrated vitamin A and D, and a pint of milk daily. The ulcer cleared up in a most remarkably rapid manner and the child is now in good condition.

In Glasgow it has been demonstrated statistically and Sir George Newman has stressed in his Reports, that the chief factor making for the well being of the child is the quality and nature of the maternal care. The cases analysed here appear to confirm this. In three instances where the administration of free milk has given results adjudged to be unsatisfactory, the Medical Officer has noted the shiftlessness of the mother, which must be pretty obvious to have been thus commented upon. On the other hand, our experience warrants the opinion that a resolute intelligent mother can do a very great deal to protect her child from the consequences of adverse economic circumstances, and that where the Infant Welfare Department can secure proper co-operation in the home, the means placed at its disposal are fairly adequate to deal with illnutrition.

SPECIAL CASES WHICH HAVE BEEN GRANTED FREE MILK.

No. of months for which milk was granted	Result	Gain in weight.	Reason for Grant and Comments.
3	Satisfactory	2lbs.	Malnutrition.
6	Satisfactory	6lbs.	Severe malnutrition.
2	Unsatisfactory		Scurvy and rickets. Bad home care.
4	Satisfactory	2½lbs.	Improper feeding. No milk in dietary.
3½	Satisfactory	4lbs.	Bronchitis and rickets.
3	Satisfactory	4½lbs.	Flat feet and lack of progress.
2	Satisfactory	¾lb.	Underweight.
2	Satisfactory	4lbs.	Broncho-pneumonia earlier in the year.
3	Satisfactory	4lbs.	Anaemia after whooping-cough.
4	Unsatisfactory	1½lbs.	Poor progress. Bronchitis and whooping-cough since.
4	Satisfactory	4½lbs.	Malnutrition. Intercurrent colitis.
3	Unsatisfactory	1½lbs.	Ill-nutrition. Poor shiftless mother.
3	Satisfactory	2lbs.	Tonsillitis and septic teeth.
5	Satisfactory	1¾lbs.	Been in Children's Orthopaedic Hospital for rickets.
6	Satisfactory.	5¾lbs.	Phlyctenular conjunctivitis.

CASES WHERE INSUFFICIENT TIME HAS ELAPSED TO REVIEW RESULT.

Period for which milk has been received.	Reason for Grant and Comments.
1 month	Recent nephritis and anaemia at present.
1 month	Rickets.
1 week	Amaurotic disease.
1 week	Amaurotic disease.
3 weeks	Unsatisfactory nutrition
1 month	Ill-nourished. Been living in caravan. Only came once for milk.
2 months	Neglect and ill-nutrition. Bad mother. Ceased attendance.

J. STEVENSON LOGAN,
Deputy Medical Officer of Health.

INFANTILE MORTALITY.

The deaths of all persons under the age of 25 which occur in Swindon, and of all Swindon children who die away from the town, are investigated. Some knowledge of the previous history of these children is in the possession of the Health Office and, in an increasing number, the full life histories are available. Since some children die in the institutions of Swindon who do not belong to the town, and certain other children who have regularly attended the Swindon clinics die elsewhere, these investigations become somewhat complicated. In the review which follows, cognizance is only taken of those deaths which the Registrar General accredits to Swindon.

STILLBIRTHS.

34 stillbirths were notified in Swindon during 1934, of which 5 which occurred in the Maternity Home are not accreditable to the Borough and 1 was the body of an unknown baby found in the Corporation Sewage Works. This leaves 28 cases undoubtedly belonging to the Borough, against 33, 36, 33 and 42 in the four preceding years. 11 Borough cases and the 5 outside cases were delivered in the Maternity Home. Nothing is known of the unidentified body, but the remaining 17 were delivered in their own homes.

All of the Borough cases were legitimate.

6 only of the mothers had attended the Ante-natal Clinic and all these were delivered in the Maternity Home and one other had received ante-natal attention from her own doctor. Except for those cases which occur in the Maternity Home, nothing is gained by trying to discover causes of stillbirths.

NOTE.—In the following paragraphs, cases marked * were physically, and † were mentally defectives.

DEATHS BEFORE THE END OF THE FIRST DAY.

9 such deaths occurred, against 6 for last year, 4 males and 5 females. All were legitimate. 3 occurred in the Maternity Home. 3 were first pregnancies, 3 second, 1 fifth, 1 sixth and 1 seventh.

1 infant was malformed, non-viable, 1 is reported to have had congenital heart disease, but in the other 7 there is no satisfactory explanation of the death, though 4 of them were premature.

7 of the mothers had attended the Ante-natal Clinic.

Deaths Between the End of the first Day and the End of the First Week.

17 such deaths occurred, against 8 for last year. 9 were males and 8 females. 10 died in the Maternity Home, 1 in Victoria Hospital and 6 died at home. 2 were illegitimate. 8 were first pregnancies, 2 second, 1 third, 4 fifth, 1 sixth and 1 seventh.

So far as can be ascertained, 11 of the mothers of these children attended the Ante-natal Clinic.

1 of the children was a non-viable monster, 1 died of intra-cranial haemorrhage during delivery, 3 are certified as having died from congenital malformations of the heart and 1, the child of a mother with albuminuria, apparently died of toxaemia. There is no satisfactory explanation of the deaths of the remaining 11.

Deaths Between the End of the First Week and the End of the First Month.

There were 7 such deaths, against 4 for last year. 4 were males and 3 females. All were legitimate. 2 were first pregnancies, 4 second and 1 sixth. All but one of the mothers had received ante-natal attention.

4 of these infants had been breast fed. 1 died of malignant jaundice. The cause of the death of the other 3 is uncertain.

3 were artificially fed. 1 was a non-viable monster and the cause of death of the other 2 is uncertain.

1 of these children had attended the Infant Welfare Centre.

Deaths Between the End of the First Month and the End of the First Year.

10 such deaths occurred, against 22 for last year, 5 males and 5 females. All were legitimate.

7 of the cases had attended the Infant Welfare Centre and their histories are fully known. Of these, 3 had been breast fed and died, 2 of tuberculous meningitis and 1 of whooping cough. 4 had been artificially fed and they died, 1 of congenital heart disease * and 3 of enteritis from illfeeding.

3 had not been seen at the Clinic. 2 were breast fed, 1 died of pneumococcal abscess of the hip, the other of acute bronchitis, the cause of which was doubtful. 1 had been artificially fed and died of meningitis, probably cerebro-spinal.

Deaths Between the First and Second Year.

6 such deaths occurred, against 7 for last year, 3 males and 3 females. Only 1 case had not attended the Clinic. She had been partly breast fed and died from whooping cough.

Of those who attended the Clinic, 3 had been fully breast fed. Of these, 1 died from whooping cough, 1 from tuberculous meningitis * and 1 from meningitis, probably tuberculous. Of the 2 who had been artificially fed, 1 died of hydrocephalus *† and the other from asthma.

Deaths Between the Second and the Fifth Year.

16 such deaths occurred, against 14 for last year. 10 were males and 6 females. 6 of these cases had not attended the Clinics. 1 died from a motor accident, 1 from lymphatic leukaemia, 1 from pneumonia, 2 from scarlet fever, one of which was a mongolian imbecile † and 1 from diphtheria.

Of the 10 cases who had attended the Clinic, 2 died of injury (one burns and the other crushed with a stone), 1 died of diphtheria, 1 of scarlet fever, 1 of measles, 1 of tuberculous meningitis, 1 of encephalitis lethargica, 1, a mentally defective, from status epilepticus †, 1 from broncho-pneumonia of unknown causation and 1 from enteritis of doubtful causation.

Deaths Between the Fifth and the Tenth Year.

9 such deaths occurred, against 6 for last year, 6 males and 3 females. 1 of these was unknown to the Public Health Department and died of meningitis of doubtful causation.

Of the 8 who were known to us, 1 died from a motor accident, 2 from diphtheria, 2 from rheumatic heart disease, 2 from tuberculous meningitis and 1 from cerebro-spinal meningitis.

Deaths Between the Tenth and the Seventeenth Year.

There were 6 such deaths, against 6 for last year. 2 were males and 4 females. All were known to the Public Health Department. 1 died of diphtheria, 1 from cerebro-spinal meningitis, 1 from pulmonary tuberculosis, 1 from septicaemia following otitis media, 1 from rheumatic heart disease and 1 from pseudo hypertrophic paralysis *.

DEATHS BETWEEN THE SEVENTEENTH AND THE TWENTIETH YEAR.

8 such deaths occurred, against 4 for last year. 4 were males and 4 females. 3 were not known to the Public Health Department. 2 of these died from pulmonary tuberculosis and 1 from damage to the spinal cord while diving.

Of the 5 known to the Public Health Department, 2 died of pulmonary tuberculosis, 1 of pneumonia, 1 of appendicitis and 1 of scarlet fever.

DEATHS BETWEEN THE TWENTIETH AND THE TWENTY-FIFTH YEAR.

There were 11 such deaths, against 17 for last year. 7 were males and 4 females. 4 of them were not known to the Public Health Department. All of these died of tuberculosis.

Of the 7 known to the Public Health Department, 4 of them died of tuberculosis, 1 of pneumonia, 1 of appendicitis and 1 of rheumatic endocarditis.

Table Showing the Causes of Deaths of Children under 25 years of age in the Borough of Swindon during the Year 1934.

CAUSE.	0-1	1-2	2-5	5-10	10-17	17-20	Total under 20	20-25
Congenital Ante-natal & Natal Defects and Injuries :								
Intercranial Injuries	1	—	—	—	—	—	1	—
Abnormal Labour (Asphyxia)	—	—	—	—	—	—	—	—
Non-viable Monsters	3	—	—	—	—	—	3	—
Congenital Defects	5	—	—	—	—	—	5	—
Congenital Syphilis	—	—	—	—	—	—	—	—
Jaundice	1	—	—	—	—	—	1	—
Toxaemia	1	—	—	—	—	—	1	—
Unknown	23	—	—	—	—	—	23	—
Post-natal Diseases :								
Whooping Cough	1	2	—	—	—	—	3	—
Measles	—	—	1	—	—	—	1	—
Scarlet Fever	—	—	3	—	—	1	4	—
Pneumonia	1	—	2	—	—	1	4	1
Diphtheria	—	—	2	2	1	—	5	—
Encephalitis Lethargica	—	—	1	—	—	—	1	—
Rheumatic Infection and Sequelae	—	—	—	2	1	—	3	1
Asthma	—	1	—	—	—	—	1	—
Pulmonary Tuberculosis	—	—	—	—	1	4	5	8
Tuberculous Meningitis	2	2	1	2	—	—	7	—
Other Tuberculous Diseases	—	—	—	—	—	—	—	—
Meningitis following Ear Disease	—	—	—	—	1	—	1	—
Cerebro-spinal Meningitis	1	—	—	1	1	—	3	—
Bronchitis	1	—	—	—	—	—	1	—
Hydrocephalus	—	1	—	—	—	—	1	—
Status Epilepticus	—	—	1	—	—	—	1	—
Lymphatic Leukaemia	—	—	1	—	—	—	1	—
Appendicitis	—	—	—	—	—	1	1	1
Pseudo Hypertrophic Paralysis	—	—	—	—	1	—	1	—
Meningitis ? causation	—	—	—	1	—	—	1	—
Illfeeding	3	—	1	—	—	—	4	—
Street Accidents	—	—	2	1	—	—	3	—
Train Accidents	—	—	—	—	—	—	—	—
Drowned	—	—	—	—	—	1	1	—
Burns	—	—	1	—	—	—	1	—
TOTALS	43	6	16	9	6	8	88	11

NOTE— The death of every child under the age of 25 years is made the subject of inquiry, in which all matters connected with the medical history of the child are considered and from the available evidence the conclusion is drawn as to what was the main factor which destroyed life. In the above table the deaths are given in accordance with these findings. They agree in number, but not in causes of death, with the official records.

There were several matters of interest in connection with the Maternity and Child Welfare Department in 1934. There was a slight increase in the number of births and in the birth rate, a fall in the stillbirth rate, but a tremendous jump in deaths during the first month of life. If we add together the stillbirths and deaths during the first month, we obtain the figure of non-viables, which gives us a better index of natal mortality than either the stillbirths or deaths within the first month taken alone, because the distinction between stillbirth and early death is more a legal than a biological one.

1933 gave us 33 stillbirths and 18 deaths within the first month, a total of 51 with 766 registered live births. 1934 gave us 28 stillbirths and 33 deaths under one month, a total of 61 with 770 registered live births, so that viability was lowered in 1934. The viables, however, did better, for deaths between the end of the first month and the end of the first year, which had been 22 in 1933, sank to 10 in 1934. It is admitted, of course, that not all those who die in the first month, nor even all stillbirths, are necessarily non-viable, or that all those who survive the first month are necessarily viable, but the distinction is useful for epidemiological purposes.

There are several striking points in the infant mortality table Scarlet fever re-appears as a cause of death, with four fatalities under the age of 20, for the first time for many years. Deaths from whooping cough (3) and measles (1) are both below average and reflect the very low incidence of these diseases in 1934, and diphtheria, with 5 deaths, is also well below our average. On the other hand, deaths from head infections were exceptionally heavy, as also were deaths from tuberculosis. The latter were confined to pulmonary and meningitis forms, of which the former always, and the latter usually, are due to the human form of mycobacterium tuberculosis. The bovine form of tuberculosis, which is spread mainly by milk, cannot for certain be accredited with any deaths in Swindon during 1934 and this we should expect from the freedom from tubercle germs of the local milk supply as evidenced by our bacteriological examination of milk samples. The comparatively large number of deaths from pulmonary tuberculosis, especially in very young adolescents, is disconcerting. The large number of deaths from infections of the nervous system will be referred to in the chapter on epidemiology.

A case of pellagra occurred in a breast fed baby. This deficiency disease is very rare in this country and has never previously come to our notice. The diagnosis of this case may be considered as fully established, for it resisted all forms of treatment until treated with vitamin B, when it cleared up in fifteen hours. This is the only case within my experience in which I have been satisfied that deficiency of either vitamins B1 and B2 was concerned.

Infection and Epidemiology.

EPIDEMIOLOGY.

In contradistinction to 1933, the epidemiology of Swindon in 1934 was exceptionally interesting. In medicine an interesting case generally ends on the post mortem table, so to say that infectious disease was interesting in 1934 might imply that the infections were particularly numerous and serious. Which, indeed, they were, but fortunately the fatality from them was comparatively low. The report on the Isolation Hospital shows that the amount of infection dealt with in that institution in 1934 was a record, but all of it did not occur in the municipal borough ; in fact, the more interesting and also the graver diseases occurred in the adjacent County areas. Though for the purposes of the annual report of the Medical Officer of Health of Swindon the borough must be considered as a self-contained unit, its epidemiology can only be understood by taking the whole geographical unit ; so that it will be necessary in explaining the highly complicated conditions which arose in 1934 to take cognizance of the infections which occurred in the outlying districts not within the municipal borough, more particularly in Stratton and Wroughton.

The epidemiological report for 1933 ended with the following sentence :—

" The year ended calmly. There was a certainty that diph-
" theria would be low in the new year. There was no evidence of
" any kind to suggest that we should get influenza in the early
" part of 1934. There was no measles and though there had been
" a slight increase in scarlet fever, there was nothing to suggest
" that the long expected epidemic would put in an appearance."

In 1934 the expected epidemic of scarlet fever did eventuate. The delay in the appearance of this event was unfortunate, for, on the whole, nothing is worse for a community than long periods of apparent freedom from the endemic infections, though some people consider this as evidence of good public health administration. I have said on many occasions that a periodic epidemic of scarlet fever of the mild type which has been universal for the last decade is distinctly favourable for the health of a population and I shall maintain further that periodic prevalence of the endemic infections at short intervals is highly desirable, for symbiosis between man and his endemic parasites is persistent and unalterable and unless the communal immunity is kept up by continuous activity of the parasites, the field in which they work when they are introduced is highly detrimental to the hosts. Thus we find that villages, which for years have been free from common infections, suffer disasters at long and irregular periods.

Scarlet fev r began to assume epidemic prevalence in January 1934. It continued throughout the year and governed the whole of Swindon's epidemiology. In England the two groups of parasites which dominate the health of the community are the haemolytic streptococci and the pneumococci. Diseases due to other parasites are, to a large extent, exceptional and, even when outbreaks of these diseases occur, their fatalities and complications which are, in general, more fatal than the parent diseases, are mainly due to streptococci and pneumococci. The chief exception to this is diphtheria, which is hardly influenced by other parasites, and whose variations and severity are due almost, if not entirely, to variations in the prevalent type of corynebacterium which causes the disease. Measles and whooping cough generally end fatally from pneumonic infections, so that if epidemics of these diseases occur when pneumococci are dominant, the fatality of them is high. They are far less influenced by haemolytic streptococci. On the other hand, puerperal pyrexia, considered as an epidemiological problem, is influenced highly unfavourably by dominance of the streptococci.

The important work of Professor Topley and his collaborators, which was published as No. 58 of the Ministry of Health's Reports on Public Health and Medical Subjects, gives us a key to unlock the mysteries of epidemic disease in temperate climates. Unfortunately this report is a mere fragment. Not being sensational, money was not forthcoming to pursue the investigations to a conclusion, but we can tentatively accept from the work that was done that the prevalence of the haemolytic streptococci and of the pneumococci in the throats of the population varies very greatly from time to time and that generally when one is dominant the other is dormant. Some day these researches will be continued and if anything that I can say will further their prosecution, I shall rest satisfied that I shall have been instrumental in advancing our knowledge of epidemiology.

Another work of immense importance to preventive medicine is the work of Surgeon-Capt. Sheldon F. Dudley, with the collaboration of others, on Active Immunization Against Diphtheria, published in 1934 as No. 195 of the Special Report Series of the Medical Research Council. This work satisfies the proposition that Professor Topley made in the Milroy Lectures of 1926 that "the only sound basis for the study of infectious disease is to treat it as a biological problem in the wide sense." It is highly gratifying that this work on real preventive medicine should have appeared in 1934, when the cause of preventive medicine almost suffered an eclipse by the amount of clinical work thrust upon medical officers of health in the treatment of disease, brought about by the Local Government Act of 1929 and sundry other

enactments. Anybody familiar with the works of Topley and Dudley, starting from the Milroy Lectures of 1926, can follow modern epidemiology, but without a complete grasp of these works it is impossible to understand the importance of epidemiology and the claim that it makes that it, and it alone, will ever lead to the suppression of disease.

The year opened well. In the beginning of January it was pretty certain that there would be no epidemic of influenza. Also in Swindon that there would be no measles during the Winter, that the pneumonic diseases would be low, that diphtheria would not, perhaps, one might say, could not, assume epidemic proportions. On the other hand, there was pretty good evidence that a very extensive epidemic of scarlet fever, or perhaps we should say of the scarlet fevers, and their associated diseases, was approaching and there was more than a suspicion that we were going to be troubled by cerebro-spinal fever and other forms of infection of the central nervous system. The month of January itself was favourable, as it was in most parts of the World, but the occurrence of four cases of cerebro-spinal meningitis, three of which ended fatally, was of ill-omen. Towards the end of January, however, matters became more worrying. There was a suspicion that the scarlet fever epidemic would not be of the mild type for which we had hoped and the water shortage, which was bound to eventuate owing to the dryness of the Winter, raised fears that the diseases spread by water carriage might be very troublesome in the ensuing Summer. As the Latton water supply was available there was no fear whatever of a water shortage in Swindon itself, but there was very considerable fear, which unfortunately was realized, that there would be water shortage in the country districts surrounding Swindon and, therefore, the possibility of water-borne diseases appearing outside the town and spreading within it.

February was a good month, there being nothing to record except a slight increase in the prevalence of scarlet fever. March also was good. This was the first month for some years in which Swindon was free from diphtheria, but another case of cerebro-spinal fever occurred.

April was favourable, though there was considerably more scarlet fever and I did not like the way in which the epidemic was halting. The cases were far less mild than those of recent years. Puerperal pyrexia and erysipelas were also increasing. A case of polio-myelitis occurred. This was the only case of that disease which occurred in Swindon itself during 1934.

In June a small epidemic of pneumonia of the June type put in an appearance. It was short lived and did little damage. A

case of enteric fever was notified, but it was not that disease. Scarlet fever increased very considerably in prevalence during June and July and with it erysipelas and puerperal pyrexia increased also. The scarlet fever situation gave rise to very considerable anxiety. The expectation was for about 600 notified cases of scarlet fever to occur during the course of the epidemic, so we were not made anxious by numbers, but the disease was of such varying types that we were uncertain what type would be assumed at the peak of the epidemic.

In July a small outbreak of typhoid fever occurred in Wroughton. All the cases were treated in the Isolation Hospital and two of them were notified from Swindon, but the outbreak was not really the concern of Swindon Borough, though it caused us a good deal of anxiety, for part of Swindon water supply comes from Wroughton.

In August the health of the town deteriorated. There was a localized crop of diphtheria cases of a somewhat virulent type. Scarlet fever increased rapidly in numbers, but more particularly in severity, for in one week we had two fatal cases directly attributable to that disease and two fatal septicaemias undoubtedly connected with the epidemic situation. To this also can be attributed a rise in puerperal pyrexia.

In September scarlet fever became highly prevalent, but its type and severity varied very much. By the end of September we had got through about half of the numbers expected in the present epidemic. It may be mentioned in passing that expectations are based upon notifications. In all diseases—and more especially in scarlet fever—there is always a considerable number of mild and atypical cases that escape notification and in an epidemic of the character of that of scarlet fever in Swindon in 1934, very large numbers of unnotified cases are to be expected and, indeed, they occur. I should imagine that by about October there had occurred 50% more cases which might have been clinically recognised than were actually notified and probably a number equally great of cases which would never admit of certain clinical diagnosis. In the epidemic situation as it ruled in the late Summer and Autumn, missed cases would be of no consequence. Probably the town was fully saturated with the haemolytic streptococci and, so far as infection was concerned, nothing would have made any difference to the course of events.

There was a further increase of scarlet fever in November, otherwise there was nothing particularly important in Swindon itself, but in the outlying districts there occurred a small epidemic of polio-myelitis and a very serious epidemic of diphtheria of maximum virulence. This latter disease played havoc in some of

the villages just outside Swindon and gave rise to a good deal of excitement. Some few cases occurred in Swindon itself, altogether about 15. We were not worried over the possibility of the disease spreading in epidemic form in Swindon, for this was impossible, but we were worried by the tremendous severity of the few cases that did occur. Several of the Swindon cases were fatal and all of them would have been fatal had we not got them under treatment within a couple of days. The pneumonic group of diseases and those infectious diseases liable to be complicated by pneumococcus infection were quite dormant.

There was some decline in scarlet fever in December and the conditions of the town otherwise were favourable.

At the end of the year the health of the town was still dominated by the epidemic of scarlet fever, but it was declining somewhat and, on the whole, the cases had become milder in character. Diphtheria was causing no particular anxiety; the pneumonic diseases were extraordinarily low in prevalence; there was no influenza, no measles and a very low prevalence of whooping cough. German measles was prevalent, of an unusually severe type for that disease. The outlook for the new year was, on the whole, favourable It was pretty certain that we should get neither influenza nor measles in the Winter and that the scarlet fever situation would become easier. The anxiety that we had had in 1934 over the infections of the central nervous system was allayed.

DIPHTHERIA.

The theoretical expectation for diphtheria in 1934 was 88 notifications with 7 deaths; the actual numbers were 55 notifications with 5 deaths. Of the notifications, 8 were not clinical diphtheria, so that the true prevalence of diphtheria was 47 cases with 5 deaths. The fatality rate of about 10 per cent. was in accordance with expectation. Owing to the severe prevalence of diphtheria in the neighbourhood of Swindon towards the end of 1934, there was a diphtheria scare in Swindon which was silly and most unhelpful. 1934 was a year of low prevalence of diphtheria as it was expected to be. We have had many years in Swindon when the diphtheria situation gave rise to the gravest anxiety, but 1934 was not one of them. The type of the disease was severe, but with the exception of one epidemic in Swindon during the past sixteen years, diphtheria in Swindon always is severe and this is to be expected from the remarkable absence of chronic diphtheria carriers which is a characteristic of Swindon. Every year the statement that there are no chronic carriers of diphtheria in Swindon has been repeated. Not in accord with the philosophy of Alice in Wonderland that if you say a thing often enough it must be true,

but to emphasize the fact that another year's experience has been added to that already accumulated. Some authorities look upon the absence of chronic carriers as a favourable point and it must be admitted that a chronic diphtheria carrier is a great nuisance, but the debt paid for the absence of chronic carriers is a very heavy one indeed. One can deduce from Dudley's works that the happiest state is one where the carrier rate is high, for with a high carrier rate must go a high communal immunity.

The biology of man-corynebacterium symbiosis is better known to us than that of any process connected with human infections and it is almost incomprehensible why what is false in theory is taught and what is futile in practice is put into action, when the truth is known and the indications for rightful action obvious. The debt paid by man to the parasite of diphtheria is that one person in 10 suffers an attack of clinical diphtheria and one person in 100 dies of it. Our knowledge of the biology of this condition has enabled us to reduce the attack rate from 1 in 10 to 1 in 100 and the fatality to zero. This can be done by artificial immunization. Everything else that has been tried to suppress diphtheria, apart from the actual treatment of the sufferers themselves, is futile. There is some slight benefit to be obtained from the isolation of virulent or exceptional types of the disease (unless the type is exceptional in the direction of mildness, in which case propagation and not isolation is indicated).

Since immunization, and immunization alone, can free man from the debt he pays to diphtheria, an attempt has been made to popularise this procedure in Swindon, but has so far met with such scant success that Swindon still pays its maximum debt to diphtheria in the loss of one per cent. of its children. A debt more than twice as great as that paid to any other disease of the young and four times that due to accident. A brief account of the immunization campaign appears in another part of this report.

SCARLET FEVER AND OTHER DISEASES CAUSED BY HAEMOLYTIC STREPTOCCOCI.

Scarlet fever was the dominant disease in Swindon during 1934, or rather the diseases caused by haemolytic streptococci were the most prominent feature of the year. This may be because the parasites flourished exceptionally in that year, or that the hosts had become less able to resist the parasites without reacting to them, or possibly, even probably, both factors were acting together. We know that the haemolytic streptococci do vary enormously in their numbers and distribution, for Topley and his collaborators found that in the throats of the people of Manchester haemolytic streptococci were present in percentages varying from 0 to 36 at

different periods. Our knowledge of the variation of the host towards its symbiosis with the haemolytic streptococci is exceedingly scanty. We do know that the host's reaction does depend upon the state of its immunity, which is governed by former, or continuous acquaintance with the parasites, but whether there are any other factors which render the host particularly vulnerable is somewhat doubtful.

In connection with puerperal fever, which generally is one form of reaction to haemolytic streptococci, it is held pretty generally that the physiological state of the puerperium is favourable for propagation of haemolytic streptococci within the body and it is quite common to ascribe cases of puerperal septicaemia to what is called endogenous infection, *i.e.*, to multiplication within the blood stream of haemolytic streptococci, derived not from outside, but from foci in the patient herself. Some hold that endogenous infection of this character is a myth, merely an attempt to get out of one difficulty by inventing another. So far as puerperal septicaemia is concerned I subscribe to this opinion, for there is the strongest theoretical objection to it and no proof which will satisfy scrutiny that any case of endogenous septicaemia has ever occurred. All the streptococcal reactions are explicable by an implantation of strains of streptococci to which the host is virgin. What follows implantation depends on several factors: the virulence of the strain of streptococcus, its seat of implantation, the numerical strength of the parasites and the presence or absence of acquaintance with streptococci which, though not identical to those recently introduced, are nearly allied to them. Of the streptococcal diseases, apart from those which are localized and follow recent breaches of the skin, scarlet fever is much the most frequent and at present the least serious.

Scarlet fever is not a specific reaction to any specific strain of the haemolytic streptococci, for it occurs as a reaction to many strains and does not necessarily occur as a reaction to any of them. There is, however, a great deal of obscurity about the epidemiology of scarlet fever, for if it is due to various strains of parasites, multiple attacks of scarlet fever should be frequent, whereas though second attacks are far more common in scarlet fever than in any of the specific infections, they are, in fact, somewhat rare. It is now generally held that the only thing which is specific about scarlet fever is the eruption and that the reason why recurrences of scarlet fever diagnosable as such are not frequent is that the skin reaction produces a local skin immunity which is fairly permanent. This may be so, but it is somewhat doubtful.

In 1934 there were 344 notifications of scarlet fever. This is the highest number for many years, the nearest approaches to it being 279 in 1928 and 327 in 1929. These two years represent the last epidemic prevalence of the disease. Previous to that period

there had been an epidemic in 1925. Generally, scarlet fever assumes epidemic prevalence every four or five years, the extent of the epidemics being governed by the interval which has elapsed since the last. The disease is never absent from Swindon and never has been, except for a short period in 1924 when freedom of the borough was obtained by a mixture of good luck and intentional management as an experiment. The report of this experiment was published in the annual report for 1924 and is of some theoretical interest, but it was not imagined at the time that freeing the town from scarlet fever was of any permanent benefit to the community. During the past ten years there has been some evidence to suggest that a high prevalence of notifiable scarlet fever is a health asset to the community; theoretically explicable on the supposition that an attack of scarlet fever gives some immunity against the more dangerous reactions to the streptococcus and, historically, from the fact that the healthiest years in any community are generally those when scarlet fever prevalence is high. Of the 344 notifications, all but 11 were acceptable as scarlet fever. Besides the notified cases there was a very large number of mild unrecognized cases, probably 150 or more.

The epidemic had not terminated at the end of 1934, but is expected to terminate about April 1935. The expectation was that the epidemic would give about 600 notified cases. The incidence of scarlet fever is roughly twice that of diphtheria, about one-fifth of the birth rate. Over long periods it is fairly constant, but scarlet fever is, after measles, the infectious disease which shows the greatest periodic variation.

On the whole, the scarlet fever of the present epidemic is very distinctly less mild than that of the former epidemics in the present century, but it has varied much in type and complications. 5 deaths occurred amongst the notified cases. Of these, one did not die of scarlet fever, but of influenza; one was an imbecile who died, as imbeciles frequently die, from a perfectly trivial disease. One young woman died of toxic scarlet fever and a young child of septic scarlet fever. In addition to these deaths there was one death from puerperal scarlet fever which was notified as puerperal pyrexia, but not as scarlet fever. Prior to 1934 several years had passed since we had any deaths from scarlet fever. Further information on the scarlet fever cases appears in the report on the Isolation Hospital.

Of the other diseases caused by the haemolytic streptococci, erysipelas gave 22 cases with 4 deaths and the puerperal pyrexias and fevers gave 47 cases with 3 deaths, but very few of the pyrexias were streptococcal in causation and of those that were, only one was fatal. Of the prevalence of streptococcal disease other than that which requires notification, we can form but a rough guess,

but it appears to have been unusually frequent in 1934, for 27 deaths can be attributed either wholly, or in part, to streptococcal activity.

THE PNEUMONIAS.

There were 154 notifications of pneumonia, slightly more than in 1933, but about an average expectation. 40 deaths occurred among the notified cases, giving a fatality rate of 25.9%. 36 cases were removed to Gorse Hill Isolation Hospital and of these 3 died, giving a fatality rate of 8.3%. 118 were treated at home with 37 deaths, giving a fatality rate of 31.3%. The cases removed to Gorse Hill are not, however, a just sample of the whole, for those treated elsewhere than at Gorse Hill contain the bulk of the terminal pneumonias which are necessarily fatal, whereas the Gorse Hill cases contain the bulk of the June epidemic type, in which the fatality is trivial.

The law only requires primary and influenzal pneumonia to be notified, but as there is no definition of primary pneumonia it is the custom in Swindon to accept notification of all pneumonia cases. This, indeed, is essential in the interests of epidemiology if, as we hope, some day, something tangible may be done to reduce the terrific toll of certain forms of pneumonia that may be preventable. Though pneumonia—or rather the pneumonias, for several different diseases are included in the same term—is universally the most fatal of all infectious diseases and causes more deaths than all other infections put together, excluding tuberculosis, very little attention has been given to its epidemiology in any parts of the World, except in Scotland and the United States ; but in recent years some few persons in England have been struggling with it and, considering the little attention which it has received, the results up to date are far from discouraging.

Though in 1934 the number of notifications of pneumonia was considerable, there was actually very little of those types of pneumonia which offer a feasible chance either of prevention, or of improved curative treatment. We are able to differentiate only those pneumonias which are admitted to Gorse Hill Hospital and an account of these will be found in the report for the Hospital. Nothing can be done in the epidemiology of pneumonia without this differentiation and for this reason (for it is only in districts which supply accommodation for pneumonia that this differentiation can be made) many health authorities pay little attention to the notification of pneumonia and some have indeed suggested the abolition of its requirement. But while admitting that in many districts the notification of pneumonia serves no useful purpose, we submit that there are some districts where the provision is of very great value and since the prevention or control of pneumonia is such an outstanding necessity for the improvement of the Public Health, we should be very much disturbed if the notification of pneumonia were allowed to lapse.

THE PNEUMONIAS.

The statistics for Pneumonia for the past fourteen years are as follows:—

Year.	Total No. of cases notified.	Total No. of deaths.	Cases removed to Hospital			Cases treated at Home.		
			No.	Deaths	Death Rate	No.	Deaths.	Death Rate.
1921	36	19	....	....	....	36	19	52
1922	156	43	1	0	0	155	43	27
1923	68	28	12	0	0	56	28	50
1924	175	62	31	5	16	144	57	46
1925	204	61	50	10	20	154	51	33
1926	172	52	27	6	22	145	46	32
1927	202	58	63	14	22	139	44	31
1928	204	53	66	16	24	138	37	27
1929	176	54	52	11	21	124	43	34
1930	105	40	44	12	27	61	28	46
1931	143	37	50	8	16	93	29	31
1932	182	44	53	9	17	129	35	27
1933	147	35	25	4	16	122	31	25
1934	154	40	36	3	8	118	37	31
14 years	2124	626	510	98	19.2	1614	528	32.7

THE INFECTIONS DUE TO PARASITES BELONGING TO THE GENUS BACTERIUM.

For the sixth year in succession there were no cases in Swindon of disease caused by this genus of organisms. There were 3 notifications of enteric received by the Medical Officer of Health of Swindon, but of these, one was not enteric, one was a case notified in the G.W.R. Hospital who had been removed thereto from the outlying district under a different designation and the third was a nurse in the Isolation Hospital who was infected by the cases from the outlying district. In part the remarkable freedom of Swindon from diseases caused by bacterium may be due to the purity of its water supply, for no water-borne disease—and some of the bacterium diseases are frequently water-borne—has occurred in Swindon for the past sixteen years.

There were no cases of Brucella. This is a disease which is likely to be missed, but as the tests for it are always carried out in Swindon in all cases of obscure pyrexia in which the suspicion of Brucella could be raised, we can be fairly certain that the disease was non-existent locally in 1934.

THE VIRUS DISEASES.

MEASLES. There were a few sporadic cases of measles, one of which was fatal, in 1934. An epidemic of this disease was expected in December 1933, but it did not happen.

THE SMALLPOX GROUP. There was no smallpox in Swindon in 1934. Chickenpox was not prominent, though as it has ceased to be notifiable in Swindon we have no knowledge of its incidence. Herpes zoster may have been more frequent than usual, for in the Public Health Department we saw several cases of it. One case of particular interest was that of a convalescent from cerebro-spinal fever. This case is worth recording, because cerebro-spinal fever, though not itself a virus disease, is not infrequently accompanied by herpes, which is a virus disease.

Of the diseases which are provisionally believed to be virus diseases, German measles assumed epidemic proportions towards the end of the year and was of an unusually severe type.

Mumps was somewhat more frequent than usual. Two persons suffering from pneumonia, one of which died and the other recovered, developed mumps. Pneumonia is not a virus disease, but like cerebro-spinal fever is frequently accompanied by herpes, which is a virus disease, so the complication of pneumonia with mumps may have some bacteriological interest.

THE ACUTE INFECTIONS OF THE NERVOUS SYSTEM.

This is a miscellaneous collection consisting of tuberculous meningitis due to Mycobacterium tuberculosis, cerebro-spinal fever due to Neisseria meningitidis, septic meningitis due generally to streptococcus, polio-myelitis due to a virus, encephalitis lethargica doubtfully due to a virus and an undifferentiated form of meningitis, the biology of which is unknown. Though bacteriologically these conditions are widely separated, there does appear to be some epidemiological connection between them and in a small area like Swindon, where none of these diseases can be expected to occur in large numbers even in times of epidemic prevalence, the only way to get any grip on their epidemiology is to record all such cases as they occur, in the form of a diary. Moreover, since Swindon Borough is not a complete geographical unit, it is necessary in this diary to record cases which occur outside the Borough, but within the epidemiological area. The following is the diary for 1934 :—

Female, aged 2. Borough. This child died on 5-1-34. The death certificate was signed " Status epilepticus." This child was a doubtful mentally defective, but it is just possible that the cause of death may have been C.S.M.

Female, aged 14. Borough. Taken acutely ill on 19-1-34 and died in the G.W.R. Medical Fund Hospital on 21-1-34. Diagnosis of C.S.M. confirmed after death. It was thought on admission to hospital that the case might have been one of meningitis due to ear disease or injury.

Male, aged 14. Outside the Borough, but attended a Swindon school in the same class as the previous case. On 22-1-34 he complained of headache and looked ill and heavy, with some doubtful engorgement of the retinal veins. He was sent home, but nothing developed.

Male, aged 7. Borough. This boy had been ill with ear disease and suspicious head symptoms for several weeks and he was apparently getting well in the beginning of February. On 5-2-34 he got ill again. On 7-2-34 diagnosis of C.S.M. confirmed. He was treated by serum, but died on 10-2-34.

Male, aged 10. Borough. Taken ill 24-1-34. Sent into the Isolation Hospital on 26-1-34 with a diagnosis of ? Pneumonia, ? C.S.M. Clinically the case suggested C.S.M. On 27-1-34 the symptoms, though obscure, pointed pretty definitely to C.S.M. and arrangements were made for a spinal puncture in the afternoon, but there was some unavoidable delay, so the boy was given 10 c.c. of anti-pneumococcal serum intravenously as a safeguard. A

crisis followed four hours later with a complete cessation of all symptoms and this was maintained, so that actually he was never punctured and the diagnosis never confirmed. Recovery was uninterrupted.

Female, aged 11½. Outside the Borough. Taken ill 6-2-34. Admitted to Isolation Hospital 16-2-34. Fatal. Diagnosis of C.S.M. confirmed. Notes sent to the Ministry of Health.

Female, aged 2. Borough. Died in Victoria Hospital on 14-3-34 ; death certificate signed " Encephalitis lethargica." This case was seen by me during life. I am inclined to doubt the diagnosis here, though the case was certainly an encephalitis and not a meningitis. Bacteriological and post mortem evidence is available, which excludes all forms of meningitis.

Female, aged 5. Borough. Died at home on 24-3-34. Death certificate signed " Meningitis. No P.M." This case had been ill for about three weeks with an obscure meningitis, with some head retraction suggesting C.S.M. Cerebro-spinal fluid was under great pressure, but this was examined and found normal in all respects, so that C.S.M. can be excluded. There may be some connection between this case and the previous one. The possibility of this case being a new form of epidemic encephalitis requires consideration. (C.P. Japan and St. Louis).

Male, aged 1. Borough. Died at home on 7-4-34. Death certificate " Tuberculous Meningitis. Tuberculous Mesenteric Glands." No bacteriological confirmation.

Male, aged 50. Borough. Died in Victoria Hospital on 7-4-34 from pneumococcal meningitis following mastoid.

Female, aged 24. Borough. Notified encephalitis lethargica and admitted to Gorse Hill. Diagnosis of C.S.M. confirmed. Recovered.

Female, aged 44. Borough. Notified C.S.M. ? and admitted to Gorse Hill Isolation Hospital on 30-4-34. This is not a case of C.S.M., but is a functional neurosis.

Female, aged 16 months. Borough. Child taken to Victoria Hospital Out-patients on the afternoon of 15-5-34. Admitted for diagnosis. Diagnosis of acute polio-myelitis made there. Case seen by Dr. Brewer, who confirmed diagnosis and removed the case to Gorse Hill Isolation Hospital. Acute polio-myelitis in the pre-paralytic stage. When seen in the evening of 15-5-34 the case looked very serious, as the right side of the face, the left arm and both legs showed evidence of disturbance and there was a suspicion

that the diaphragm might be going, but on the morning of 16-5-34 most of it had cleared up and any immediate danger had disappeared. Recovered without paralysis.

Male, aged 2 months. Borough. Died in Victoria Hospital of meningitis on 11-5-34. The child was admitted with bronchitis and convulsions. Spine tapped. C.S.F. blood-stained, containing 6,000 cells per c.mm., mainly leucocytes. No organisms recoverable. As the fluid was not examined locally, but sent by post to London, the failure to find organisms is not conclusive evidence and it is possible that this may be a C.S.M.

Male, aged 49. Borough. Admitted into Gorse Hill Hospital on 18-5-34. June epidemic type pneumonia. Had a crisis next day and appeared quite well. At 9 a.m. on 20-5-34 complained of acute headache and vomiting. Unconsciousness rapidly supervened and he died unconscious with a temperature of 104.4 fifteen hours later. Post mortem—early, but somewhat extensive, purulent meningitis round the base of the brain. Bacteriology streptococcus.

Female, aged 8. A native of Oxfordshire on holiday just outside the Borough. Admitted to the Isolation Hospital, Swindon, on 15-8-34, where she died on 16-8-34. The case was admitted as a cerebro-spinal meningitis, but this it was not. Post mortem—septic meningitis secondary to nasal disease. No bacteriological examination, except of the cerebro-spinal fluid, which was sterile.

Male, aged $1\frac{3}{4}$. Outside the Borough. Admitted to the Isolation Hospital, Swindon, on 26-9-34. Polio-myelitis in the third stage of the disease. According to history, started about 14-9-34 in typical manner. On admission, both arms, right leg, diaphragm, lower inter-costals and back muscles paralysed. Died of respiratory paralysis.

Female, aged $6\frac{1}{2}$. Outside the Borough. This case was seen by me in consultation on 2-10-34. A spinal puncture was performed by me at the patient's home, when the provisional diagnosis was ? C.S.M. ? A.P.M. ; the more probable was A.P.M. in the second stage of the disease. On puncture C.S.F. gushed out under pressure. It was perfectly clear and did not clot. Microscopical examination showed 140 cells, mainly leucocytes, per c.mm. ; no organisms. 10 c.c. of anti-meningococcal serum was administered after the C.S.F. was withdrawn. Diagnosis of anterior poliomyelitis seems pretty certain. The patient was admitted to Gorse Hill Isolation Hospital on 3-10-34. Recovered without paralysis.

Male, aged 1¼. Borough. Old case of cleft palate with ear disease and mastoid. Admitted to Victoria Hospital for chronic mastoid and there diagnosed as tuberculous meningitis. Died.

Female, aged 4½. Outside the Borough. Admitted to Gorse Hill Isolation Hospital 5-11-34. Acute polio-myelitis in the third stage. The right lower limb appears to be almost completely paralysed. There is a special weakness of the abductors of the thigh and of all the leg muscles. In the right leg the peronei and the flexors of the foot are paralysed. There is no evidence of paralysis apart from the lower limbs. Recovered with severe paralysis.

Female, aged 15 months. Borough. Died on 13-12-34 at home. Death certified as due to " Meningitis." Child had been ill for a fortnight. This may have been T.B. The mother of this child is insane and was removed to an Asylum immediately after the child's death.

From this it would seem that there was epidemic prevalence of cerebro-spinal meningitis in the Borough in the beginning of the year and epidemic prevalence of polio-myelitis just outside the Borough in the latter part of the year.

In Swindon itself 4 cases of cerebro-spinal fever were notified, of which one was not that disease. Of the 3 genuine cases, 2 died. There was one case of polio-myelitis notified which recovered completely and two cases of encephalitis lethargica, one of which died and in which the diagnosis, though doubtful, was probably correct, for bacteriological and post mortem evidence is available which excludes all other known forms of acute infection of the nervous system. The second case of encephalitis lethargica notified was, in fact, cerebro-spinal meningitis.

WHOOPING COUGH.

The actual incidence of whooping cough is not known, as the disease is not notifiable, but its prevalence was low in 1934. It caused three deaths.

INFLUENZA.

There was a little influenza in the early part of the year and 5 deaths were accredited to it.

DIARRHOEA.

Every year an epidemic of diarrhoea occurs in Swindon in November and 1934 was no exception. The disease mainly affects adults and what its nature may be I have no conception. It may possibly be connected with influenza.

TUBERCULOSIS.

1934 was a favourable year for tuberculosis in Swindon, in fact, with the exception of 1929, it was the most favourable year since 1915. The tuberculosis death rate 0.61 is the lowest but one in the history of the Borough, giving a tuberculous index, *i.e.*, the number of deaths from tuberculosis per million living, of 610. particularly favourable features of tuberculosis in 1934 were the absence of death from all forms of non-pulmonary tuberculosis, except meningitis, from all children, the reduction in notifications of pulmonary tuberculosis in persons over 25 years of age and the relative mildness of the non-pulmonary forms, other than meningitis. Two unfavourable items were the high rate of tuberculous meningitis and the fatality of pulmonary tuberculosis between the ages of 15 and 25. Of the 28 deaths from pulmonary tuberculosis attributed to the Borough no less than 12 occurred in persons between the ages of 15 and 25, six of each sex.

Since 1870 and probably for some years before then, mortality from tuberculosis has dropped fairly steadily, but the decline has not been the same for all forms and varieties of the disease. Two forms—and those the most severe—namely, tuberculous meningitis and adolescent pulmonary tuberculosis, the latter being the galloping consumption of Victorian days—have declined much less than other forms, so that of recent years they have become prominent, giving the impression that they are increasing. This, however, is fortunately not the case, though it is true that relative to other forms of tuberculosis they grow steadily in importance.

Tuberculosis is the oldest known parasitic disease of vertebrates. It is common to all vertebrate animals. How it originated we do not know, but it is probable that the parasite of tuberculosis is a primitive alga which became parasitic on the primitive fishes of the old red sandstone and has continued ever since to live a parasitic existence upon vertebrates. It has long ceased to be capable of living a non-parasitic existence, so that infection must be passed from one living host to another. There are several types of the tubercle parasite, all parasitic upon various vertebrates, but two only are important to man—the so-called human type which is man's special parasite and can cause any form of tuberculosis, but most frequently tuberculosis of the lungs or the meninges, and the bovine type, which is the special parasite of bovines, but is equally at home in man, in which it causes much tuberculosis, particularly in children and mainly of the bones and glands. The bovine tuberculosis germ is spread to man through the medium of milk. It is highly improbable that it is ever spread to man by diseased meat. The human form is spread mainly by droplet infection. Though the tubercle germ cannot grow apart from its host, except in extraordinary artificial conditions, it can retain some vitality in

an environment which is dark and moist. The sputum of persons suffering from active tuberculosis of the lungs may contain considerable numbers of the germs, which can remain alive in the sputum so long as it is moist and not exposed to light. In India and other tropical countries, where tuberculosis of the lungs is much more frequent than it is in Britain and where spitting is more promiscuous than it is here, the disease is probably spread largely by sputum. Spitting about the streets and open places is believed not to be important in the spread of tuberculosis in tropical countries, for the sputum is rapidly dried and the germs killed by the brilliant sunshine, but it is believed to be spread largely by spitting about the dark insanitary houses of native villages and locations.

In temperate climates tuberculosis is without question mainly spread by droplet infection and particularly by tuberculous mothers to young infants. There is still a popular belief that tuberculosis is an hereditary disease. This is erroneous ; it is an impossibility for any parasitic disease to be biologically inherited. But tuberculosis is a family disease, for tuberculous parents must invariably infect their offspring and frequently in massive dosage at an age when the young are least able to put up a satisfactory fight against infection. The clinical reaction to tuberculosis, *i.e.*, tuberculous disease, may not occur for very many years after infection. This is the explanation of the common tragedies of whole families dying of tuberculosis, generally in early adolescence. Infection with tuberculosis is probably universal in a civilized community and we know from serum tests that something like seventy per cent. of adults are not only infected, but react against infection. Fortunately, only a very small proportion of those who react develop any serious disease in consequence. It is certain that the primary infection with tuberculosis which produces reaction generally, if not invariably, occurs in childhood. It is a question not yet settled whether infection later in life is of any real importance. It seems that generally it is not, but living continuously in contact with persons discharging tubercle germs in large numbers is capable of producing massive infection and consequent disease which would not occur from a more diffuse infection. The reaction which the host makes against infection with mycobacterium tuberculosis is different in kind from that made to the majority of other parasites. Immunity is not developed. This was insisted upon by Koch at the end of the last century and nothing that we have learnt since has given us any reason to doubt Koch's dictum. What does happen is that infections of tubercle remain localized and shut off from the body by inflammatory barriers. Something may happen to destroy this barrier, in which case the disease becomes generalized and recognizable tuberculosis disease develops. Amongst the causes which may lead to this are ill-nutrition and living in dark insanitary environments.

No action was taken under the Public Health (Prevention of Tuberculosis) Regulations, 1925, as no cause for action occurred, and no action was taken under the Public Health Act, 1925, Section 62.

VACCINATION.

No vaccinations or revaccinations were done by the Public Health Department during 1934.

CANCER.

76 deaths occurred from cancer, 39 males and 37 females, against 71, 101, 98, 97 and 91 in the five preceding years. The slight increase in cancer for last year is probably not significant. It gives a cancer death index of 125, which is low. The index for the country as a whole in 1934 will be about 145. Of the 39 male deaths, two cannot be clearly identified and of the 37 females, two cannot be identified. The remaining 72 deaths occurred in the following sites :—

Site.	Males.	Females.
Stomach	13	13
Colon	7	5
Rectum	5	—
Liver	1	3
Pancreas	1	—
Oesophagus	2	—
Kidney	1	—
Bladder	2	—
Lung	1	—
Mouth	1	—
Tongue	2	—
Uterus	—	3
Breast	—	8
Ovary	—	1
Sarcoma of Bone	1	—
Sarcoma of Lung	—	1
Rodent Ulcer	—	1

Of these 72 cases, the sarcoma cases were aged 39 and 34 respectively and the rodent ulcer case aged 70. Of the others, 1 female breast and 1 female ovary were under 45 years of age, 11 cases were between 45 and 55, 17 were between 55 and 65, 27 were between 65 and 75 and 12 were above 75. It is interesting to note that of the 70 deaths from carcinoma, 40 were in persons over 65 years of age and that only 2 were under 45.

The rise in cancer which has been characteristic of the past thirty years, but which began to slacken about four years ago, has been accompanied with an increase in age of fatality from the disease and also with an increased age at attack, so that many epidemiologists are of opinion that the rise is entirely due to the ageing of the population. It is true that on standardization for age, though the apparently alarming increase of cancer shrinks very considerably, it still leaves an apparent rise of about 50% in males and about 15% in females; but analysis of cancer returns from foreign countries suggests that our method of standardizing cancer for age is of doubtful validity. In Western countries, where the average age at death varies between 50 and 60, the cancer rate varies between 100 and 150, but in Eastern countries, where the average age at death is in the neighbourhood of 30, the cancer rates are only about one-tenth of what they are in the West. There may be—and there probably are—factors other than age distribution which cause the marked difference in incidence of cancer in Western and Eastern countries. We have no reliable statistics for cancer apart from the fatality rates. Formerly the difference in numbers between incidences and deaths was negligible, but of recent years a moderate proportion of cancer cases in certain sites have been curable in the clinical sense and have not ended fatally, so that the incidence rate of cancer is significantly above the fatality rate, probably in the nature of about 5%.

Of the cancer cases which ended fatally in Swindon in 1934, those of the uterus, breast, tongue and mouth, altogether totalling 14 cases out of 72, might theoretically have been capable of cure. The 8 breast cases died at the ages of 42, 59, 63, 64, 78, 80, 81 and 84. We do not know the age of incidence in these cases, but judging by the ages at which the women died, half of them at least cannot have had their lives curtailed by the disease.

The commonest site for cancer in both sexes was the stomach, of which there were 13 cases in each sex. Cancer of the stomach is undoubtedly increasing in frequency and at a much greater rate than cancer in any other site, so that we must presume that there is some factor operating in Western countries, but not in Eastern countries, which renders the stomach particularly vulnerable to malignant disease. There has also been a significant rise in peptic ulcer, gallstones and sundry other diseases of the digestive tube of a serious nature. All this points to some factor operating in the West which has a deleterious effect upon the digestive apparatus. What this factor, or factors, may be, we do not know, though many have made guesses at it and put forward their guesses as though they were facts, which they are not. It is, however, remarkable that in Swindon, with a population of 60,000, more deaths occur from cancer of the stomach than occur in the island of Ceylon,

with its population of 6,000,000 ; that is to say that the liability to die from cancer of the stomach is 100 times as great in Swindon as it is in Ceylon.

For many years a vast amount of research work has been done in connection with cancer. Though much of it has proved disappointing, it has given us a knowledge of cancer which is very much greater than is popularly believed to be the case. Our increased knowledge has, to a slight extent and in very limited directions, been of value in improving our treatment of the disease and in preventing the development of cancer of one particular kind, namely, mulespinners cancer, but, on the whole, it has not made the prospect of freeing man from cancer very much brighter. There is a popular saying that a disease known is half cured, but unfortunately this is fallacious. It does not follow that knowledge of fact will yield any power to alter the fact.

Cancer in external sites, or indeed, in any site where it can be recognized early, does offer a very good chance of clinical cure by prompt eradication, but unfortunately cancer is less common in sites where it is obvious than in those where it is hidden and as the disease produces no symptoms of any kind in its early stages, it cannot be recognised unless it can be seen or felt.

DIABETES.

In 1934 there were 10 deaths from diabetes, 5 in each sex, which is about an average number for recent years.

GENERAL OBSERVATIONS ON VITAL STATISTICS.

The Registrar General estimates the population of Swindon in the middle of 1934 as 60,833. This is a drop of 557 from the estimated population in the middle of 1933 and of 1,580 from the 1931 census figure. In 1934, 399 males and 371 females were born and 386 males and 290 females died. This gives a natural increase of the population of 13 males and 81 females, so we must conclude that migration is still heavily against us. Incidentally the drop of close on 1,600 persons since the census of 1931 enables us to do with 400 fewer houses.

The male births in 1934 were 11 above and the female births 7 below the corresponding figures for 1933 and the deaths were 36 males above and 39 females below those of 1933. The lowness of the number of female deaths in comparison to that of males is remarkable.

Generally, the mortality statistics for Swindon in 1934 were favourable. Two unsatisfactory features were 11 deaths from suicide and 22 from violence. The most satisfactory feature was the maternal mortality, which was 1.25. Since 1930 the maternal mortality rates in Swindon have been 1.97, 2.12, 2.17, 3.75, and 1.25, an average of 2.25, just about half of the general maternal mortality rate of the country. Some years ago I worked out that a maternal mortality of 1 was irreducible in the present state of our knowledge and that a maternal mortality of 2 was about the best that it is possible to obtain, so that our rate of 2.25, which is the average for the years since the maternity service was stabilized, is not so very much above the minimum that we are likely to obtain.

DUNSTAN BREWER,
Medical Officer of Health.

Public Health Department,
61, Eastcott Hill,
Swindon.

DIPHTHERIA IMMUNIZATION.

(By J. Stevenson Logan, Deputy Medical Officer of Health.)

The work of immunization against diphtheria has proceeded slowly and uneventfully, the lower incidence of diphtheria in the Borough being reflected in the number of new cases requesting prophylaxis.

Of 57 Post Schick tests performed during the year, 55 were negative, 1 was faintly positive and 1 doubtfully so. The positive reactor was a child who had reactions following the injections of T.A.M. One child was reported to have had malaise following a primary Schick test, but no untoward symptoms followed the injection of T.A.M.

During the year we have considered as to the advisability of altering the antigen, that is the substance which provokes the body to manufacture antitoxin. T.A.M., the present antigen, has been reliable and safe in our hands, giving a negligible number of reactions and a high percentage of Schick immunes after treatment. The only disadvantage is that three injections are required. At the present time this does not make any material difference, as there is no difficulty in persuading parents to make the necessary attendances, but should any propaganda work induce the less enthusiastic parents to seek prophylaxis, the question of using a more potent antigen may require consideration.

The year has seen our knowledge of the effect of artificial immunization, both on the individual and upon this community, much enhanced by the work of Sheldon Dudley and his fellow workers. In four years 283 patients have attended this clinic. The number is small, but on reflection several important points emerge. We now know what can be accomplished by the methods at present in use, and the scrupulous care we have taken to make no extravagant claims for the process, and our good fortune in using an antigen which gives few reactions, must continue to act as a powerful educative force with the public.

SUMMARY.

No. of new patients attending during the year	44
No. of "Anterior" Schick tests performed	44
No. of injections given	94
No. completing the course during the year	32
No. failing to complete course	1
No. in course of treatment	7
No. of Posterior Schick tests performed	57
,, ,, ,, Negative	55
,, ,, ,, Positive	1
,, ,, ,, Doubtful	1

J. STEVENSON LOGAN,
Deputy Medical Officer of Health.

Towards the end of the year the Medical Officer of Health issued the following pamphlet and printed the same in the January number of "*Better Health.*" :—

"BOROUGH OF SWINDON.

THE MENACE OF DIPHTHERIA.

Diphtheria is the greatest of all dangers to children, for many more die from it than from any other cause. Of the 136 persons between the ages of one and seventeen who have died in Swindon during the past four years, 36 lost their lives from diphtheria, more than twice as many as died from any other disease and four times as many as were killed by accident. One person in ten suffers an attack of diphtheria and of these one-tenth die. Diphtheria is a disease of the healthy, of the strong, of the well nourished and, for reasons which are well understood, is particularly likely to be fatal to only children. Fortunately diphtheria is better known to us than any other human disease, so the natural risk can be abolished. Death from diphtheria can be eliminated completely and sickness from it reduced to one-tenth of what it is in numbers and from a most dangerous disease to one without any danger at all.

The prevention of diphtheria depends upon our being able to use our knowledge of how the disease is cured naturally. This gives us the power to produce the healing process without the danger of the disease itself. The method is known as immunization, which we shall explain to you as simply as possible.

What does immunization do ? It stimulates the body to react against diphtheria as soon as exposure occurs, so that infection is not followed by disease. It has no influence upon any other disease than diphtheria.

How is immunization performed ? By the injection into the arm of a modification of the diphtheria poison which has been rendered harmless. At present this must be done by three injections given with intervals between them. In the future it will be possible to produce immunity by one injection only.

What follows the injection ? Beyond the prick of the needle nothing of which the child is conscious follows the injection. There is no swelling, no soreness of the arm where the injection was made, nor any general symptoms of any kind. In adults immunization is sometimes followed by malaise, but this does not happen in children.

Are there any dangers in immunization ? There are none if the process is carried out properly. If the needle used is unclean there would be the same danger as there is from the prick of an unclean needle in any circumstances.

What can be promised from immunization? That the person immunized cannot die of diphtheria and that the chance of getting the disease is reduced from 1 in 10 to 1 in 100.

What is the objection to immunization? Immunity is not fully developed until about three months after the first injection. It therefore gives little protection to those exposed to infection before the immunity has had time to develop.

How long does the immunity last? From three months after the completion of the process for about 10 years; but in a populous community the immunity is lifelong, for it is increased by each exposure to infection. In a town everybody is exposed to infection frequently.

Is there any way other than immunization of controlling diphtheria? The answer to this is No! This can be stated definitely, for we know now the biology of diphtheria and this tells us that all means of prevention, apart from immunization, must be futile. We can delay the onset of diphtheria, but as the disease is equally fatal at all ages, we gain nothing by this.

What is the best age for immunization? The second year of life, for if done then the whole of the chief danger period is covered. Children under one year of age rarely suffer from diphtheria because they derive temporary immunity from their mothers, especially if they are breast fed, so it is not advisable to immunize them until the weaning period is over. But children of any age can be immunized.

How can your children obtain the benefit of immunization? At the Public Health Office by application. It is offered voluntarily, but will not be given unless you agree to make the necessary attendances. The material used is expensive and it requires skill and care to use it. The Medical Officer of Health is anxious that the people of Swindon should be able to obtain the benefit of immunization, which is the most valuable and trustworthy method of preventing disease discovered during the present century, but he will not allow it to be abused, or given in a haphazard way which might bring it into disrepute.

DUNSTAN BREWER,
Medical Officer of Health."

The resignation of Dr. Logan at the beginning of 1935 enforced the postponement of the issue of the pamphlets, but we have reason to hope that when Dr. Walker, the newly appointed Deputy Medical Officer of Health, takes up his duties we shall get a not inconsiderable response to the appeal.

ISOLATION HOSPITAL, GORSE HILL.

ANNUAL REPORT

From 1st April, 1934, to 31st March, 1935.

ISOLATION HOSPITAL.

The Isolation Hospital year runs from the 1st April to the 31st March, and it is advisable to keep to this year, because, as the Hospital caters for a large area outside the Borough boundary, its report could not be made to fit in entirely with the report for the Borough, whereas, by carrying on the Hospital year three months beyond the end of the calendar year, it is possible to get a better retrospective view of the epidemiology of the last quarter, and a break at the end of March is least disturbing to the history of epidemiology.

The Hospital at present accepts for treatment persons suffering from any form of notifiable disease, except smallpox and tuberculosis, and also from any infectious condition which is not notifiable at the discretion of the Medical Superintendent. Also, for administrative reasons, it accepts cases of incomplete abortion, whether these are septic or not.

The Hospital normally serves the Borough of Swindon and the Rural Districts of Highworth and Cricklade and Wootton Bassett, but it relieves other parts of the County should the local accommodation for infectious disease be overstrained. It also admits from districts other than its own, cases which are not normally admissible to the smaller fever hospitals, particularly cases of puerperal pyrexia.

BACTERIOLOGICAL DEPARTMENT.

Excluding the bacteriological and pathological work of the Hospital itself, diphtheria swabs from the town and outlying district are cultured and examined at Gorse Hill, as well as at the Health Office in Eastcott Hill. During the year 1934-35, 473 swabs were examined on behalf of the Hospital and 760 on behalf of Swindon Borough and the surrounding rural sanitary authorities.

AMBULANCE SERVICE.

There is a twenty-four hour ambulance service for accidents, infectious cases and general medical cases. The fleet consists of one modified L.C.C. pattern ambulance on a Talbot chassis, an ambulance on a Morris Commercial chassis and an old ambulance on a Ford one ton chassis which is used mainly for the conveyance of articles to be disinfected and for the laundry. The ambulance service is run in conformity with Circular 1356 of the Ministry of Health.

Since Swindon is the only authority in the district that runs an ambulance service, there is a considerable call upon it from neighbouring authorities and from persons in the neighbouring district acting either with, or without, authority. It must be admitted that persons outside the town show more alacrity in obtaining the ambulance than they do in paying for it. Obedience to Circular 1356 is financially unfavourable to Swindon, but the loss is so small that it has not been considered worth while trying to get a working arrangement with the neighbouring authorities.

The ambulance service of Swindon is now adequate for the needs of the town and is generally satisfactory.

During the year under review, the following journeys were made :—

Transport of infectious cases	688
Transport of non-infectious cases	631
Transport of bedding for disinfection	242

HOSPITAL SERVICE.

The number of new admissions during the year 1st April, 1934, to 31st March, 1935, was 710, against 366, 412, 321 and 330 for the four preceding years. The number of admissions was about twice the average and was a record in the history of the institution.

On the 1st April, 1934, 35 patients remained under treatment in the Hospital, so that altogether 745 cases were under treatment during the year. Of these :—

684 were discharged cured,
3 were transferred to other institutions,
24 died and
34 remained in Hospital on 31/3/35.

The new admissions were received under the following notifications or descriptions :—

Scarlet Fever	475
Diphtheria	164
Pneumonia	21
Puerperal Pyrexia	15
Babies with Mothers	9
Abortion	1
Erysipelas	8
Cerebro-spinal Meningitis	5
Polio-myelitis	5
Typhoid	7

The 745 cases arranged according to their final diagnoses were:

Scarlet Fever	473
Scarlet Fever and Whooping Cough	3
Scarlet Fever and Measles	1
Diphtheria	150
Diphtheria and Scarlet Fever	1
Diphtheria and Scabies	1
Pneumonia	26
Puerperal Pyrexia	16
Babies with Mothers	11
Abortion	2
Typhoid	5
Erysipelas	8
Cerebro-spinal Meningitis	1
Polio-myelitis	5
Measles	1
Whooping Cough	2
Rubella	9
Tonsillitis	10
Laryngitis	2
Bronchitis	1
Abscess	1
Impetigo	1
Septicaemia	1
Septic Meningitis	1
Neurasthenia	1
Influenza	1
Boils	1
Constipation	1
No obvious disease	9

The 710 cases admitted during the year were chargeable to the following local authorities :—

Public Health Acts :

Swindon Borough	470
Highworth Rural District	172
Cricklade and Wootton Bassett Rural District	45

Maternity and Child Welfare Act (Puerperal Cases) :

Borough of Swindon	15
Wilts County Council	8

DIPHTHERIA.

Altogether there were 152 patients diagnosed as diphtheria. Of these, 108 were suffering from the disease diphtheria, 12 were carriers of corynebacterium suffering from tonsillitis which was not clinical diphtheria and 32 were pure carriers, *i.e.*, healthy persons harbouring, either temporarily or permanently, the corynebacterium. The function of the Hospital is the treatment of the

diphtheria disease reaction, but as a matter of convenience we do deal with carriers, chiefly from the rural districts and especially from institutions. These carriers are not ill, and as regards the disease diphtheria are " super-normal " in that they are incapable of developing the disease ; but they are capable of spreading it to others and in certain circumstances, dependent upon time and locality, they are a danger to the community. It is an established fact that chronic carriers of diphtheria do not occur in Swindon, or rather have not occurred in the past sixteen years, but they occasionally occur in the outlying districts, though the majority of carriers which we admitted from the district in 1934-35 were not chronic carriers, but temporary infectees. With the exception of one, all the carriers, bacteriological cases and clinical cases (excluding those who died) left the Hospital free from the corynebacterium. The one case that was resistant was non-virulent.

The clinical cases numbered 108, of which 65 belonged to the Borough and 43 to the rural districts. Of the 65 Swindon cases 4 died and of the 43 from the rural districts 8 died.* The 4 Swindon deaths were all connected with a small local outbreak epidemiologically connected with a severe epidemic in Blunsdon. At the end of 1933 it was assumed by deduction that so far as the Borough was concerned, diphtheria would be low in prevalence and probably low in fatality in 1934 and 1935. The extra-Borough cases were, however, numerous and high in fatality. These cases were made up of local village epidemics which always have high incidence and high fatality. Of the 108 cases, 4 were haemorrhagic These were all fatal. 5 were croup, of which 3 required tracheotomy, 2 of which recovered and 1 died, and 2 recovered without operative interference.

The sequels to the acute stage of the disease were :—

13 cardiac paralysis with 4 fatalities,
7 pharyngeal paralysis with 2 fatalities,
8 palatal paralysis,
3 eye paralysis, and
2 general paralysis.

The complications were :—

1 concurrent scarlet fever on admission,
1 concurrent scabies on admission,
1 concurrent congenital syphilis,
1 otorrhoea,
2 herpes,
2 erythema nodosum, and
4 anti-toxin rashes.

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* One of these deaths did not occur until the official year was ended,

All these so-called complications, with the possible exception of herpes, are accidental associations. Diphtheria, the most highly specialized of all human disease reactions, has no true complications. The two cases of erythema nodosum are interesting, because there appears to have been an epidemic of this condition in Swindon during part of 1934.

One curiosity was a case of diphtheria in a breast-fed child of a month old which was fatal. This is the youngest fatality from diphtheria in my experience.

The deaths were 12 in number. 5 occurred within 24 hours of admission, 1 four days, 2 five days, 1 six days, 1 nine days, 1 thirteen days and 1 fourteen days after admission.

THE PNEUMONIAS.

Only 26 cases of pneumonia were admitted during the year and these were all admitted during the Spring of 1934. Owing to the severe pressure on accommodation due to the scarlet fever epidemic, we were unable to accept cases of pneumonia after the Spring. This was unfortunate, but the pneumonic diseases in the last two quarters of 1934 and the first quarter of 1935 were extremely low and the absence of whooping cough, measles and influenza rendered the isolation of pneumonia cases unnecessary in the public interest.

Of the 26 cases dealt with in the year 1934-35 there were 2 croupous type, both recovered ; 2 whooping cough pneumonia, both recovered ; 3 broncho pneumonia of uncertain origin, all recovered ; and 19 June epidemic type, of which 18 recovered and 1 died, not of pneumonia, but of streptococcal meningitis during convalescence. This meningitis was secondary to old nasal disease.

TYPHOID FEVER.

There were 5 cases of typhoid fever. These all belonged to a small localized outbreak in Wroughton, though one of the cases was a nurse at the Isolation Hospital. They were all cases of typhosus and all recovered. Clinically the cases were typical. The serological reactions of these cases were as follows :—

		Typhosum H.	Typhosum O.	Paratyphosum B
Case	1	0	1 in 250	0
	2	1 in 250	1 in 50	0
	3	1 in 2,500	1 in 50	1 in 25
	4	1 in 50	0	0
	5	1 in 125	0	0

All cases before discharge from hospital are tested for freedom from the carrier state.

THE ACUTE INFECTIONS OF THE NERVOUS SYSTEM.

One cerebro-spinal meningitis which "recovered," but eventually became insane, one septic meningitis secondary to nasal disease, which died, and 5 polio-myelitis, of which one died, three recovered completely and one recovered, but with permanent paralysis, complete the list of acute nervous infections treated during the hospital year.

The points of interest in this series are that of two infants, similar in age and general condition and both admitted with immobility of the limbs and paralysis of the diaphragm, one eventually died of respiratory paralysis and the other recovered completely, and of another pair, both admitted with total palsy of the legs, one recovered completely and the other remained permanently paralysed. No reason can be given for the wide difference in results in these cases, which were clinically similar.

PUERPERAL MORBIDITY.

16 cases of puerperal pyrexia, 11 babies with mothers and 2 abortions complete this list. One of the puerperal cases, which was a case of septic scarlet fever, died. One was transferred to the G.W.R. Medical Fund Hospital, where she was operated upon for pyosalpynx from which she recovered and one was transferred to Victoria Hospital, where she was operated upon for pelvic abscess and recovered. The remainder recovered in Hospital.

SCARLET FEVER.

Scarlet fever was the predominant disease in Swindon during the Hospital year and towards the end of 1934 became the predominant disease in the district also. Altogether 478 cases of scarlet fever were treated in Hospital during the year. The following deaths occurred in patients who were admitted as cases of scarlet fever :—

(1) Man of 36. Scarlet fever doubtful. Ludwig's angina. Post mortem, the thyroid had sloughed and was lying loose in an abscess cavity. The probability is that this condition was secondary to influenza and not to scarlet fever.

(2) Boy aged 2. Mongolian imbecile. Suffering from concurrent scarlet fever and measles. Died from laryngeal spasm. As this is one of the most frequent methods of death in Mongolian imbeciles, it is difficult to decide whether either the measles or the scarlet fever had any real responsibility for the fatality.

(3) Female aged 35. Puerperal case referred to above. Septic scarlet fever.

(4) Female aged 17. Toxic scarlet fever.
(5) Male aged 4. Toxic scarlet fever. Died from gangrene of the lung.
(6) Male aged 2. Toxic scarlet fever.
(7) Female aged 10. Moderate scarlet fever, nephritis, mastoid operation, cerebral abscess.

Until the present year, several years had elapsed since we had a death from scarlet fever and twelve years since we had seen a case of the toxic variety. Of the 478 cases of scarlet fever (less 17 that are still in Hospital) four were of the toxic variety, three of the septic variety and the remainder were simple. The major complications, apart from ear disease, were as follows :—

Septic pneumonia	2
Pericarditis	1
Jaundice	2
Nephritis	6
Rheumatism	2
Endocarditis	4
Abscess of the neck	2

Three cases relapsed. Of the 461 cases, 120 were treated with anti-toxin. Of these, eight developed anti-toxin rashes and one developed an anti-toxin abscess. This was a case of concurrent measles and scarlet fever.

The Ear Complications of Scarlet Fever.

There are few subjects in clinical medicine that are more troublesome than the ear complications of the endemic infections and of the endemic diseases scarlet fever is that which produces most ear disease. In the hospital year 1934-35 of 461 cases of scarlet fever, 120 were treated with anti-toxin, of which 19 developed ear disease and of 341 not treated with anti-toxin 24 developed ear disease. The two series are not comparable, because anti-toxin is given to the cases which are severe and in which complications are expected. Altogether, out of 461 cases of scarlet fever, 43 developed ear disease. Of these, 7 were treated by Wilde's method and 2 by radical mastoid operation. One of the mastoid cases died of cerebral abscess. The remainder, except one, were discharged from Hospital cured of the ear disease and in all but two the perforation in the drum had healed and a permanent freedom from future trouble was probable. In four other cases, however, ear disease developed after discharge from Hospital.

The amount of ear disease, namely, under ten per cent., is favourable. The results of treatment were exceedingly favourable and suggest that the line adopted, which, of course, was expected to give favourable results, did, in fact, give them. This is not the place to enter into a controversy over the correct treatment of the

ear disease following acute infection, except to say that there are two schools of thought who hold diametrically different views as to the correct treatment of this condition. The one school holds that operation should only be performed when it is imperative to ward off threatened fatality ; the other, that radical operation upon the ear should be undertaken if the ear discharge does not cease within a comparatively short period, or symptoms of the disease spreading outside the tympanum put in an appearance. The author belongs to the former school, but admits that the proof of the validity of conservative treatment rests with those who practise it.

The epidemic of scarlet fever which materialized in 1934 was expected and the Hospital was prepared to deal with it. The experiences of past epidemics of scarlet fever and the rapid increase in our knowledge of epidemiology since we had last to deal with scarlet fever in epidemic form suggested that when the expected epidemic did arrive it should be dealt with more in accordance with our absolute knowledge than had been possible in epidemics in the past. Therefore, before the epidemic started, the Superintendent had decided upon a definite line of action, subject, of course, to variation should the epidemic show variation from expectancy. The main epidemiological facts to guide us in dealing with an epidemic of scarlet fever are the following :—

(1) Scarlet fever is not a specific disease, but is a reaction common to a large group of human parasites and not special to any of them. All parasites which cause scarlet fever can produce reactions which are not scarlet fever.

(2) The parasites which produce the scarlet fever reactions are the haemolytic streptococci. Most, if not all, of the varieties which are capable of setting up human disease are strictly parasitic on man and spread from man to man directly. Infection occurs usually by droplet spraying, but occasionally by wound infection and in midwifery. It used to be taught that the so-called surgical scarlet fever, *i.e.*, scarlet fever resulting from infection of wounds, most frequently burns, differed from ordinary scarlet fevers in not being infectious. There is no such distinction, but as the surgical cases are not infected through the throat and, therefore, do not have the primary throat reaction, they are not dangerous from the point of view of droplets.

(3) The reservoir of the haemolytic streptococci is the human throat, where these parasites live in symbiosis with their host. In their numbers, varieties and distribution, they are subject to periodic variation, the biology of which is not accurately known.

(4) Any throat harbouring haemolytic streptococci can infect any other throat by droplet. It is immaterial whether the possessor of the infecting throat is ill from scarlet fever, or from

any other condition, is recovering from disease, has ever had disease, or is perfectly healthy. Infection of a throat with haemolytic streptococci will not set up disease in that throat unless the possessor of that throat is virgin to the strain infected, or has lost his immunity to it. If he is virgin, the throat will react and this reaction may be anything from a quite unrecognized reaction to a septicaemia fatal in a few hours. The commonest reaction to most strains of streptococci is either scarlet fever, or some form of tonsillitis which is the same disease with a different name. Persons with sore throat are more likely to spread streptococci by droplets than are those with normal throats, because when the throat is inflamed there is more secretion, more likely to be spluttering and there may be cough.

(5) The infectivity of disease, *i.e.*, the chance of it spreading from one human person to another is not dependent upon the patient, but upon his human environment. It is, for instance, not correct to say that scarlet fever is an infectious disease in the sense that a person suffering from scarlet fever will spread scarlet fever to those who come in contact with him. He may do so if those who come in contact with him are not immune to the same strain of streptococcus as that which is causing his scarlet fever. On the other hand, he may spread scarlet fever, even though he is not suffering from it himself, has never suffered from it, and has never come in contact with it.

(6) Consequently the introduction of a case of scarlet fever in an environment where scarlet fever is epidemic has no influence on the spread of the disease. On the other hand the introduction of persons virgin to the form of streptococcus which is prevalent causes the disease to spread.

(7) From this it follows :—

(a) That the isolation of cases of scarlet fever in the height of an epidemic has no influence whatever upon the epidemic situation.

(b) Since droplet spraying is greatest in those suffering from sore throat, some isolation of persons ill with diseases which produce sore throat is serviceable.

(8) Scarlet fever can be spread by milk, for the haemolytic streptococci can live and maintain their virulence for short periods in this medium. The parasites might conceivably be conveyed from one person to another by fingers, instruments and dressings (but surgical and the puerperal scarlet fevers are probably always droplet spread). Beyond these there is no way by which scarlet fever is spread, except by droplet infection. The prevalent ideas that scarlet fever, or, with few exceptions, other infectious diseases can be spread by inanimate articles, or that disinfection can influence the spread of disease, rest on no foundation.

Scarlet fever is not a specific disease. It is one form of reaction to a specific symbiosis between man and the haemolytic streptococci. The other disease reactions which might occur in connection with this symbiosis are erysipelas, some forms of puerperal fever, many forms of tonsillitis, acute ear disease, some forms of pneumonia, dangerous infections of wounds, including operation wounds, some forms of appendicitis and other acute abdominal conditions, some forms of septic spots and cellulitis and lastly, cases of septicaemia, usually fatal, of obscure causation. These, from the point of view of epidemiology, form a somewhat homogeneous group of which scarlet fever is at present the least dangerous and in its minor form may well be considered within the ambit of physiological reaction, *i.e.*, that the mildest form of scarlet fever is not disease at all, but is part of the process of immunity. This means that we should not speak of an epidemic of scarlet fever, but of an epidemic of streptococcal activity and that in safeguarding man from the streptococcus, which is the greatest of all his enemies, the one reaction to which least attention need be paid is scarlet fever itself. Let us put this in another way : Every community of man is a community of haemolytic streptococci as well. From time to time the streptococcus gains prominence, producing an epidemic situation. During the times of this prominence the human community suffers severely in invalidity, mainly from scarlet fever, and in fatality mainly from reactions which are not scarlet fever. To protect the community during these times of heightened streptococcal activity far greater attention should be paid to the more dangerous reactions which actually are not only more dangerous individually, but are far more potent in maintaining the danger to a community.

There have been periods in the Earth's history when the most dangerous reactions to streptococci fell under the clinical definition of scarlet fever and this recently has been the case in South-East Europe. But in Northern Europe, America and Australia, clinical scarlet fever has been a trivial disease for the past fifteen years and so far shows very little tendency to become more virulent. Probably it will become more virulent, though it will not do so suddenly, but will give plenty of warning which epidemiologists can interpret. At the present time the isolation of scarlet fever merely upon the grounds that it can be clinically recognized as scarlet fever serves no purpose to the community and very little purpose to the individual, but the isolation of the more dangerous forms of streptococcal infection does serve a purpose and a very material one. It is, therefore, in times of epidemic more important to isolate severe tonsillitis cases which are without rashes than to isolate the typical mild scarlet fever cases which are of exceedingly little danger to anybody.

In view of these considerations and of various other facts which are known to us, it was decided before the epidemic started that quarantine for scarlet fever should be abolished, that the Hospital should be used for the treatment of those cases that required it, for the segregation of minor cases for a short period when they were most liable to discharge droplets and for the isolation of all cases of unusual type. It was recognized that in Swindon, owing to various local circumstances, the home treatment of scarlet fever is, in general, impracticable and that the Hospital must be prepared to treat the great majority of cases that occur. We know that in infectious disease the greatest of all dangers is to segregate cases in overcrowded wards and then let them loose on the community. So great is this danger that it is universally recognized as the first principle in the management of epidemics that overcrowding of hospital wards must not be allowed in any circumstances. We know the size of our Hospital and we know what it can accommodate without overcrowding. We had estimated that we should have to deal with 600 cases of scarlet fever within a period of less than two years, so we were faced with the problem of how we could accommodate this number in this time without overcrowding. The solution was to reduce the period of detention to the minimum necessary for clinical purposes and to pray that the epidemic would assume the usual curve of incidence. This succeeded. The epidemic is obeying the normal curve and we have so far been able to accommodate all cases without exceeding the numbers which at any time the Hospital can accommodate without overcrowding.

It is necessary now to consider whether the experience we have gained justifies our contention that the quarantine of scarlet fever is unnecessary and, in fact, pernicious. The actual number of days of detention of the scarlet fever patients is given in the following tables. The first table relates to cases treated without anti-toxin, the second to those treated with anti-toxin. We must repeat that the two series are not comparable, for all the severe cases are given serum, whereas the mild cases are not.

NUMBER OF DAYS DETENTION IN HOSPITAL OF SCARLET FEVER CASES.

Cases treated without Anti-toxin.		Cases treated with Anti-toxin.	
No. of days detention.	No. of Cases.	No. of days detention.	No. of Cases.
2	1	3	1
9	1	4	1
13	1	17	1
15	2	18	1
16	2	19	1
17	1	20	3
18	4	21	17
19	9	22	13
20	18	23	14
21	51	24	11
22	47	25	8
23	42	26	3
24	24	27	6
25	25	28	3
26	22	29	5
27	13	30	3
28	11	31	2
29	12	32	1
30	5	33	1
32	3	37	1
33	4	39	3
34	1	42	2
35	4	43	1
37	2	47	1
39	1	49	2
40	3	50	1
41	2	54	1
43	4	55	1
44	1	57	1
45	2	62	1
47	4	66	1
50	1	67	1
52	2	68	2
55	1	72	1
56	2	83	1
58	2	86	1
68	1	96	1
69	1	97	1
70	1	101	1
79	1		
84	1		
86	1		
89	1		
98	1		
119	1		

Two cases are omitted from this table, as it is uncertain whether anti-toxin was given or not.

From the table we see that the average stay in Hospital was 30.9 days for cases treated with anti-toxin and 26.9 days for those not so treated. The few cases that were detained for less than a fortnight were cases admitted late in the peeling stage, for whom detention was not necessary on any count. Those detained above 30 days were detained because of complications, either present or expected. The mode in both series of cases was about three weeks, which may be taken as the normal time required to cure scarlet fever (or to let it cure itself) and to finish off the convalescence. There is abundant evidence that isolation of scarlet fever cases for a fortnight is serviceable in limiting the spread of the disease (except in the height of an epidemic period when nothing makes the least difference) but evidence of the value of isolation over fourteen days is contradictory. It is held by some authorities that treatment of scarlet fever with anti-toxin curtails the number of days of detention necessary and advocates of various forms of treatment generally base their plea upon a similar count ; but since nobody has suggested a period less than fourteen days and there is no satisfactory evidence that a period above fourteen days is of any value and as, in fact, the period for which scarlet fever cases are detained varies with the ideas—we might also say the whims—of superintendents of isolation hospitals, evidence based upon detention is of no value. It has long been proved that there is no connection between the rate of return cases and length of stay in hospital.

On the whole, the present state of our knowledge of streptococcal infection sanctions the isolation of all persons suffering from streptococcal disease in situations where the streptococci are likely to be discharged by droplet infection. These should be isolated from the community during the period that the throat is inflamed, but we really have not sufficient knowledge to say whether further detention is of any particular value.

It is not feasible at present to differentiate the various types of streptococci which are found in the human throat. There is reason to hope that before very long, possibly in twenty years or so, we may be in a position to formulate a more rational scheme for the control of the streptococcal symbioses, but it is impossible to do this at present. We can, however, jettison measures which are expensive and irritating and which on theoretical grounds, are either useless, or of problematical value.

Two points remain for consideration : first, what would have happened if the epidemic of scarlet fever had not obeyed its

expected curve of incidence ?; in other words, what would have happened if the cases, instead of being spread in point of time as they were expected to be spread and as, in fact, they were spread, had occurred altogether ? The answer is frankly that the whole machinery would have broken down. But the only danger of the epidemic not following the normal curve would be the infection of the milk supply and this it is not impossible to guard against. The second question is what would have happened if the general run of cases instead of being trivial, had been severe and required on clinical grounds periods of detention much exceeding three weeks ? The answer is we should either have supplied extra temporary accommodation, or limited the Hospital for the treatment of the severer cases only.

Great attention had to be paid to what are called return cases. A return case is defined as a case of any or no disease occurring in a household to which a case of any disease has been returned from an isolation hospital during the twenty-eight days preceding the occurrence of the second case.

In the year 1934-35, 40 return cases occurred and were investigated. Of these, 10 can be rejected, because the return case was not in fact suffering from scarlet fever or any of the diseases connected with it, leaving 30 cases which can be provisionally accepted. This gives a return case rate of 6.5%. These were presumed to have been infected by 29 patients discharged from Hospital, but of these, 9 can be discarded. This leaves 20 infectors, or presumed infectors. Of these, 12 had been mild cases without complications, 4 were moderately severe cases treated with serum, but without complications, 2 were moderately severe cases—1 treated with serum and the other not—who had enlarged tonsils on discharge, 1 was a mild case complicated by subsequent nasal disease and 1 was a mild case complicated by whooping cough on admission who developed enlarged glands. They were, therefore, as a collection, below the average of severity, below the average of complication and above the average health on discharge. They had been in Hospital :—

1—20 days,	1—26 days,
3—21 days,	1—28 days,
3—22 days,	1—31 days,
4—23 days,	1—45 days,
1—24 days,	and 1—68 days,
3—25 days,	

an average of 25.8 days.

Before the epidemic started it was calculated that there were in the district 10,000 persons at risk and that actually these would produce 600 cases of recognisable scarlet fever which would be notified, so that the expectation of any person believed to be at risk actually being notified was 6%. The return case rate should, therefore, be 6% if, in fact, persons discharged from hospital were equally likely to spread scarlet fever as were other members of the community. The return case rate was, as shown above, 6.5%, a difference from calculation which is not significant.

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Public Health Department,

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SWINDON.

BOROUGH OF SWINDON.

GENERAL STATISTICS.

Area (acres)	6062
Population : Census 1931	62407
Estd. middle of 1934	60827
Number of inhabited houses (1934)	16476
Rateable Value (General Rate)	£335,710
Sum represented by a penny rate	£1,360

EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

		Total	M.	F.	
Births :	Legitimate	744	385	359	
	Illegitimate	26	14	12	Birth Rate 12.66
Stillbirths :	Legitimate	25	10	15	Stillbirth Rate per
	Illegitimate	2	1	1	1000 births (Live and Still) 33.88
Deaths		676	386	290	Death Rate 11.11

Number of women dying in, or in consequence of childbirth :—

		Rate per 1,000 births (Live & Still) :—
From sepsis	—	—
From other causes	1	1.25

Deaths of Infants under one year of age per 1,000 live births :—
Legitimate 53.76 Illegitimate 115.38 Total 55.84

Number of deaths from Measles (all ages)	1
,, ,, ,, Whooping Cough (all ages)	3
,, ,, ,, Diarrhoea (under 2 years of age)	2

INFECTIOUS DISEASE.

Table showing the numbers of Infectious Diseases notified in the Borough during the year 1934.

Disease	Cases notified at various ages. (Years)												Total cases notified	No. of cases admitted to Hospital.	Total Deaths.
	Under 1	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 and upwards			
Smallpox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Diphtheria	....	2	....	2	4	23	14	3	5	1	1	....	55	55	5
Erysipelas	1	1	....	....	....	....	1	1	5	4	8	1	22	10	4
Scarlet Fever	1	8	15	25	41	155	63	9	18	7	2	....	344	327	5
Ophthalmia Neonatorum	4	....	....	....	....	....	....	....	....	....	....	....	4	....	....
Dysentery	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pneumonia	8	8	5	7	7	20	5	8	17	21	35	13	154	36	40
Enteric Fever	....	....	....	....	....	....	2	....	1	....	....	....	3	3	....
Continued Fever	....	....	....	....	....	....	....	....	1	....	....	....	1	1	....
Encephalitis Lethargica	....	....	1	....	....	....	....	....	1	....	....	....	2	1	1
Puerperal Pyrexia	....	....	....	....	....	....	....	2	42	2	....	....	46	13	2
Puerperal Fever	....	....	....	....	....	....	....	....	....	1	....	....	1	1	1
Poliomyelitis	....	1	....	....	....	....	....	....	....	....	....	....	1	1	....
Cerebro-spinal Meningitis	....	....	....	....	....	1	2	....	....	1	....	....	4	2	2
Polio-encephalitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Malaria	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....
Tuberculosis—															
(a) Pulmonary M	....	....	....	....	....	....	1	2	11	3	4	....	21	....	17
F	....	....	....	....	....	....	1	3	10	3	1	....	18	....	11
TOTAL	....	....	....	....	....	....	2	5	21	6	5	....	39	....	28
(b) Non-Pulmonary M	1	1	....	1	....	4	2	1	2	....	1	....	13	....	7
F	1	....	1	....	....	3	2	....	5	2	1	....	15	....	2
TOTAL	2	1	1	1	....	7	4	1	7	2	2	....	28	....	9
TOTALS	16	21	22	35	52	206	93	29	119	45	53	14	705	450	97

TABLE SHOWING MONTHLY INCIDENCE OF INFECTIOUS DISEASES AND THE NUMBER OF DEATHS DURING 1934.

Disease.	Number of Cases.												Total	No. of Deaths.
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
Smallpox	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Diphtheria	5	2	2	2	3	2	1	3	7	9	11	8	55	5
Erysipelas	2	1	1	2	1	2	2	4	2	1	4	....	22	4
Scarlet Fever	7	12	18	22	24	30	32	24	46	51	43	35	344	5
Ophthalmia Neonatorum	....	1	....	....	....	....	....	....	....	1	1	1	4	....
Dysentery	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pneumonia	18	23	30	18	18	10	8	4	2	8	8	7	154	40
Enteric Fever	....	....	....	....	....	1	....	2	....	....	....	....	3	....
Encephalitis Lethargica	....	....	1	1	....	....	....	....	....	....	....	....	2	1
Puerperal Pyrexia	5	3	4	4	6	4	2	3	3	4	4	4	46	2
Puerperal Fever	....	....	....	....	....	....	....	....	1	....	....	....	1	1
Poliomyelitis	....	....	....	....	1	....	....	....	....	....	....	....	1	....
Polio-encephalitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Cerebro-spinal Meningitis	2	1	....	1	....	....	....	....	....	....	....	....	4	2
Malaria	....	....	....	....	....	....	....	....	1	....	....	....	1	....
Continued Fever	1	....	....	....	....	....	....	....	....	....	....	....	1	....
Totals	40	43	56	50	53	49	45	40	62	74	71	55	638	60

TUBERCULOSIS, 1934.

Age Periods	New Cases Pulmonary		New Cases Non-Pulm'ry		Deaths Pulmonary		Deaths Non-Pulm'ry	
	M	F	M	F	M	F	M	F
Under 1 year	....	....	1	2	....	....	1	....
1—5	....	....	2	1	....	....	2	....
5—10	....	....	5	3	....	....	2	....
10—15	1	1	3	2	....	....	....	....
15—20	2	5	1	....	2	3	....	....
20—25	6	4	1	2	4	3	1	....
25—35	6	6	1	3	5	3	....	....
35—45	4	2	....	2	3	2	....	....
45—55	2	1	....	1	3	....	....	....
55—65	1	1	1	....	....	....	1	1
65 and over	....	....	....	....	....	....	....	1
Totals	22	20	15	16	17	11	7	2

DEATHS FROM TUBERCULOSIS, 1934.

TABLE SHEWING WHEN CASES WERE NOTIFIED.

When Notified.	Pulmonary		Non-Pulmonary	
	Males.	Females	Males.	Females
One year or more before death	8	3	....	1
Less than one year and more than 6 months before death	3	3	....	....
Less than six months and more than two months before death	3	3	....	....
Less than two months before death	1	1	1	....
At or immediately before death	2	1	5	....
Unnotified (Cases who died outside the Borough & never notified to Swindon).	....	....	1	1
Totals	17	11	7	2

Comparative statement showing the number of notifications received of the various forms of Tuberculosis and the Death Rates resulting from each form of the disease for the years 1915-1934.

	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915
No. of cases notified (all forms)	73	79	88	80	86	98	114	102	94	91	111	117	103	98	97	73	116	129	132	140
Respiratory Tuberculosis	42	53	62	52	41	57	69	70	56	66	75	75	68	63	72	51	86	102	95	86
Deaths from Respiratory Tuberculosis	28	35	41	40	37	23	40	45	30	42	42	48	59	42	55	44	66	60	48	51
Deaths from Tuber. Meningitis	5	1	5	3	3	3	6	1	8	5	4	12	6	11	8	8	11	8	10	10
Deaths from other forms of the disease	4	3	7	3	12	1	2	9	3	4	7	7	6	12	6	8	11	10	10	8
Total deaths from Tuberculosis	37	39	53	46	52	27	48	55	41	51	53	67	71	65	69	60	88	78	68	69
General Death Rate for all forms of Tuberculosis	0.61	0.64	0.85	0.73	0.84	0.44	0.82	0.96	0.71	0.89	0.93	1.19	1.27	1.17	1.28	1.16	1.74	1.5	1.3	1.32
Death Rate for Respiratory Tuberculosis	0.46	0.57	0.66	0.64	0.60	0.37	0.68	0.78	0.5	0.73	0.74	0.85	1.05	0.75	1.02	0.85	1.30	1.15	0.95	0.98

TABLE SHEWING THE DISTRIBUTION OF INFECTIOUS DISEASE IN THE VARIOUS WARDS OF THE TOWN DURING THE YEAR 1934.

Disease.	Ward.						Total.
	North	South	East	West	King's	Queen's	
Diphtheria	12	10	4	11	12	6	55
Scarlet Fever	113	21	74	77	38	21	344
Pneumonia	35	22	19	28	28	22	154
Pulmonary Tuberculosis	10	3	10	6	7	3	39
Other forms of Tuberculosis	7	....	5	10	4	2	28

INFANT MORTALITY IN THE SIX WARDS OF THE BOROUGH.

Ward.	No. of Births.	No. of Infant Deaths.	Infant Death Rate per 1,000 Live Births.
North	197	7	35.53
South	104	8	76.92
East	109	3	27.52
West	173	12	69.36
King's	86	5	58.14
Queen's	101	8	79.21
Total for Borough	770	43	55.84

This table is somewhat surprising in that the East and North Wards should have such very low infant mortalities, whereas in South Ward it should be so high.

BACTERIOLOGICAL INVESTIGATIONS.

	Public Health Dept.					School Medical Dept.				
	1930	1931	1932	1933	1934	1930	1931	1932	1933	1934
Examinations carried out by Bristol or Liverpool Universities	26	15	18	8	28	....	....	....	....	1
Examinations carried out at Gorse Hill Hospital :										
Throat swabs examined	524	482	786	785	760	....	....	....	....	....
Urine : Examination for Tubercle bacilli	....	....	....	....	....	....	....	....	....	....
Examinations carried out at 61 Eastcott Hill :—										
Throat swabs examined	851	852	1216	1164	488	84	73	33	34	31
Eyes ; swabs examined direct	55	43	50	36	35	5	....	....	....	....
Pus and discharges :—										
For Tubercle bacilli	10	5	4	4	2	....	1	....	4	2
For other organisms (cultures)	54	9	47	27	15	....	....	....	23	12
Hair. Examinations for Ringworm fungus	5	6	....	....	....	89	56	18	15	5
Other conditions	....	....	....	....	....	1	....	....	....	....
Blood, Histological examinations	16	27	27	13	13	25	86	181	155	192
Blood for Wassermann-Reaction	....	....	....	....	....	....	....	....	....	....
Cerebro-spinal fluid	4	1	4	6	8	....	....	....	....	....
Sputum. For Tubercle bacilli	1	....	....	....	2	....	....	....	4	1
For other organisms	....	....	....	....	....	....	....	....	3	....
Urine-Chemical examinations	76	22	20	13	17	16	8	12	28	13
,, Microscopical examinations	10	18	14	2	9	2	7	8	14	7
,, Bacteriological examinations	....	....	....	....	....	....	....	....	....	....
For diseased meat	2	2	....	....	2	....	....	....	....	....
Miscellaneous	11	3	....	2	1	68	1	13	....	....
Totals	1645	1485	2186	2060	1380	290	232	265	280	264

No. of samples of water submitted for chemical and bacteriological analysis during 1934 — 31

No. of samples of sewage effluent submitted for chemical examination during 1934 — 14

REVIEW OF THE COMPARATIVE VITAL AND MORTALITY STATISTICS FOR THE BOROUGH OF SWINDON, TOGETHER WITH THOSE FOR ENGLAND AND WALES FOR THE YEARS 1901 TO 1934 INCLUSIVE.

	Birth Rate		Death Rate		Infant Mortality Rate		Illegitimate Death Rate
Year	Swindon	England and Wales	Swindon	England and Wales	Swindon	England and Wales	
1901	30.6	28.5	11.8	16.9	102.9	151	—
1902	28.3	28.5	12.7	16.3	104.7	133	—
1903	29.5	28.5	11.27	15.5	106.9	132	—
1904	30.0	28.0	12.49	16.3	111.2	145	—
1905	28.4	27.3	11.2	15.3	95.4	128	—
1906	29.4	27.2	9.9	15.5	86.2	132	—
1907	28.8	26.5	12.3	15.1	91.8	118	—
1908	28.9	26.7	11.8	14.8	101.5	120	—
1909	26.5	25.8	10.8	14.6	78.2	109	—
1910	23.4	25.1	9.7	13.5	86.8	105	—
1911	21.6	24.3	10.9	14.6	103.1	130	—
1912	23.4	23.9	10.3	13.3	76.3	95	—
1913	23.39	24.1	12.08	13.8	86.4	108	—
1914	22.5	23.8	11.5	14.0	73.7	105	—
1915	21.16	21.9	12.83	15.7	67.7	110	—
1916	18.9	20.9	11.3	14.4	72.4	91	—
1917	15.5	17.8	12.25	14.4	88.6	96	—
1918	16.53	17.7	15.13	17.6	81.3	97	129.63
1919	16.86	18.5	11.97	13.8	83.9	89	79.52
1920	23.25	25.4	11.64	12.4	69.0	80	122.44
1921	20.27	22.4	9.58	12.1	67.5	83	102.56
1922	18.98	20.6	12.17	12.9	60.5	77	121.95
1923	17.77	19.7	9.27	11.6	53.2	69	83.33
1924	17.11	18.8	10.78	12.2	63.01	75	192.30
1925	16.56	18.3	11.09	12.2	60.5	75	52.63
1926	17.09	17.8	10.67	11.6	47.95	70	193.54
1927	14.52	16.7	11.16	12.3	46.98	69	107.14
1928	15.63	16.7	9.92	11.7	36.26	65	51.28
1929	13.98	16.3	10.96	13.4	47.29	74	32.26
1930	15.66	16.3	10.77	11.4	62.82	60	157.89
1931	14.51	15.8	10.88	12.3	56.04	66	136.36
1932	14.31	15.3	11.68	12.0	52.99	65	37.04
1933	12.48	14.4	11.06	12.3	52.22	64	66.67
1934	12.66	14.8	11.11	11.8	55.84	59	115.38

BOROUGH OF SWINDON.

CAUSES OF DEATH, 1934.

(Registrar-General's Official Returns).

Causes.	Males	Females	Total
Measles	—	1	1
Scarlet Fever	3	2	5
Whooping Cough	1	2	3
Diphtheria	4	1	5
Influenza	3	2	5
Encephalitis lethargica	—	1	1
Cerebro-spinal fever	1	1	2
Tuberculosis of respiratory system	18	11	29
Other tuberculous diseases	7	4	11
Syphilis	3	—	3
General paralysis of the insane, tabes dorsalis	3	—	3
Cancer, malignant disease	39	37	76
Diabetes	5	5	10
Cerebral haemorrhage etc.	21	23	44
Heart disease	86	72	158
Other circulatory diseases	25	13	38
Bronchitis	11	8	19
Pneumonia (all forms)	18	15	33
Other respiratory diseases	3	3	6
Peptic ulcer	8	1	9
Diarrhoea &c. (under 2 years).	1	1	2
Appendicitis	3	4	7
Cirrhosis of liver	1	2	3
Other diseases of liver etc.	—	4	4
Other digestive diseases	10	6	16
Acute and chronic nephritis	16	10	26
Puerperal sepsis	—	—	—
Other puerperal causes	—	1	1
Congenital debility, premature birth, malformations etc.	17	17	34
Senility	23	18	41
Suicide	8	3	11
Other violence	18	4	22
Other defined diseases	29	18	47
Causes ill-defined or unknown	1	—	1
	386	290	676

BOROUGH OF SWINDON.

INFANT MORTALITY.

1934. *Nett deaths from stated causes at various ages under One Year of Age.*

COMPILED FROM THE OFFICIAL REGISTRATIONS.

CAUSE OF DEATH.	Under 1 week	1—2 weeks	2—3 weeks	3—4 weeks	Total under 1 month.	1—3 months	3—6 months	6—9 months	9—12 months	Total Deaths under 1 year.
All Causes—										
Certified	24	3	3	1	31	1	2	4	3	41
Uncertified	2	....	....	....	2	....	....	....	....	2
Small-pox	....	....	....	....	....	....	....	....	....	....
Chicken-pox	....	....	....	....	....	....	....	....	....	....
Measles	....	....	....	....	....	....	....	....	....	....
Scarlet Fever	....	....	....	....	....	....	....	....	....	....
Diphtheria and Croup	....	....	....	....	....	....	....	....	....	....
Whooping-cough	....	....	....	....	....	....	....	....	1	1
Diarrhœa	....	....	....	....	....	....	....	....	....	....
Enteritis	....	....	....	....	....	....	....	1	....	1
Tuberculous Meningitis	....	....	....	....	....	....	....	....	1	1
Abdominal Tuberculosis	....	....	....	....	....	....	....	....	....	....
Other Tuberculous Disease	....	....	....	....	....	....	....	....	....	....
Congenital Malformations	6	1	....	....	7	....	....	1	....	8
Premature Birth	11	1	2	1	15	....	....	....	....	15
Atrophy, Debility and Marasmus	6	1	1	....	8	....	1	....	....	9
Atelectasis	1	....	....	....	1	....	....	....	....	1
Injury at Birth	1	....	....	....	1	....	....	....	....	1
Erysipelas	....	....	....	....	....	....	....	....	....	....
Syphilis	....	....	....	....	....	....	....	....	....	....
Rickets	....	....	....	....	....	....	....	....	....	....
Meningitis (*not Tuberculous*)	....	....	....	....	....	1	1	....	....	2
Convulsions	....	....	....	....	....	....	....	....	....	....
Gastritis	....	....	....	....	....	....	....	....	....	....
Laryngitis	....	....	....	....	....	....	....	....	....	....
Bronchitis	....	....	....	....	....	....	....	1	....	1
Pneumonia (all forms)	....	....	....	....	....	....	....	1	....	1
Suffocation, overlying	....	....	....	....	....	....	....	....	....	....
Pneumococcal Arthritis of Hip.	....	....	....	....	....	....	....	....	1	1
Toxaemia	1	....	....	....	1	....	....	....	....	1
TOTALS	26	3	3	1	33	1	2	4	3	43

LIST OF HOSPITALS PROVIDED OR SUBSIDISED BY THE LOCAL AUTHORITY OR BY THE COUNTY COUNCIL.

TUBERCULOSIS.	Two beds at Winsley Sanatorium, near Bath, provided by the local authority. The Wilts County Council has two sanatoria for the treatment of tuberculosis; one at Winsley for early cases and the other at Harnwood near Salisbury, for advanced cases.
MATERNITY.	A Maternity Home of 24 beds provided by the local authority.
CHILDREN.	Nil.
FEVER.	A fever hospital of 70 beds provided by the local authority.
SMALLPOX.	A Smallpox Hospital provided by the Wilts County Council.
VENEREAL DISEASES.	A hospital with 6 beds provided by the Wilts County Council.
ORTHOPAEDIC.	Use of beds in Bath Orthopaedic Hospital.

LIST OF CLINICAL TREATMENT CENTRES IN THE BOROUGH OF SWINDON.

Name of Clinic.	Where Held	Days and hours of attendance	By Whom Provided
Maternity and Child Welfare	61, Eastcott Hill	Mondays, Wednesdays and Fridays 2 p.m. to 4.30 p.m.	Swindon Corporation
Maternity and Child Welfare	Girls' Club, St. Paul's St.	Tuesdays, 2 p.m. to 4 p.m.	,, ,,
Maternity and Child Welfare	Methodist School, Romsey Street	Thursdays, 2 p.m. to 4 p.m.	,, ,,
Maternity and Child Welfare	Methodist Church, Pinehurst	Mondays, 2 p.m. to 4 p.m.	,, ,,
Ante-Natal Clinic	37, Milton Road	Tuesdays, Thursdays, Fridays and Saturdays, 2 p.m. to 4.30 p.m.	,, ,,
Consultation Ante-Natal Clinic	Maternity Home, Kingshill	Second & Fourth Wednesdays in each month from 2.30 to 4 p.m.	,, ,,
Minor Ailments	61, Eastcott Hill	Every morning 9 a.m. to 11 a.m.	,, ,,
Dental Clinic	Faringdon Road	Daily 9.30 a.m. to 12.30 p.m., and 2 p.m. to 5 p.m. (Saturdays 10 a.m. to 12.30 p.m.)	,, ,,
Eye Clinic	61 Eastcott Hill	Tuesdays, 2 p.m. to 4.30 p.m.	,, ,,
Ringworm Clinic	,, ,, ...	Tuesdays, 2 p.m. to 5 p.m.	,, ,,
Throat, Nose and Ear Clinic	,, ,, ...	Mondays, 2 p.m. to 5 p.m.	,, ,,
Enlarged Thyroid Glands	,, ,, ...	Thursdays, 2 p.m. to 5 p.m.	,, ,,
X-Ray Clinic	,, ,, ...	Thursdays, 2 p.m. to 5 p.m.	,, ,,
Electrical Treatment (General)	,, ,, ...	Mondays, 2 p.m. to 4 p.m.	,, ,,
Electrical Ionization Clinic	,, ,, ...	Fridays, 2 p.m. to 4.30 p.m.	,, ,,
Observation Clinic	,, ,, ...	Saturdays, 9.30 a.m. to 12 noon	,, ,,
Tuberculosis Clinic	Tuberculosis Dispensary, Milton Road	Thursdays, 10 a.m. to 3 p.m.	Wilts County Council
Venereal Diseases Clinic	Isolation Hospital, Gorse Hill	Men—Wednesdays, 6.30 to 8.30 p.m. Fridays, 6 p.m. to 8 p.m.	,, ,,
		Women and Children :— Mondays, 5 p.m. to 7 p.m. .... Fridays, 2 p.m. to 4 p.m.	
Orthopaedic Clinic	Isolation Hospital Grounds, Gorse Hill	Tuesdays, 2 p.m. to 3.30 p.m.	Voluntary Association

AMBULANCE FACILITIES.

(a) For Infectious Diseases. (b) For non-infectious and accident cases.	Three Motor Ambulances, giving a 24 hour service, are supplied by the Swindon Town Council.

LIST OF LOCAL ACTS, SPECIAL LOCAL ORDERS AND GENERAL ADOPTIVE ACTS IN FORCE IN THE DISTRICT.

LOCAL ACTS AND ORDERS.

Swindon Water Act, 1894.
Swindon New Town Electric Lighting Order, 1895.
Swindon (Water) Orders of 1902 and 1919.
The Swindon Corporation Act, 1904.
Swindon Corporation (Wilts and Berks Canal Abandonment) Act, 1914.
The Swindon Order, 1923.
The Swindon Order, 1925.
Swindon Corporation Act, 1926.
The Swindon Order, 1927.
The Swindon (Extension) Order, 1928.
The Swindon Electricity (Extension) Special Order, 1929.
Public Works Facilities Scheme (Swindon Corporation) Act, 1931.

ADOPTIVE ACTS IN FORCE.	Date of Adoption.
The Public Health Acts Amendment Act, 1890.	11th Nov., 1890.
Infectious Diseases (Prevention) Act, 1890	11th March, 1902.
The Museums and Gymnasiums Act, 1891 (so far as it relates to museums)	6th June, 1905.
The Local Government and Other Officers Superannuation Act, 1922	1st July, 1924.

THE PUBLIC HEALTH ACTS AMENDMENT ACT, 1907 :—	
Section 85 (Registries for Servants).	22nd Dec., 1926.
Part III., Secs. 36, 37, 49, 50, and 51 Part IV., Secs. 62, 64 and 65. Part X., Sec. 93.	3rd Jan., 1927.

THE PUBLIC HEALTH ACT, 1925. :—	
Part II. (except Secs. 20,24 and 29). Part III. Part IV. Part V.	1st Feb., 1927.

APPENDIX.

BOROUGH OF SWINDON.

ANNUAL REPORT

OF THE

Chief Sanitary Inspector

F. H. BEAVIS

For the Year 1934.

To the Chairman and Members of the Health, etc., Committee.

LADIES AND GENTLEMEN,

I have the honour of submitting my ninth Annual Report dealing with the work carried out by the Sanitary Department during the year ended 31st December, 1934.

Appended hereto will be found the tables giving full particulars of the inspections made during the year in conformity with the requirements of the Ministry of Health.

The only change which occurred in the Staff of the Sanitary Department during the year was the retirement of George Greenaway from the post of Disinfector after thirty-five years' service, (first with the Swindon Old Town Urban District Council and later with the Town Council), when Albert Clifford Mole was appointed to fill the vacancy thus created.

MILK SUPPLY.

So much has been said in previous years about the milk supply of Swindon that I do not propose to go over the ground again. Sufficient it is to say that Wiltshire is noted for its milk production, and we are surrounded by agricultural districts in which milk is produced in sufficient quantities not only to supply Swindon with all the milk it requires, but also to supply the Metropolis with practically one-third of its requirements. Consequently, milk is delivered to the consumer in Swindon within a few hours of its production and with a minimum of handling. Hence our supply is always fresh and on the whole fairly satisfactory.

During the year much useful work has been done to encourage the production of clean milk. Samples are taken in course of delivery and sent to Bristol University for bacteriological examination. The results of this examination are set out in a table appended hereto. The source of any sample which is not satisfactory is at once enquired into and steps are immediately taken to ensure an improvement. All cases from outside the Borough are referred to the Officer in whose district the milk was produced, who then visits the farm and takes the necessary steps to ensure cleanliness. This arrangement is working quite satisfactorily, as it enables us not only to deal with our own farmers but also with those who are outside the Borough.

In addition to the samples taken for bacteriological examination, your Inspectors also visit the farms whilst milking is in progress, and by the use of a sediment test can demonstrate to the milkers how clean milk can be produced and bacterial counts reduced to a minimum.

During the year, Police Court proceedings were taken against three offenders for breaches of the law relating to milk. Two were for bottling milk in the streets—a most objectionable practice—when the offenders were fined a total of £1 : 12 : 6. The third was summoned on two counts, one for carrying on the business of a dairyman without being registered by the Local Authority, and the second for failing to have his name and address on the vehicle from which he was retailing milk. This man was fined £1 : 8 : 0 on the two counts.

The taking of samples of ' Certified ' and ' Grade A (Tuberculin Tested)' milk has been delegated to the Town Council by the Ministry of Health. During the year twenty-one samples were taken, only one proving to be unsatisfactory. Steps were taken immediately by your Inspector to improve matters, and the remainder of the samples were quite satisfactory.

A great deal has been said about ' pasteurisation ', and there has certainly been a considerable demand for pasteurised milk ; but I am still of opinion that good, clean, raw milk from a healthy herd is to be preferred to any treated milk, and every effort is being made to enable the inhabitants of Swindon to obtain clean milk.

One farm, one bottling establishment and one dairy are licensed for the production or distribution of Grade A (Tuberculin Tested) milk. One farm and three milkshops are licensed for the production and distribution respectively of Grade A milk. There are five retailers who are licensed to sell Pasteurised milk and two licences have been issued for the pasteurisation of milk within the Borough. There is one retailer from outside the Borough who possesses a subsidiary licence to sell Grade A (Tuberculin Tested) milk within the Borough, who also sells Grade A and Pasteurised milk.

FOOD SUPPLY.

The inspection of meat and other foods sufficient to feed the 62,000 people comprising the inhabitants of Swindon is by no means an easy task, and your Inspector and his two Assistants are kept working at high pressure throughout the year in trying to cope with this and other work carried out by the Department. Constant watchfulness is necessary in order to ensure to the inhabitants a pure and wholesome food supply, and no pains are spared to attain that object. This work entails very long and irregular hours, as much of it must necessarily be done after the office is closed ; but food has such a very direct influence upon the health and well-being of the community that no effort can be too great so long as we can accomplish our purpose.

Legislation is urgently needed requiring the registration of all shops where food is prepared or sold, and if powers were given to the Local Authority to cancel such registration, if they thought fit, it would enable us to exercise a much better control over the people's food supply than is possible under the law as it now stands.

During the year 16,304 animals were slaughtered for human consumption within the Borough, every one of which was seen by your Inspectors before being offered for sale. Besides this, there is of course the traffic in dead meat from outside districts, and this matter presents a problem which is very difficult to solve, owing to the fact that it is quite impossible for your Inspectors to be in several differents parts of the Borough at one and the same time. However, during the year proceedings were taken against persons from outside Swindon for bringing into the Borough meat which was unfit for food. The provision of a public abattoir and legislation to enable the Local Authority to require all meat from outside districts to be submitted for inspection at this establishment before being offered for sale within the Borough is the only satisfactory solution to this problem.

Altogether four prosecutions occurred during the year. No. 1 was for having diseased meat deposited in a van, and the offender was fined £5 and 7/6 costs. No. 2 was a very peculiar case, in which a diseased liver was left in a slaughterhouse for collection next day, but disappeared in the meantime. The liver was traced to a butcher's shop where it was exposed for sale when seized by your Inspector. The butcher was fined £10, and the man who stole the liver was sentenced to two months' imprisonment. No. 3 was for having diseased pigs' plucks exposed for sale in a shop window, and the offender was fined £20. No. 4 was for having diseased pigs' plucks deposited on a van for the purpose of sale, and in this case also the offender was fined £20.

The unsound food amounted to just over sixteen tons. This is a slight increase over last year's figure, but the quality of meat etc., sold in Swindon has been maintained.

Appended hereto will be found the tables shewing the work carried out under the Public Health (Meat) Regulations, 1924.

CASEOUS LYMPHADENITIS.

There was only one case of this disease in imported mutton during 1934.

HOUSING.

The housing problem is at present far from being solved, principally because the rents of the new houses are still high and quite beyond the reach of the poorer section of the community, who, in these hard times with unemployment still rife, find it very difficult to pay the rents of the older houses without aspiring to

those of the new ones. I am of opinion, however, that if houses could be built to be let at from 7/- to 10/- per week inclusive the problem would to a large extent be solved.

There is another side to the housing question, and that is the owner-occupiers. Some years ago I was successful in persuading the solicitors to the executors, who were anxious to wind up an estate, to sell a block of seventeen houses to the occupiers at a price to be paid for by weekly instalments. The houses were dilapidated and at that time by no means desirable. However, the tenants became the owners and immediately began to take a pride in their holdings. Since then the houses, and the street itself, have improved to such an extent that to-day it is difficult to realise what it was like before the occupiers became the owners.

During the course of the year, 23 houses were erected by the Corporation and 250 by private enterprise, making a total of 273 houses erected during the year.

TENTS, VANS AND SHEDS.

Very little trouble has been caused by this section of the community during the year. In the two or three unsatisfactory cases that occurred I was successful in getting the offenders moved on by exercising a little pressure on the owners of the land on which they had settled. The conditions, however, are not very satisfactory from a public health point-of-view, and will never be placed on a proper basis until the Local Authorities obtain powers to prohibit the use of these structures for human habitation in towns with populations of over 30,000.

THEATRES, CINEMAS, ETC.

There are at present one theatre, six cinemas, one billiard hall and twenty-three dancing halls licensed within the Borough, besides which there are five premises licensed for music and singing only. These buildings are regularly visited by the Inspectors so as to ensure their being kept in a cleanly and sanitary condition.

DISINFECTION OF VEHICLES AT THE CATTLE MARKET.

The disinfection of vehicles used for the conveyance of animals at the Cattle Market is carried out under the direct supervision of the Sanitary Department. A small charge is made by the Corporation for this service, and a table is appended shewing the particulars of the receipts and expenditure incurred during the year 1934. It should be clearly understood, however, that this table is not an accurate statement so far as profit and loss is concerned, as it does not include the cost of collection, disinfectants, plant, etc., but only gives the amounts expended on casual labour,

The scheme which was adopted at the end of 1933, whereby unemployed persons are engaged temporarily on this work, is still working satisfactorily.

DRAINAGE WORK.

During the year, the drains of 256 houses were either relaid or overhauled. The detection of defective drainage and the steps taken to remedy the same are of the utmost importance to the health of the community, because very often it is found that the whole site of a house has become impregnated with filth owing to its defective drains, whilst in one instance the drain itself finished up practically in the centre of a shop, and was not connected to the sewer at all. It will readily be seen, therefore, how important this work is in relation to public health, and although the supervision of drainage work takes up a considerable amount of time, yet too much attention cannot be paid to this important branch of sanitary activity.

The drainage of houses in the area which was added to the Borough in 1928 is gradually being dealt with, but there is still a considerable amount of work to be carried out in order to bring this added area up to a satisfactory standard.

RATS AND MICE DESTRUCTION.

1934 was noted for its prolonged spell of dry weather, which proved to be exceedingly favourable for the propagation of both rats and mice. The usual exodus occurred at the tips during the summer, but when the rodents returned to take up their winter quarters in the autumn, bringing their numerous progeny with them, the tips again became thoroughly infested, and strenuous efforts had to be made in order to cope with these pests. However, I am glad to say that towards the end of the year we had practically succeeded in again bringing these vermin under control.

A perusal of the table under this heading will shew that nearly 6,000 rats were accounted for during the year and that much useful work is being accomplished.

GENERAL.

The year under review was again a very busy one in the Sanitary Department, for it must not be forgotten that the Borough is still growing, and new streets are being opened in several directions. This, of course, is a very satisfactory sign of progress, but it naturally adds to the work of the Sanitary staff. Then again, new legislation often imposes extra duties upon the Local

Authority, a portion of which invariably falls to the Sanitary Inspector to carry out. This is quite just and proper, but unfortunately the Sanitary staff does not expand correspondingly. Consequently, the Department is always kept working at high pressure. Your Committee, however, recently decided to appoint a Temporary Assistant Inspector, and it is hoped that this will somewhat relieve the pressure in future.

There are still a few streets and back roads which have not been taken over by the Corporation, and these cannot be regarded as satisfactory from a public health point of view, for the back roads usually become the dumping ground for all sorts of garbage, and great difficulty is experienced in dealing with the matter satisfactorily owing to the fact that the land in question belongs to the person whose premises abut thereon and consequently cannot be dealt with until it has become in a state of nuisance. There is also a considerable number of water-closets which are not provided with flushing-cisterns, and although most of these closets are kept quite clean, it is not a very satisfactory state of affairs.

The issue of free disinfectants to the poorer classes of the community was re-organised in the autumn of 1933, owing to certain abuses. Whilst under the present method no genuine applicant is refused, we have been able to eliminate the abuses and waste which had gradually crept in, and have reduced the total amount of disinfectant issued by about seventy-five per cent.

I am,

Ladies and Gentlemen,

Your obedient Servant,

F. H. BEAVIS,
Chief Sanitary Inspector.

SANITARY STATISTICS.

TABLE OF NUISANCES RECORDED AND ABATED, 1934.

Nature of Complaints registered.	Defects brought forward from 1933	Complaints received and visited during 1934	Total	No. of complaints abated during 1934	No. of cases not abated at end of year.
Defective drains	5	202	207	181	26
,, traps	1	97	98	95	3
,, spouts and eaves troughing	13	52	65	50	15
,, roofs	23	99	122	101	21
,, and dirty W.C. pans	5	162	167	157	10
,, floors	10	151	161	132	29
,, and insufficient yard paving	7	76	83	68	15
,, walls	15	197	212	169	43
,, flushing cisterns	8	45	53	48	5
,, ceilings	9	94	103	83	20
,, forecourts	1	17	18	12	6
,, sinks	3	32	35	27	8
Offensive animals	....	3	3	3	....
Offensive accumulations	2	47	49	49	....
Choked drains	1	180	181	181	....
Damp walls	10	63	73	54	19
Dirty rooms	50	559	609	502	107
Overcrowding	3	15	18	14	4
Absence of covered receptacle at butchers' premises	....	5	5	4	1
Miscellaneous	57	826	883	773	110
TOTALS	223	2922	3145	2703	442

VISITS AND INSPECTIONS, 1934.

Infectious Disease	542
Work in course of construction	2053
Slaughterhouses	4385
Bakehouses	121
Dairies, Cowsheds and Milkshops	566
Markets	438
Outworkers	20
Common Lodging Houses	17
Fried Fish Shops	893
Re-visits	2300
Miscellaneous	2618
Workshops	485
Ice Cream Shops	68
Butchers' Shops	497
Contacts with Smallpox	8
Pig-killing on private premises	64
House-to-House Inspections	296
TOTAL	15371

DEFECTS IN OUTWORKERS' PREMISES.

Dirty Floors	—
Dirty Ceilings	1
Dirty Walls	1
Defective Roofs	1
,, Water-closets	—
,, Floors	—
,, Yard Paving	—
,, Firegrates	—
,, Walls	1
,, Drains	—
Other Defects	2
TOTAL	6

INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Occupiers Prosecuted (4)
Factories (including Factory Laundries)	181	5	Nil.
Workshops (including Workshop Laundries)	266	14	Nil.
Workplaces (other than Outworkers Premises)	38	—	Nil.
TOTAL	485	19	Nil.

DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.—Contd.

Particulars. (1)	Number of Defects. Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	Number of Offences in respect to which Prosecutions were Instituted. (5)
Nuisances under the Public Health Acts :—*				
Want of cleanliness	51	50	....	....
Want of ventilation	3	3	....	....
Overcrowding	....	....	....	....
Want of drainage of floors	1	1	....	....
Other nuisances	23	18	....	....
Sanitary accommodation { insufficient	....	....	....	....
Sanitary accommodation { unsuitable or defective	16	16	....	....
Sanitary accommodation { not separate for sexes	....	....	....	....
Offences under the Factory and Workshop Acts :—				
Illegal occupation of underground bakehouse (s. 101)	....	....	....	....
Other offences (Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921)	....	....	....	....
TOTAL	94	88	....	....

* Including those specified in Sections 2, 3, 7, & 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

DISINFECTANTS.

Number of Applications	2407
Number of Applications Granted	2347
Quantity given : Fluid	274 gals. 3 qts. 0 pts.
Powder	1 cwt. 1 qr. 9 lbs.

DISINFECTION.

Cases of Cancer	30
,, Consumption	40
,, Infectious Disease	450
,, Smallpox	—
Verminous Rooms	540
School Rooms Disinfected	—
School Shawls ,, ...	—
Library Books ,, ...	84
Lots of Bedding ,, ...	627
Lots of Bedding Destroyed	46
Animals Destroyed	4
Miscellaneous Articles Destroyed	56
Miscellaneous Articles Disinfected	—

DAIRIES, COWSHEDS AND MILKSHOPS.

Dairies and Milkshops	69
Cowsheds	21
Milk Purveyors from outside the Borough	41
TOTAL	131

One farm, one bottling establishment and one dairy are licensed for the production or distribution of Grade A (Tuberculin Tested) Milk. One farm and three milk shops are licensed for the production and distribution respectively of Grade A Milk. There are five retailers who are licensed to sell Pasteurised Milk, and two licences have been issued for the pasteurisation of milk within the Borough. There is one retailer from outside the Borough, who possesses a subsidiary licence to sell Grade A (Tuberculin Tested) Milk within the Borough, who also sells Grade A and Pasteurised Milk.

Inspections	566

DAIRIES, COWSHEDS AND MILKSHOPS—Contd.

NUISANCES FOUND—	
Dairies requiring limewashing	37
Cowsheds requiring limewashing	40
Dirty yards	1
Defective paving	10
Offensive accumulations	4
Defective ceiling plaster	—
Unsuitable and dirty utensils	—
Milk and containers uncovered	9
Defective floors	3
Defective vent shafts	1
Dirty conditions	10
Insufficient water supply	—
Choked drains	—
Defective water-closets	—
Defective drains	1
Miscellaneous	34
TOTAL	150

SLAUGHTERHOUSES.

Registered	8
Licensed	12
TOTAL	20
Number of Inspections	4385
NUISANCES FOUND—	
Requiring limewashing	20
Want of cleanliness	8
Insanitary condition of pens and yards	4
Offensive accumulations	3
Choked drains	5
Other defects	8
TOTAL	48

COMMON LODGING HOUSES.

On Register	1
Number of persons for whom accommodation is provided :—Adults, 111 ; Children 8.	
Inspections	22

RATS AND MICE (DESTRUCTION) ACT, 1919.

The following is a table showing the work carried out by your officer under the above Act during the year under review :—

Rats Caught	Complaints Received	Due to Defects of Drains or Sewers.	Due to Structural Defects.
5,955	366	35	10

BAKEHOUSES.

Factory Bakehouses	20
Workshop Bakehouses	9
Domestic Bakehouses	1
TOTAL	30
Number of Inspections	121

NUISANCES FOUND—

Limewashing overdue	65
Dirty yards	—
Ceilings requiring re-painting	—
Choked drains	—
Dirty W.C. pans	2
No separate accommodation for sexes	—
Accumulations of manure	—
Defective yard paving	1
Defective vent shafts	—
Want of cleanliness	5
Other defects	3
TOTAL	76

FOOD SUPPLY.

There are on the registers of the Department—

Butchers' Shops	96
Butchers' Stalls (in covered market)	3
Wholesale Meat Store	1
Fried Fish Shops	43
Ice Cream Shops	163
Cooked Meat Shops	40

and these premises are regularly inspected by your officers.

MEAT AND FOOD DESTROYED.

	Tons	Cwts.	Qrs.	lbs.
Carcases of Beef and Offal	7	2	1	2
Portions of Beef and Offal	1	18	3	26¾
Carcases of Veal and Offal		4	0	6
Carcases of Pig and Offal	1	9	3	27
Portions of Pig and Offal		11	2	20
Carcases of Mutton and Offal		4	3	19
Portions of Mutton and Offal				2½
Heads	1	18	1	15¼
Lungs		9	2	7
Livers		12	2	18¼
Hearts				20¼
Legs			1	4¼
Kidneys				3¼
Plucks		11	2	11¼
Offal		9	2	25½
Chilled Beef		3	0	14
Frozen Pork				7½
Frozen Mutton				4
Shoulder of 'Boneless' Meat				25
Prawns			2	7½
Mackerel			1	22
Megrim			1	16
Skate				12
Fish Fillet		1	0	8
Box of Mixed Fish		1	0	0
Sausage Casings				10
10 Turkeys			3	25½
55 Rabbits				—
36 Bags of Potatoes				—
16 Tins of 'Lady-Dane' Plums				—
3 Tins of 'New Sandring' No. 2 Peas				—
TOTAL	16	2	1	23¾

PUBLIC HEALTH (MEAT) REGULATIONS, 1924.

The following table shews the number of carcases inspected during the year, together with the approximate average per week.

	Beasts	Calves	Pigs	Sheep	Total.
Total inspected....	982	2972	5422	6928	16,304
Approximate average per week.	19	57	104	133	313

CLASSIFICATION OF DISEASES FOUND IN THE UNSOUND FOOD.

	Tons	Cwts.	Qrs.	lbs
Abscesses		4	3	3
Angioma		1	0	5
Blood Aspiration				27
Bone Taint		1	1	15
Bruising		12	0	9½
Cirrhosis			3	15½
Coccidiosis (Rabbits)				—
Contamination				25
Cystercercus Tenuicollis			1	10¼
Decomposition		2	2	27
Degeneration			3	25
Distomum Hepaticum		5	2	11
Dropsy		3	0	5
Echinococcus Veterinorum				¼
Fatty Infiltration		3	2	17
Icterus			3	10
Inflammation		3	3	7¾
Jaundice			2	17
Johnes Disease		6	1	26
Mastitis				15
Melanosis				4
Moribund		1	3	27
Necrosis			2	7½
Nephritis			1	24½
Oedema		2	1	19½
Oesophagostoma Collumbianum				10
Parturition		13	1	2
Pericarditis		4	0	2½
Peritonitis		1	0	16
Pleurisy			3	4½
Pneumonia		8	3	0
Pyaemia		11	1	8
Sapraemia			2	6
Sarcoma				8
Septic Metritis		11	3	14
Strongylus Filaria				9
Strongylus Paradoxus				8
Synovitis		1	2	7
Tuberculosis	10	5	3	7½
Unsoundness		8	2	15½
TOTAL	16	2	1	23¾

TABLE SHOWING THE RESULTS OF THE BACTERIOLOGICAL EXAMINATION OF MILK SAMPLES.

No. of Sample	Organisms per 1c.c.	T.B.	Coli per $\frac{1}{100}$ c.c.	Other organisms present.	Sediment per half-pint.
1.	7,000	—	—	—	—
2.	9,900	—	—	—	—
3.	9,300	—	—	—	—
4.	30,500	—	+	Mastitis	—
5.	185,000	—	—	—	—
6.	229,000	—	—	—	—
7.	4,700	—	—	—	—
8.	45,000	—	—	—	—
9.	15,000	—	—	—	—
10.	20,500	—	—	—	—
11.	8,100	—	—	—	—
12.	780,000	—	—	—	—
13.	70,000	+	—	Mastitis	—
14.	112,000	—	—	—	—
15.	208,000	—	—	—	—
16.	860,000	—	—	Mastitis	—
17.	over 1,000,000	—	—	—	—
18.	22,500	—	—	Mastitis	—
19.	34,000	+	—	Mastitis	—
20.	over 1,000,000	—	—	Mastitis	—
21.	76,000	+	+	Mastitis	—
22.	18,900	—	—	—	—
23.	58,000	—	—	—	—
24.	492,000	—	+	Mastitis	—
25.	7,600	—	—	—	—
26.	113,000	—	—	—	—
27.	18,700	—	—	Mastitis	—
28.	2,400	—	—	Mastitis	—
29.	608,000	—	+	—	—
30.	7,200	—	+	Mastitis	—
31.	648,000	—	+	—	—
32.	193,000	—	+	—	—
33.	over 1,000,000	—	+	Mastitis	—
34.	289,000	—	+	Mastitis	—
35.	341,000	—	—	Mastitis	—
36.	744,000	—	+	—	—
37.	1,000,000	—	+	—	—
38.	1,000,000	—	+	—	—
39.	612,000	—	+	Mastitis	—
40.	over 1,000,000	—	+	—	—
41.	over 1,000,000	—	+	—	—
42.	992,000	—	+	Mastitis	—
43.	560	—	—	—	—
44.	170	—	—	—	—
45.	17,100	—	—	—	—
46.	22,500	—	+	—	—
47.	248,000	—	+	—	—
48.	18,300	—	+	—	—
49.	609,000	—	—	—	—
50.	227,000	—	+	—	—

TABLE SHOWING THE RESULTS OF THE BACTERIOLOGICAL EXAMINATION OF MILK SAMPLES–*contd.*

No. of Sample	Organisms per 1 c.c.	T.B.	Coli per $\frac{1}{100}$ c.c.	Other organisms present.	Sediment per half-pint.
51.	19,200	—	—	—	—
52.	410,000	—	—	—	—
53.	111,000	—	+	—	—
54.	544,000	—	—	—	—
55.	148,000	—	+	—	—
56.	over 1,000,000	—	+	—	—
57.	600	—	—	—	—
58.	900	—	—	—	—
59.	1,000	—	—	—	—
60.	1,300	—	—	—	—
61.	19,800	—	—	—	—
62.	9,600	—	—	—	—
63.	7,400	—	—	—	—
64.	4,900	—	—	—	—
65.	3,300	—	+	—	—
66.	3,100	—	+	—	—
67.	900	—	—	—	—
68.	1,180	—	—	—	—

HOUSING.

Number of new houses erected during the year :—

(*a*) Total (including numbers given separately under (*b*)) 273

(*b*) With State assistance under the Housing Acts :—

(i) By the Local Authority 23

(ii) By other bodies or persons .... —

I. INSPECTION OF DWELLING-HOUSES DURING THE YEAR :—

(1) (*a*) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts) 965

(*b*) Number of inspections made for the purpose 1713

(2) (*a*) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925 206

(*b*) Number of inspections made for the purpose 346

(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation 3

(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation 861

II. REMEDY OF DEFECTS DURING THE YEAR WITHOUT SERVICE OF FORMAL NOTICES :—

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers 748

III. ACTION UNDER STATUTORY POWERS DURING THE YEAR :—

A. Proceedings under Sections 17, 18 and 23 of the Housing Act, 1930 : ....

(1) Number of dwelling-houses in respect of which notices were served requiring repairs 2

(2) Number of dwelling-houses which were rendered fit after service of formal notices :—

(*a*) By owners .... Nil

(*b*) By Local Authority in default of owners .... Nil

B. Proceedings under Public Health Acts :

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 7

(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—

(*a*) By owners 7

(*b*) By Local Authority in default of owners .... Nil

C. Proceedings under Sections 19 and 21 of the Housing Act, 1930 :

(1) Number of dwelling-houses in respect of which Demolition Orders were made .... Nil

(2) Number of dwelling-houses demolished in pursuance of Demolition Orders .... Nil

D. Proceedings under Section 20 of the Housing Act, 1930 :

(1) Number of separate tenements or underground rooms in respect of which Closing Orders were made .... Nil

(2) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit .... Nil

DISINFECTION OF VEHICLES AT THE CATTLE MARKET.

Month.	No. of Vehicles Disinfected.	Fees Received.	Expenditure.
		£ s. d.	£ s. d.
January	294	7 7 0	4 7 0
February	226	5 13 0	2 13 0
March	183	4 11 6	2 9 0
April	214	5 7 0	2 16 0
May	163	4 1 6	2 6 0
June	129	3 4 6	2 11 0
July	151	3 15 6	2 14 0
August	151	3 15 6	1 16 0
September	190	4 15 0	2 11 0
October	296	7 8 0	3 8 0
November	237	5 18 6	2 9 0
December	209	5 4 6	3 10 0
TOTALS	2443	61 1 6	33 10 0