[Report 1921] / Medical Officer of Health and School Medical Officer of Health, Swindon Borough.

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Borough of Swindon.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1921.

BY

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

ANNUAL REPORT of the SCHOOL MEDICAL OFFICER

FOR THE YEAR 1921.

REPORT OF THE CHIEF SANITARY INSPECTOR,

FOR THE YEAR 1921.

SWINDON,
John Drew (Printers), Ltd., 51, Bridge Street.

BOROUGH OF SWINDON.

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Vice-Chairman—Alderman J. POWELL.

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BOROUGH OF SWINDON.

PUBLIC HEALTH DEPARTMENT.

Staff.

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

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

Assistant Medical Officer of Health.

ISABEL MITCHELL, B.Sc. M.B., Ch.B., D.P.H., A.I.C.
(OBIT. 25–7–21).

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Assistant Sanitary Inspectors	÷*F. H. BEAVIS & ‖*E. PARTRIDGE
Head Clerk	W. FRANK MELLOR
Clinical Assistant	MISS I. M. DAVIS
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	Mrs. CURTIS
	Mrs. HUMPHRIES
	Mrs. PADGETT

* Certificate of the Royal Sanitary Institute.
§ Certificate of the Worshipful Company of Plumbers.
† 3 years' Certificate of Hospital training.
‡ Certificate of the Central Midwives Board.
‖ Certificate of the Royal Sanitary Institute for Meat Inspection.
÷ Certificate in Building Construction.

To the Chairman and Members of the Public Health Committee.

LADIES AND GENTLEMEN,

I have pleasure in presenting the Annual Report upon the health conditions prevailing in the Borough of Swindon during the year 1921.

The personnel of the Department was the same as in the preceding year with the important exception of the loss, by death, of the services of Dr. I. Mitchell, the Assistant Medical Officer of Health. Dr. Mitchell was compelled to relinquish her work at the end of April and, after lingering for three months, died on the 25th July, 1921. Her death was a serious loss to the Department as her medical attainments and personality were great assets and their loss has been very keenly felt.

For the last eight months of the year the Department was run with one medical officer only and as the work, particularly in the School Medical Section, underwent a very considerable development during the year, it was only with the utmost difficulty that the various activities of the Department could be carried on without curtailments that would have been injurious to the Public Health of Swindon. It was felt that it would have been injudicious to have abandoned any part of the work which directly affects the present health and future wellbeing of the rising generation, so that what curtailments of work had to be made, were made in the recording and compiling of statistical evidence.

The Minister of Health has authorised some alterations in the reports of Medical Officers of Health, relieving us from a yearly record of matters which are of a more or less stationary character, so preventing the reports from containing the same details year after year. This is most welcome, particularly when reviewing such a year as 1921, which presented problems of the highest interest and importance which need all the space and time that can be devoted to them.

Certain other changes have been introduced into the Report for the past year. It has been considered advisable to combine the Report of the School Medical Officer with that of the Medical Officer of Health, as the matters dealt with by the School Medical Officer are in the main an integral part of general public health administration.

It has also been deemed advisable to place all the statistical tables in an appendix, instead of littering them about the text, for it is felt that the report of the Medical Officer of Health should be a document of considerable interest to the population at large and the general reader will gain more by reading a continuous text than by having his attention constantly diverted by tables; which he is usually quite prepared to take on trust on condition that he knows where to find them should they excite his curiosity. For those to whom the statistical tables are of the greatest interest and importance, it will prove an advantage to have them free from comments, for those who are capable of extracting true evidence from statistics are hampered rather than helped by comments and explanations.

The year 1921 was an important and difficult one from the point of view of Public Health. Many circumstances over which we have no control were against us; the financial condition was a cause of anxiety to all concerned; the necessity for economy was urgent. Everything had to be run on the cheapest basis consistent with efficiency, and very often it happened that efficiency was menaced by the further call for economy. Fortunately in the year under review the efficiency of the Public Health administration could be maintained, and it was maintained.

Money was scarce among the population at large. There was much unemployment and much short time. The expenses of living were indeed reduced somewhat from the high level of the previous year, but not sufficiently to make amends for the general lack of prosperity.

The meteorological conditions during the year were such as are without parallel in the recollection of anybody now living. The warm dry Winter was to some extent favourable to the health of the aged; the warm dry Spring was favourable both to the aged and to the subjects of affections of the lungs; but the hot and rainless Summer, and the almost equally hot and rainless Autumn were unfavourable to all members of the population, and particularly to the infants. Judging from past experiences of hot dry years, it might have been expected that the year 1921 would stand out with an unfavourable notoriety of having the highest Death Rate and Infant Mortality Rate on record. Fortunately the progress of medical science, and particularly of preventive medicine, during the past twenty years provided us with a means of robbing unfavourable meteorological conditions of their chief terrors so that it will be seen from the Reports, both of this town and of other parts of the country, that the mortality statistics for 1921 are not unfavourable. Comparing the year just passed with 1899; which is the nearest approach to it in weather con-

ditions; it will be possible to judge the enormous advance that has been made in preventive medicine, particularly in the suppression of infantile diarrhoea, the most fertile cause of death of all diseases which occur in temperate climates.

The work of the Public Health Department falls under two heads. The first deals with those factors which influence the health of the population as a whole, such as Water supply, Drainage, the prevention of Epidemic Diseases etc. The second is of modern introduction, dating from the introduction of the medical inspection of school children in 1907. Unlike the older activities of Public Health, these newer activities seek to apply the principles of preventive medicine separately to each individual of the community. At present such action is confined to children, and it is questionable whether its application to adults is altogether feasible, but as regards the rising generation there can be no question that by applying the principles of prevention to suit each individual unit, a vast amount of human disease, possibly the majority of human disease, can be eliminated.

It will be well to review briefly the arrangements that have been made by the Swindon Town Council for applying the principles of preventive medicine to the individual members of the community. From what follows it will be seen that these arrangements are very fairly complete for dealing with all citizens from the time of conception until the completion of puberty. After that age is attained, and the individual citizens have assumed the adult condition, there is no further provision made for dealing with them individually, except in exceptional circumstances.

PROSPECTIVE MOTHERHOOD.

Women who are expecting to become mothers are visited by the Health Visitors. During 1921 191 visits were paid in this connection.

An Ante-natal clinic was started in 1920, and some progress was made during 1921. Owing to the lack of staff the progress made was less than was hoped for, but in the coming year the ante-natal work will be developed. During 1921 80 prospective mothers attended the Ante-natal Clinic, involving 117 consultations.

Expectant mothers in necessitous circumstances can obtain extra milk for their own consumption on application to the Health Office. There are indirect means for relieving prospective mothers who are in dire necessity, but there is not at present any satisfactory official method of dealing with these cases. There is no hostel for unmarried mothers in Swindon, nor is any arrangement made to deal with such cases.

The necessity for ante-natal work is obvious. Though child-bearing is a purely physiological process, it is apt to become pathological, and is indeed the cause of much anxiety, of death, and of subsequent life-long incapacity, most of which is preventable. The means for dealing with the expectant mother are not yet fully developed for there are great difficulties, both medical and social, to be overcome. It is difficult to get in touch with pregnant women. There are roughly nine hundred expectant mothers in Swindon at any given time, and the number which become known to the Health Department prior to the birth of the child is small, certainly not more than 25 per cent. The medical difficulties connected with the subject are great owing to lack of theoretical knowledge, which itself is owing to past neglect in the collection of evidence. Even with our present knowledge much can be done to diminish the dangers of child-bearing, and there is no doubt that future research will enable us to rob child-bearing of most of its dangers.

THE MOTHER IN CHILDBIRTH.

Swindon possesses a small maternity home with two beds for lying-in women. This institution is utterly inadequate to meet the needs of the population, and a new maternity home, containing ample accommodation will come into being in the course of the new year. A copy of the regulations affecting the new Maternity Home will be found in the appendix.

The vast majority of women are delivered in their own homes. This is as it should be, but provision is necessary for women who have no, or much overcrowded or insanitary homes, or whose delivery is fraught with special difficulty or danger. These cases require to be delivered in institutions in order to reduce the dangers to a minimum, and it is on behalf of these cases that a lying-in hospital is necessary. In Swindon the great majority of women engage a midwife to attend them during delivery. Only about seven per cent engage a doctor at first. The Midwives' Act is administered by the County Authorities, but the local Medical Officer of Health has certain duties to perform in connection with the midwives of the town, and is able to afford assistance to the County Medical Officer in local administration.

Every birth is notified to the local Medical Officer of Health within forty-eight hours of its occurrence, and ten days after the receipt of notification the mother and child are visited by the Health Visitor.

THE NURSLING.

The machinery for dealing with the health and rearing of infants is in a very satisfactory condition. There is an Infant Welfare Centre at Eastcott Hill, where a clinic is held every Wednesday and Friday. The Medical Officer of Health or his Assistant is in attendance throughout. There are subsidiary centres—one at Gorse Hill and one at Rodbourne, at which clinics are held on Tuesdays and Thursdays respectively. At these clinics the Medical Officer of Health or his Assistant attends when required. Most cases requiring the doctor's opinion are referred to Eastcott Hill. In times of epidemic mothers can seek advice at Eastcott Hill at any time; indeed they can do so at all times in cases of urgency.

These infant clinics exist for the purpose of advising mothers upon the management of infants, and for the suppression of any factors which are interfering with the proper development of infancy. Their object is to control infantile disease and to stop the slow development of incapacity which originates in babyhood. Of all the activities of the Health Department, the Infant Clinics are the most important. Their direct effect on preventing death and disease in infancy is great, and their influence in preventing the development of disease later in life is incalculable. Where infant welfare has been satisfactorarily established very little infantile disease is seen, for the factors which produce disease can be detected, and usually eliminated, before actual disease has occurred. In Swindon the infant clinics are well patronised, the number of children on the books being about half as much again as the number of births registered. This means that between 80% and 90% of the children born in Swindon attend the Infant Welfare Centres.

THE TODDLER.

The toddler may be defined as a human being between the ages of 2 and 5 years. Provision is made for supervising and dealing with these toddlers at the Infant Welfare Centres. The attendance of this class at the centres is not very good. There will be about 2,500 toddlers in Swindon, and of this number only about 60 were attended to at the clinics during 1921. There are several reasons for this low attendance. In the first place the diseases of the toddler are usually of an acute character and accompanied with fever. When the toddler gets off colour he usually does so acutely, and in a manner which directs attention to him immediately. He is, therefore, usually sent to bed at once, and medical assistance summoned. Such cases are not suitable for attention from a clinic. Apart from these acute disturbances, the toddler age is one which is not very prone to the development of chronic disease

but unfortunately it is by no means free from it, and the chronic diseases of this age usually escape detection unless systematically searched for. It is a matter of experience that the majority of chronic diseases of the toddler age are neither detected nor treated until the child enters school and is submitted to medical inspection. This is unfortunate, because many defects, such as those of the ear, eye or mouth, and more serious affections such as Asthma and organic diseases of the nervous system, offer considerable hope of complete cure during the first few years of life, but are very refractory after the school age is reached. A good deal of the supervision of the toddlers is carried out by the Health Visitors in the course of their other duties, but this part of the work requires to be better organised, as much of the information obtained is lost under the present system. The problem of getting a systematic supervision of toddlers is one urgently calling for attention, and though the matter presents difficulties, these are not insurmountable, and it can be hoped that during the coming year considerable progress may be made in this connection.

THE SCHOOL CHILD.

It will be seen from the Report of the School Medical Officer that the arrangements for dealing with the detection and treatment of disease in the school age are fairly complete.

THE CHILD IN PUBERTY.

The extension of medical inspection and treatment to children attending the Secondary and Continuation Schools places these in the same favourable condition as they were in the earlier years of their school life. Puberty is the age of the greatest strain upon the organism, and the future life of the population is, to a great extent, dependent upon proper care and treatment during the time when the human being is passing from the infantile to the adult condition.

LIFE AFTER PUBERTY.

When the child has finally left school the Health Department ceases to direct attention to him as an individual. Should he develop Infectious Disease, Tuberculosis or Venereal Disease, or should he be mentally defective, he will again come under the perview of the official medical department as an individual, but not otherwise. Many schemes have been suggested for the medical supervision of the population after childhood, but for the present no scheme for dealing with the adult population individually is feasible, though there is no doubt that in the course of time some such scheme will be devised, when it may be hoped that the diseases and disabilities of adult and middle age may prove as amenable to prevention as those of the earlier part of life have already done.

SANITARY CIRCUMSTANCES OF THE DISTRICT.

As the Minister of Health does not desire a general survey of the sanitary circumstances of the district more than once in five years, it will only be necessary to give a brief description of the special conditions ruling during the past year. Notwithstanding the call for economy and the generally unsettled state of money and labour, very considerable progress was made during 1921 in dealing with the more important sanitary defects of the district. It was mentioned last year that the difficulties in Swindon were in the main due to the fact that the town had long since outgrown the sanitation which it inherited from the combination of the two now obsolete urban districts. As fairly extensive work was necessary to remedy the existing faults there has been some reluctance to deal with them on a big scale; but matters not having become easier with the lapse of time, it is felt by the Council that a start must be made to raise the sanitation of the town to a point equal to its needs. The reconstruction of the sewage outflow works at Rodbourne under the direction of Mr. Midgley Taylor is now in hand. The provision of a new storm water sewer, which will relieve the town from flooding and also drain the canal, is in course of construction. The total abolition of the canal, one of the great nuisances of the district, will follow when the new storm water sewer is completed. Some progress was made with the driving of the new adits at Ogbourne Waterworks; but the coal strike and later, the difficulties of maintaining the water supply, interfered greatly with the progress, so that unfortunately, some considerable time must still elapse before the work is completed. When completed, the waterworks of the town will be capable of maintaining an adequate supply of water to the Borough under all ordinary circumstances. Whether the waterworks of the town when completed would be able to cope satisfactorily with such a year as the past, or as the present will be unless abundant rain falls in the late Winter, remains to be seen.

A new water main is about to be laid to increase the supply of the northern part of the town, which in time of scarcity suffers more than any other quarter.

LAVATORIES AND PUBLIC URINALS.

During the past year a great amount of attention was paid to the public conveniences and two special sub-committees of the Health Committee were appointed to investigate the condition of the ladies' and gentlemen's conveniences, respectively. Considerable improvement has been effected, particularly in regard to the ladies' lavatories, and in the near future, further improvements will be carried out.

There has been no alteration in connection with the collection and disposal of house refuse during the year. The manner of disposal adopted, *i.e.*, tips, is open to many objections, and on occasion gives rise to complaints. It must be admitted frankly that at present there is no really satisfactory method of disposal of house refuse. The only solution of the problem of removing the nuisance and danger of domestic refuse lies with the householders themselves. When the education of the public has reached that state when the householder will automatically burn or bury his organic refuse, the problem will be solved. Until this lesson is learned the problem will remain insoluble.

WATER SUPPLY.

The water supply of the Borough caused considerable anxiety to the Waterworks Committee in respect to its quantity; and necessitated a continuous watch by the Health Department in connection with its quality. As the water supply of Swindon is derived from deep sources, it follows that the quantity available depends upon the amount of water present in the deep water-bearing strata, which in its turn, is ultimately dependent upon the rainfall. The rainfall for 1921 was roughly fifty per cent of the average. In an average year over fifty per cent of the actual rainfall is evaporated and does not percolate to the water-bearing strata. In the hot dry year we have experienced, the amount of evaporation would have been greater than normal and in all probability exceeded the actual rainfall, so that no water will have percolated to keep up the underground supply. It is therefore probable that in the past year the water supply has been obtained by drawing upon the reserve. It is quite obvious that this state of affairs causes considerable anxiety, for not only does it mean that the amount of water that can be pumped with safety must be smaller than what is desired, but one is confronted with the continual fear that it might, at all events temporarily, become totally exhausted. It was therefore necessary throughout the year to limit as far as possible the consumption of water in the Borough. During the greater part of the dry season the Corporation was able to augment its available supply of water by the gift by the Great Western Railway Company of some 220,000 gallons per day from their source of supply at Kemble; but towards the end of the year the Great Western Railway Company had to curtail this supply very considerably, so that the position at the end of the year was worse than at any period. Considering the difficulties, the water supply of the town was maintained as satisfactorily as possible. There were complaints from the North and West of the Borough that these districts were unfairly treated and that the inhabitants of these sections were kept very short when other parts of the town had a sufficient supply. These complaints were

reasonable, but were due to causes over which the Corporation had no immediate control. It has been mentioned already that the Corporation is now laying a new water main which will serve these parts, and so lead to a more equitable distribution of water in times of scarcity. About the middle of August the water supply of the town suffered considerably from an unfortunate accident. The chief main from the waterworks to the reservoir burst, leaving large portions of the town without any available water for a few days. The defect was remedied immediately but it was found that owing to the poor head of water obtainable, further difficulties occurred owing to air locks. In time this difficulty also was overcome, but the position remained serious and became increaseingly serious owing to the continued lack of rainfall.

The question of the purity of the water supply was also one of great anxiety. Normally the water from Ogbourne is of a high state of purity and that from Wroughton, though less pure and more variable is of fair quality. All the water supply of the town is chlorinated at its source to ensure further a perfectly harmless supply. But as the underground water supply continued to shrink, fears were entertained that the water might become contaminated by suction of effete matter from sources of pollution which, when the supply is abundant, would be negligible; and further, that when the water did again begin to percolate after a few rainy days in the late Summer and Autumn, there might be washed into the water supply large numbers of surface organisms, some of which might possibly possess the power of producing disease. In order to watch the position and be prepared to act immediately, a large number of samples of water were submitted to chemical and bacteriological examination. From the result of these repeated observations the Medical Officer of Health is satisfied that there are no sources of severe pollution, such as leaking cesspools, sewage works, &c., liable to contaminate the water supply. Washing in of surface organisms did indeed occur, so that on several occasions the bacteriological examination of the water showed a high content of organisms. These were, however, tracked out, and it was found that the vast majority of them were perfectly harmless; that no definite disease-producing organism was ever present and that the only organism looked upon with suspicion, *i.e.*, the Bacillus Coli in its typical forms, was only present on three occasions, in two of which cases the cause of the contamination was traced and remedied. On the third occasion in which this organism was detected the cause was not discovered with certainty, but whatever it was, it ceased to operate within two or three days.

No disease traceable to contaminated water occurred in Swindon during 1921, nor did anything deleterious occur which could be traced with certainty to the lack of quantity, though we

are not prepared to say that the diminished quantity of water available for the use of the householders did not produce a certain amount of danger to the Public Health.

One danger that had to be guarded against was that householders, finding themselves short of the town water, would look about for other sources to augment the supply. The chief fear was that the water in the canal might be utilised for domestic purposes, and there is reason to believe that in some cases this was done. It is not suggested that such water was ever used for drinking or cooking purposes, but that it was used for washing yards, etc. A sample of this water was examined to determine its degree of pollution and it was found that this was so high that there was a danger in using such water for any purpose whatever.

FOOD SUPPLY.

Much attention is given to the inspection of foodstuffs in this Borough and on the whole the results show that the food supply of Swindon is good. During the year under review there were two causes for anxiety on the food question, which were more prominent than is usually the case. The continued long spells of hot weather kept us on the look-out for food that had undergone putrefactive changes, but probably owing to the general dryness of the atmosphere, and possibly to a less extent owing to the absence of wind and consequently of dust, the amount of food which had undergone decomposition which came to our knowledge was small. A second factor which required attention was that there were on the market very large quantities of tinned provisions of a somewhat old date and it was necessary to keep a careful look-out for cases of food poisoning due to this cause.

In the late Summer and in the Autumn, flies were more than usually abundant, so that the chance of food contamination from this source was higher than usual. Yet so far as is known no case of food poisoning occurred in the district. Several cases occurred in which the question of food poisoning had to be considered, but all these cases proved to be due to conditions other than food poisoning. On the other hand Swindon suffered very considerably from diarrhoeal diseases during 1921, and it is not impossible that some of these may have been due to decomposed or infected foods, though in no case was the evidence sufficiently strong to warrant a decision that they were so caused.

HOUSING.

50 houses, built under the Corporation scheme, were ready for occupation and were occupied during 1921. Also 4 houses

built by private contractors were inhabited during the year. There will be some extension during the coming year of houses, built both by the Corporation and by private firms, but it must be admitted that these will go but a short way to relieve the housing shortage in the town.

Some of the difficulties experienced in past years were lessened during 1921. Labour was less scarce and less expensive, but the cost of material was still high. Considerable progress was made in the town in getting the most glaring defects in the houses of the working classes remedied, but this work will have to progress at greatly accelerated speed to bring the housing conditions of the town into a satisfactory condition. The tables in the Appendix give details of the actual progress made. All defects dealt with so far have been remedied under the Public Health Acts, but it is now becoming feasible to utilise the powers we possess under the Housing of the Working Classes Acts to improve the general housing of the population. It is obvious that the work of ameliorating the domestic amenities of a town can only progress gradually for it is enormously costly and has to be so carried out that no party shall have just cause for grievance.

The population of Swindon, according to the latest census, is 55,500, and the number of inhabited houses is 12,470—roughly 4.4 persons per house. These figures would not suggest that there was much overcrowding in the town, but they only tell us one small part of the story. Investigations into individual houses show that there is a good deal of overcrowding in Swindon; a certain amount of such overcrowding as constitutes a Public Health nuisance and a great deal more of overcrowding and lack of accommodation, which, though it may not interfere seriously with the health of the population, has a crippling effect upon the industry and the morality of the people. The number of lodgers in the town is large, and the number of families who ought to live in separate houses but who can only find the unsatisfactory accommodation of lodgings is larger still. It is true, as a general rule, that no house can accommodate more than one family with reasonable comfort and convenience, and in this town there is very far from a sufficient number of working-class houses to go round.

There is still a large amount of delapidation left over as a legacy from the war years, when repairing was impossible, but arrears are being made up gradually and it should be possible, within the next two years, to bring the housing of the district to a level at least as high as it was in pre-war days.

CONTROL OF INFECTIOUS DISEASE.

The condition of Swindon as regards infectious disease during 1921 was extremely favourable. From Enteric Fever, Smallpox, Encephalitis Lethargica and the less common contagious diseases, Swindon was completely free.

SCARLET FEVER.

It will be seen from the table in the Appendix that Swindon remained nearly free from Scarlet Fever until October, when it was visited by an epidemic of considerable magnitude as regards numbers, though of very trivial importance as regards severity. This epidemic had given due notice of its approach. From time to time during the late summer, isolated outbreaks of the disease occurred, but as these cases were of average severity they promptly became apparent, so that means for preventing the spread of the disease were not difficult to devise and were uniformly successful. But in October the condition of things began to change. Cases of an extremely mild type, causing nothing further than a couple of days indisposition, began to appear. These escaped notification until the development of typical peeling revealed the nature of the complaint. Towards the middle of October, children showing typical peeling from Scarlet Fever were discovered either at the clinics or during the school scrutiny, so that we realised that an outbreak of Scarlet Fever was imminent; that the most satisfactory means of preventing its spread could no longer be applied, and that as the town had not been visited by an epidemic for some years, the outbreak was likely to be extensive. 128 cases of Scarlet Fever were notified during October, November and December. At the end of the year the epidemic had not abated, but it showed signs that it was on the wane. The great majority of the cases were of a trivial nature. There was one case only of the toxic variety, which of course proved fatal, and there was not above a dozen cases in which the illness was at all severe. Complications were practically non-existent, so that with the exception of the anxiety, waste of time and general interference with activity Swindon is little the worse for the epidemic. Indeed, in one respect it has gained, for the epidemic has augmented the immunity of the population, so that should an epidemic of Scarlet Fever of severe type visit the town, it will find a great number of the population immune. The mildness of the epidemic, however, brought its own difficulties and dangers. The number of cases notified, *i.e.* 158, does not represent the number of persons who had the disease. We are satisfied that not more than sixty per cent of the cases were ever recognised, and even amongst those that were notified, the number who escaped recognition until the peeling stage was very high.

DIPHTHERIA.

The history of Diphtheria in Swindon during 1921 is interesting. When the year started, an epidemic of Diphtheria which had been severe in the closing months of 1920, was definitely on the wane, but it was not finished. During January, February and March, 24 cases of true Diphtheria occurred in the Borough, causing 5 deaths. In March, investigations into the epidemic brought to light the fact that there was one citizen in the town who indirectly had quite unconsciously played a part in the spread of the epidemic. Unknown to this citizen, and unknown to everybody except the Medical Officer of Health, this citizen was rendered incapable of having any share in the further spread of Diphtheria, and the epidemic collapsed absolutely and immediately. Since the collapse of this epidemic, Swindon has been remarkably free from Diphtheria. During the last nine months of the year only 18 cases of true Diphtheria occurred. Of these, one presented practically no clinical symptoms, and a batch of three cases in October, though they presented some clinical features and were infected with the organism, were not cases of true clinical Diphtheria. Leaving out these four cases we are left with 14 cases of true Diphtheria, only one of which ended fatally. These 14 cases belonged to seven distinct outbreaks, not any of which outbreaks accounted for more than three cases. Four of these outbreaks were definitely traced to outside sources; the other three outbreaks could not be traced. At the end of the year Swindon was quite free from Diphtheria.

CEREBRO-SPINAL MENINGITIS, ACUTE POLIOMYELITIS, AND OTHER INFECTIVE DISEASES AFFECTING THE CENTRAL NERVOUS SYSTEM.

One case of Meningitis of obscure origin was diagnosed Post Mortem as Cerebro-Spinal Meningitis by bacteriological examination. A child came up to the Infant Welfare Clinic showing some slight signs of cerebral disturbance. A bacteriological examination of the nasal discharge demonstrated the presence of the organism of Cerebro-Spinal Meningitis but the condition aborted and the child was perfectly well within twenty-four hours. This case was not notified.

Two cases of Acute Poliomyelitis occurred amongst the children attending the Infant Welfare Centre, one in September, and one in December. Since they offered opportunity of immediate treatment, there is reasonable hope that the ultimate result will be very favourable. 15 citizens died from acute brain disease. Of these 11 were cases of Tuberculous Meningitis, 2 of Meningitis of doubtful cause; 1 was diagnosed post mortem as Cerebro-Spinal Meningitis, and 1 was due to Abscess of the Brain caused by ear disease.

OTHER INFECTIOUS DISEASES.

One case of Puerperal Fever, two of Malaria of Continental origin, and twelve cases of Erysipelas were notified during the year. There were 36 notifications of Pneumonia, and the deaths registered as due to this disease were 19. These numbers are unusually small, the meteorological conditions in 1921 being generally favourable against respiratory diseases.

7 cases of Ophthalmia Neonatorum were notified. These will be dealt with fully in a later section of the Report.

DYSENTERY.

6 cases of Dysentery were notified during 1921. One of these cases was definitely a different disease, and one case was of proved Continental origin. This leaves four cases, all children, notified as Dysentery of indigenous origin. Of these, one proved fatal. Extensive bacteriological examination established the fact that these cases were not any of the forms of Dysentery which are common abroad, but were due to a specific infection caused by Morgan's Bacillus. This disease, which has only been recognised in recent years, has caused several epidemics in this country, but how this organism is spread, and where it comes from, are unknown.

The subject, however, as it affects Swindon, called for the closest investigation. Throughout the year diarrhoeal diseases of various kinds had been very prominent. Early in the year two elderly women died from Acute Diarrhoea. During the Summer an epidemic of Infantile Diarrhoea of some magnitude, but of much less magnitude than was expected, occurred, and Diarrhoea, though not in a very serious form, occurred in large numbers amongst the school children and also amongst adults. It may be mentioned that in the beginning of 1922, when Influenza became prevalent, Diarrhoea and gastric disturbances were prominent features in a great proportion of the cases.

There were several matters in 1921 which might either individually or collectively explain the reason for the great prevalence of gastro-intestinal complaints during the year. As has been said before, the meteorological conditions were ideal for producing epidemics of infantile and other forms of diarrhoea, but the researches of recent years have shown us that the influence of weather conditions in the production of diarrhoea is indirect, the mere abnormal temperature is only a predisposing factor. The matters which require closest consideration are the water supply, the food supply, and the prevalence of flies, more particularly the presence of breeding grounds where the flies can propogate and

become infected. The majority of acute intestinal diseases, particularly those of children and infants, are infections and the evidence that the infective material is spread largely, possibly entirely, by flies is very strong, so that a consideration of the fly population of a town becomes one of great importance. It may be stated that house flies will only breed in animal refuse, and only in animal refuse which is in a certain state of decomposition, temperature and moisture. A manure heap of recent origin in warm weather is an ideal breeding place, but it only remains so for a short time. Flies will not breed in old manure heaps. When the air temperature is at a high level the housefly will breed freely in human faecal matter, and becomes infected with the various putrefactive and disease-producing organisms which may occur in human excrement. These breeds of flies are a menace to health. It is not unlikely that these are the only house-flies which are dangerous. In cold wet years, the house-fly cannot breed freely in human faecal matter, but in such a year as the one we are considering it does so in large numbers.

Flies were certainly unusually numerous during the past year, but they did not become a nuisance until the end of the Summer, whereas Diarrhoea became prevalent as early as May. Also, towards the end of November the flies died out, but the intestinal complaints did not die out with them.

The question of the water supply has already been considered. The water can be exonerated on the score of quality, but whether the lack of quantity has had any direct bearing upon the prevalence of diarrhoea can only be surmised. If it is a fact that the water from the canal has been used for the rougher domestic purposes, this certainly may have had some say in the troubles of the past year.

There is no reason to consider that the food supply has had any great bearing upon the matter under consideration. In most cases of diarrhoeal disease that were investigated the factors were not such as are met with in food poisoning, and during the year no undoubted case of food poisoning occurred in Swindon.

TUBERCULOSIS.

The County Council is the authority for the official treatment of cases of Tuberculosis, but the local Medical Officer of Health has several important duties in connection with this disease. In his capacity as Medical Officer to the Child Welfare Centre and as School Medical Officer he will be acquainted with practically all cases of Tuberculosis occurring in children ; he will not, however, come across cases of adult Tuberculosis which includes practically

all cases of Consumption. As regards the Tuberculosis of children, there are several important matters. Chronic Tuberculosis of the lungs does not occur in childhood, though the tubercle bacillus is very active and dangerous in other directions during the early years of life. There are several forms of the tubercle bacillus, the two most important being the human and the bovine strains. Unfortunately humanity suffers severely from both strains, the bovine strain being the worse enemy in childhood. This produces both acute and chronic forms of Tuberculosis. The acute forms are either generalised or else located in the brain, causing Tuberculous Meningitis or brain fever. These acute forms are invariably rapidly fatal. The chronic forms of Tuberculosis of childhood occur in the joints and bones, the glands and the abdominal organs. Most of these diseases are caused by the bovine strain of the tubercle bacillus, and form part of the debt that we pay for allowing the existence of tuberculous cattle.

There has been a very profound change in connection with the picture presented by chronic Tuberculosis in childhood. In former years these diseases were responsible for a vast amount of chronic incapacity, but they are not so formidable now. These forms of Tuberculosis are no less common than they were, but the modern practice of Public Health work, particularly the Medical Inspection of School Children, leads to their detection at a stage before they produce any very obvious symptoms. At this stage they are eminently curable, and do in fact become cured, so that the crippling defects do not have a chance to develop. School inspection has almost stamped out the heart-rending cases of advanced bone and joint Tuberculosis which were seen in their hundreds some twenty or fifteen years ago. Nowadays a child exhibiting the slightest symptom or sign suggestive of such an affection as hip disease or spine disease is put under treatment immediately, and the disease does not develop. It has been stated that this practice of treating immediately cases which are slightly suspicious is a fad, and that the majority of people so treated never had anything important the matter with them. In answer to this the following facts may be recorded :—Since your present Medical Officer has been connected with Swindon he has diagonised six cases as early Spinal Tuberculosis upon evidence which it is frankly admitted is somewhat shadowy. In five of these cases treatment was adopted, and at the end of a few months no evidence whatever of disease could be detected. In the sixth case the evidence was so slight that no treatment was adopted : six months afterwards, this child developed active and extensive disease of the spine and is at present the only case of active spinal Tuberculosis amongst children in the Borough.

Most distressing of all human diseases is Tuberculous Meningitis. These cases always present social factors which render them a

horror to the population at large, and to the members of the medical profession in particular. It is a disease for which no treatment is available, and from which recovery never occurs. The only way in which it will be stamped out is by stamping out Tuberculosis in cattle for there is reason to believe that the disease is mainly, if not entirely, spread by the consumption of Tuberculous milk.

It will be seen from the table in the Appendix that there was some slight improvement in the position of Tuberculosis in the Borough during 1921. This improvement is limited to Pulmonary Tuberculosis in which the number of notifications was the lowest but one since 1914, and the deaths were also the lowest since 1914. On the other hand the deaths from Tuberculous Meningitis and other forms of tuberculous disease were considerably higher than usual.

VENEREAL DISEASES.

The control of Venereal Diseases rests with the Wilts County Council, who, in the early days of the new year, will open a new Centre for treatment at Gorse Hill. Next year it will be possible to give some account of the prevalence of Venereal diseases in Swindon, at present all that we know about them is dependent upon observations in the Maternity and Child Welfare Centre.

CANCER.

56 deaths from Cancer occurred in the Borough during 1921, which is the lowest figure for some time. In spite of this, however, it must be admitted that Cancer is a disease which tends to cause an increasing number of deaths year after year. It is not, however, advisable upon these grounds to submit that Cancer is a disease which is increasing its ravages. For Cancer is a disease of the latter half of life, and its prevalence depends upon the proportion of middle aged persons to the total population. Preventive medicine has succeeded in reducing enormously the Death Rate of the younger members of the population so that a much greater proportion of people live to reach the age at which Cancer manifests itself. In order to sustain the proposition that Cancer was on the increase it would be necessary to prove that the proportion of persons between the ages of 40 and 60 who develop Cancer is increasing, and this, so far as we are aware, has not been done.

NON-NOTIFIABLE INFECTIOUS DISEASES.

Measles, Whooping Cough, Mumps and Chicken Pox were all prevalent during the year, measles causing 6 deaths, and Whooping

Cough, 2 deaths. Chicken Pox was somewhat severe, two cases of the gangrenous variety, both of which fortunately recovered, occurring during the year. Mumps was unusually prevalent, and caused some complications, but no deaths. There was little influenza during 1921, but 11 deaths were recorded as being due to this affection.

BACTERIOLOGY.

In the beginning of the year the only arrangements for bacteriological work which were provided in the Borough were that specimens were sent up to London for examination, and that, very exceptionally, a bacteriological examination was made at Bristol Universtity. This arrangement obviously called for alteration, as it was most unsatisfactory in every respect. It was exceedingly costly; the delay which was occasioned by the transmission to London robbed the investigations of much of their value; and, in the case of contacts with Diphtheria, wasted a large amount of money in the payment of compensation claims. Moreover, owing to the expense and delay bacteriological investigations were not made with anything like the frequency that was desirable. For these reasons it was determined to effect a radical change. In spite of the fact that there was no Assistant Medical Officer, it was decided to proceed with the re-organisation of this section at once; for though it obviously would entail a considerable amount of labour, yet the saving effected would be very great, and the efficiency of the Department considerably augmented. The arrangements proposed and now in being are:—Bacteriological examinations are made whenever desirable. Direct examinations are performed at the Clinic at Eastcott Hill. Cases necessitating incubation are done at the Gorse Hill Isolation Hospital. Bacteriological examinations requiring advanced pathological methods are submitted to Bristol University forthwith.

It is not possible this year to give a complete analysis of the work carried out in this Department, but some idea of its activities can be gathered from the table in the appendix. This is not complete because there was seldom time to record the work done, but the following scheme of action was introduced:—

1. In cases of Diphtheria swabs from every doubtful throat and from every contact are taken, and incubated and examined at Gorse Hill Isolation Hospital. The result is known within eighteen hours of the specimen being taken.
2. In cases of Ophthalmia and Ear Disease, smears from the discharge are examined in every case as a preliminary to treatment.
3. All discharges of pus, sputum, etc., are examined at once.

4. Specimens of hairs from Ringworm cases are examined at intervals, the diagnosis of Ringworm never being given until the fungus is found, and an opinion that the case is cured never being given until a systematic search has failed to reveal the fungus.
5. Examination of blood, where such may give evidence of clinical value, is carried out.
6. Material requiring to be examined by long or difficult processes, or examined for the purpose of manufacturing curative agents, is submitted to Bristol University.

By these means the most modern methods of diagnosis and treatment of disease are rendered immediately available for the inhabitants of Swindon, at a cost which is but a small fraction of what was spent under the older system.

MATERNITY AND CHILD WELFARE

Though the most modern development of Public Health work, Maternity and Child Welfare bids fair to prove of greater value to the community than any other proceedure that has been introduced. Not only does it enable us to suppress the conditions which cause death and disease in the early part of life, but it enables us to educate the rising generation to understand the laws by which health is maintained or destroyed. It has a further value which will greatly increase our powers to mitigate the ravages of disease, for it offers an opportunity of most minute investigation into the action of various agents which interfere with health, and which, almost imperceptably, lead to destruction.

At the English Speaking Conference on Infant Mortality held in London in July, the Medical Officer of Health of Swindon is reported to have made the following statement :—

" The movement for the Baby Welcome has got before it this " year a very severe test as to whether it is to do any great good " to the community. If we get through this year without a very " severe infant mortality, we may consider that the infant welfare " centres will have done certainly some good and probably an " immense amount of good. I believe that the clinics will reduce " infant mortality very considerably and mortality from Summer " diarrhoea in particular."

This statement was recognised as expressing the general feeling of the Conference, of its hopes and fears. Yet there was full confidence that the fears would not be realised, and that in Child Welfare work we possessed a weapon that would destroy

the most fatal enemy of mankind. The result of 1921 has abundantly proved this to be true, and has raised the Child Welfare Department into the most important department of preventive medicine.

Those of us who have spent many years in connection with the rearing of children and the care of motherhood, are conscious of a profound change in the mothers during recent years. The younger mothers have been educated so that they are less influenced by superstition and suggestion than they were. The universal practice of school inspection has robbed the rising generation of its fears of the Medical Officer. It is no longer customary to look upon the doctor as a man with a knife in one pocket, and a bottle of medicine in the other; a person to be avoided wherever possible; and only to be faced in the last extreme, when all the practices of witchcraft and superstition have proved unavailing. The modern mother will come to seek advice voluntarily and early, is willing to be taught, and has been trained to learn. Education, to a great extent, has taken the part of tradition, and the practices derived from ancient witchcraft, though still prevalent, are fast dying out.

The work done in the Maternity and Child Welfare Department during 1921 was considerably greater than that of any previous year. To cope with the increased work, two new Sub-Centres were opened at Gorse Hill and Rodbourne, and the mothers of Swindon, by the use they make of these centres, have proved how much they appreciate them.

PRE-NATAL WORK.

A clinic for dealing with pre-natal work is now held every Wednesday afternoon. During 1921, 117 consultations in regard to 80 prospective mothers were held.

MATERNITY HOME.

It has already been mentioned that a new Maternity Home will be opened in Swindon shortly. The old maternity home was in operation during 1921. 2 women remained in hospital from 1920, and 23 were admitted during 1921. There were 22 births. Two of the mothers were suffering from albuminuria. One case in which birth had occurred outside the institution was admitted for operation. The average duration of stay in the home was 16 days. Of the 22 births, 8 were delivered by doctors and 14 by Midwives. Medical attention had to be sought on four occasions, three for the condition of the mother, one for the condition of the child.

As regards the 22 children born in the home, 2 were still-born, one from disease of the mother, and the other from Malformation of the infant. One child developed Ophthalmia Neonatorum.

191 prospective mothers were visited by the Health Visitors.

INFANT WELFARE.

1125 births occurred in the Borough, 1145 births were investigated, 20 of these being in respect of babies born in the previous year. 1178 visits and 3915 revisits were paid by the Health Visitors during the year. Of these 1145 cases investigated 39 were illegitimate, whilst 1106 were legitimate.

The mothers of Swindon usually engage the services of a midwife for their confinements, less than a quarter engaging the services of a doctor before delivery ; but, of course, in all complicated cases medical advise has to be summoned. It may be said that this arrangement is working in a satisfactory manner.

There was 1 case of Puerperal Fever notified during the year, with no death. 7 women died from diseases of pregnancy, and 7 from causes incidental to childbirth. 7 cases of Ophthalmia Neonatorum were notified.

The great amount of research which has been prosecuted in connection with the rearing of children during the past decade has brought into prominence the vast importance of breast feeding. It has always been conceded that breast feeding is better than artificial feeding, but thirty years ago it was held, on chemical evidence mainly, that new-born children could be fed artificially without any great risk or difficulty. This opinion, it is but fair to add, was never held by those who were most qualified to form judgment. The advance of our knowledge of biological chemistry has shown us that the matter is by no means so simple, and both theoretical and practical considerations have led us to the point that we must admit that there is no substitute for breast-feeding which is satisfactory, and that in all probability there never will be.

The difficulties of artificial rearing of infants and the disastrous results which follow it can be brought home by considering the evidence that is offered by Swindon for the year 1921. Throughout this year there has been a rigorous campaign to promote breast feeding ; a campaign which has met with very satisfactory results. Of the children born in 1921, some ninety per cent were breast fed at the beginning, and though in a considerable proportion of these cases breast feeding was discontinued during the later months of lactation, some seventy per cent of all the babies

born in Swindon in 1921 were breast-fed throughout the whole period that is necessary. This is an excellent result, much better than can usually be obtained ; still it is not as good as it should be. A certain number of infants are artificially fed because the mothers have to go out to work ; the breasts fail ; or the mother's health renders the continuation of lactation injurious. But in the great majority of cases, the child is taken from the breast upon the assumption that the mother's milk is either insufficient or unsatisfactory. It can be stated definitely that to take a child from its mother's breast is never in the interest of the child, and though occasionally it may be advisable to supplement the mother's milk with other nourishment, it is always a detriment to the child to deprive it of its mother's milk, however small the quantity of the latter may be.

ILLEGITIMATE BIRTH RATE.

39 illegitimate births were registered in the Borough during 1921, forming 3.4% of the total births which is an improvement upon last year's figures and the lowest percentage of illegitimacy recorded since the commencement of the war. All of these illegitimate births were investigated. Of these 25 were first pregnancies. It is a common experience that the proportion of first pregnancies amongst illegitimate cases is high. All the illegitimate children were full time except one ; and, with 4 exceptions, all of them lived. These figures are important for they certainly suggest that criminal interference, which is specially to be feared in connection with illegitimate pregnancy, was probably not at all rife.

INFANTILE MORTALITY.

76 infants under 1 year of age died in the Borough during the year 1921, giving an Infant Mortality Rate of 67.55.

All these infant deaths were investigated, of which 42 were males and 34 females ; 72 were legitimate and 4 illegitimate.

Of the infants that died, 15 lived less than one day : 11 lived from 1 day to 1 week, 11 lived from 1 week to 1 month, and 39 survived the first month. The causes of death of these infants were as follows :—

Congenital defects, prematurity and lack of vitality	41
Respiratory Diseases	6
Diarrhoeal Diseases	18
All other infections	11
	76

These figures demonstrate that in 1921 the Diarrhoeal diseases were prominent, the respiratory diseases unusually low.

The method of feeding adopted in those children who survived a week was investigated. Of these 50, 9 were breast fed, 33 entirely artificially fed, 7 partly breast-fed and partly artificially fed, and in one case information was not obtainable.

When we consider that 70 per cent of all children were breast-fed, of which only 9 died, and 30 per cent artificially fed, of which 40 died, it will be seen that the death rate amongst artificially fed babies was over ten times as great as it was amongst breast-fed babies.

Of the children who died, 25 had been in attendance at the Clinics, and 51 had not been seen at the Clinics. It must be remembered in this connection that the greater majority of those not seen at the clinics were children who died during the first few days, so that these figures must not be used to demonstrate the value of the clinics.

In connection with the 25 deaths that occurred in the children attending the clinics, the details of their births, lives and deaths are recorded in such detail that the evidence they offer is worthy of the greatest consideration. Of these 25 children, 5 were breast fed, and the actual causes of death in these cases were :—

Mongolian Imbecility	2
Congenital Deformity	1
Congenital Syphilis	1
and Measles	1

In other words, only one breast-fed child died in Swindon from a post-natal cause. The remaining 20 children were artificially fed, and they were all killed by bad artificial feeding. Their deaths were not certified as being due to artificial feeding, but to the symptoms which eventually put an end to their lives, such as Enteritis, Diarrhoea, Broncho-Pneumonia, etc., but with the cards, bearing the complete history of these children before one, the steady decline which occurred before the fatal issue can be seen clearly and in every case the beginning of the downward path was coincident with the adoption of artificial feeding. That in many cases the feeding was of the worst possible description and that in one or two cases no keen desire was demonstrated to avert a fatal issue must be admitted ; still it is obvious that artificial feeding is more fatal to infants than all other causes put together.

STILL-BIRTHS.

Stillbirths and miscarriages after the seventh month are notifiable. 39 cases were notified during the year, of which 16 were premature, and 23 full-time. In 15 cases the reproductive

history of the parents was bad. One case died from inattention at birth, 5 as a result of delayed delivery, 1 from Haemorrhage of the Mother, and 2 from malpresentation.

Stillbirths should be considered in connection with infant deaths which occur before the end of the first week. The combination of these two figures gives us an index of reproductive failure. Thus, in 1921, there were 64 citizens lost to the Borough from ante-natal causes of such severity as rendered independent existence impossible.

INFANT CLINICS.

A record of the work done and a table of the conditions seen and treated at the Clinics appear in the appendix.

It will be noted that many of the children seen at the clinics were treated for the results of illfeeding or various forms of mismanagement. It must be emphasised again that the work of the Infant Clinic is the prevention of disease. In the clinics we aim at removing factors which are beginning to interfere with health, and we have little to do with actual diseases after they have become fully manifest. As the clinic improves and becomes more popular the number of consultations held increases greatly, but the amount of actual disease seen becomes steadily less. There are, however, certain forms of disease which are better treated at the clinic than elsewhere. One of the most important of these is Ophthalmia. During 1921, 23 cases of Ophthalmia were treated at the clinics: 4 of these were notified cases. Ophthalmia Neonatorum is a notifiable disease, but the disease is not defined, and it is left to the individual judgment of the medical practitioner whether any given case should be notified or not. The general practice, and the most satisfactory, is to notify all cases which are at all severe. There is a general impression that these severe cases are all venereal in origin, but this is not so. It is our practice to make a bacteriological examination of every child with Ophthalmia, and of the four notified cases treated at the clinic in 1921, only two were of Gonorrhoeal causation. It is satisfactory to be able to state that all 23 cases recovered completely without the slightest permanent damage to the sight.

CONGENITAL SYPHILIS.

There were strong grounds for believing that after the war the first crop of babies would show an alarming proportion of cases of congenital syphilis. Fortunately, in this town at all events, that fear was not realised. 15 infants were treated for Congenital Syphilis at the Clinic. This number, though admittedly considerably larger than in previous years, is nothing like so alarming as was anticipated.

INFANTILE DIARRHOEA.

Early in the year there were signs that infantile diarrhoea was going to prove a matter of very considerable importance. Even as early as May cases began to crop up in various parts of the Borough. During the first part of the Summer the condition was easily controlled but towards the end of July matters were becoming more serious. For this reason we ran the Clinic at Eastcott Hill continuously, so that the mothers of Swindon could seek advice at any time of the day, and were encouraged to do so at the earliest sign of their infants failing. The treatment of Infantile Diarrhoea when developed cannot be undertaken by the Clinic. The function of the clinic is limited to detecting cases at the earliest possible moment and, where possible, preventing the disease from developing. When the disease has actually developed, treatment in bed and attendance by a private practitioner is essential.

52 babies attending the Clinics suffered from Infantile Diarrhoea during the year. Of these 22 were breast-fed infants, all of which recovered, and 30 were artificially fed infants, of whom 14 died. It has been said that roughly 70 per cent. of the babies attending the Clinic are breast-fed, and 30 per cent artificially fed, so that it will be seen that Infantile Diarrhoea is about three and a half times as common in artificially fed infants as in breast-fed babies. When we consider the mortality of the affection, we find that though nearly fifty per cent of the artificially fed babies died from the disease, the mortality amongst the breast-fed babies was nothing.

It might be said that in the foregoing report undue stress has been laid upon the value of breast-feeding; but the reader has been given the figures, and can form his own judgment as to whether the point has been unduly stressed. The death rate of infants in the first year of life is enormously greater than it is in any subsequent year, even than in the years of advanced old age, and it must strike everybody that it is strange that during the year when the vitality is highest, the death rate also should be at its highest. When we separate infants into those which are reared in the way that Nature has ordained that they should be reared, and those that are reared otherwise, we find that among the former death is a rare accident and it is human interferance with the natural processes which produces the appalling waste of human life amongst our youngest citizens. In these days of economy, one might consider the matter from a financial aspect. The cost of rearing healthy babies is extremely small, whereas the money wasted in producing enfeebled, diseased and dead infants is enormous.

MILK (MOTHERS AND CHILDREN) ORDER, 1919.

The Order which allows local authorities to supply milk free or at a reduced rate to prospective and nursing mothers and to infants under 1 year of age, went through many vicissitudes during the year 1921. Locally there has not been much difficulty in carrying out this Order in the spirit which was intended and the expense entailed was but a small fraction of what was anticipated. Notwithstanding the many alterations and curtailments to which the original Order has been submitted, there has not been any necessity to vary the administration of the Order in Swindon to any great extent; for within a few months of the original Order being put into force it was found that all the benefits which the Order intended to confer could be assured at a very trivial cost to the Ratepayers. There are roughly an average of 20 cases receiving free milk in Swindon at an estimated cost of £150 per annum. This figure will not be departed from except in times of very severe distress. There can be no doubt that this measure of supplying milk in cases which are really necessitous does much to keep the infantile Mortality Rate of Swindon at its exceptionally favourable figure.

NEEDLEWORK AND COOKERY DEMONSTRATIONS.

Demonstrations in cookery and needlework are given at the Maternity Centre in Eastcott Hill on two afternoons per week, and demonstrations of needlework are given at the Sub-Centres at Gorse Hill and Rodbourne on one day per week. It is not possible to arrange cookery demonstrations to be given at the Sub-Centres. There is considerable need for these demonstrations, and it is hoped that it may be possible to extend them at some future date. The population is woefully ignorant of true domestic science and wastes much of its none too plentiful cash upon articles of diet and clothing which could be made at home at a very cheap rate and much more satisfactorily than what is usually purchased.

These demonstrations are given under arrangement with the Education Authority.

PROPAGANDA WORK DURING THE YEAR.

In one way and another a considerable amount of health propaganda work is done in Swindon, both officially and unofficially. There are many organisations and many individuals who are seriously interested in the health of the local population, and who spread amongst the people at large a great deal of information of a valuable kind.

In September, 1921, a Health and Baby Week was held. During this week lectures and demonstrations were given; two cinematograph entertainments were provided; and an Exhibition, much upon the lines of that held in London in July were the chief attractions. This week had an undoubted influence in interesting the people of Swindon in matters of health and in the arrangements made by the Council for its promotion. Though all the items on the programme were open free to the inhabitants of Swindon, voluntary help covered the expense completely so that it was not necessary to spend any public money upon the project.

The thanks of the citizens of Swindon are due to all those who, at great personal sacrifice, worked hard for the success of this Week.

VITAL STATISTICS.

BIRTH RATE.

1125 births occurred amongst Swindonians in 1921, giving a Birth Rate of 20.27. This Rate is lower than that of 1920, higher than that for the war years 1916-1919, but lower than any year from 1901-1915. It would seem that the violent fluctuations occurring as a result of the war and its aftermath have ceased and the Birth Rate has returned to what may be termed the normal figure of the district.

DEATH RATE.

532 deaths occurred in Swindon during the year, giving a Death Rate of 9.58. This is the lowest Death Rate recorded in the history of the Borough.

Much attention is given to the figure of the Death Rate, and most towns and districts of the country seem to vie with each other in proclaiming the satisfactory condition of their districts by appealing to the Death Rate. Yet there is no more difficult figure to appreciate at its proper value than a crude Death Rate. In the same district, where the population does not vary much from year to year, the Death Rate gives an indication of the health of the population; so that in saying that in 1921 the Death Rate was the lowest on record, it can be said, with certain reservations, that that year was the healthiest in the Borough's history. But a comparison of this figure of the local Death Rate with the general Death Rate of the country or with Local Death Rates of other towns tells you nothing unless many other factors are also known. The Death Rate in Swindon was 9.58. This does not mean that the Death Rate of Swindonians was 9.58. If it did that would very nearly be equivalent to saying that the average life of a

Swindonian was 112 years which is of course absurd. Swindon is a working town. People come to Swindon to work. It therefore attracts those who are strong, young and healthy, and amongst such the Death Rate is always low even in unhealthy situations. The number of people who retire to Swindon to pass the end of their lives would be small and with the exception of the first year of life it is among those who have retired from active work that the death Rate is highest.

INFANTILE MORTALITY RATE.

The Infantile Mortality Rate was 67.55 which is 1.45 below that for last year and the lowest in the history of the Borough. This is a very satisfactory figure as the past year was exceptionally trying for infants and we have done well in not having to record a much higher figure for the year.

The Infantile Mortality figure for 1921 for the whole of England and Wales was 83 : for the 96 great towns (which included Swindon) it was 87, so that the deaths of infants in Swindon were 23% less numerous than in the average large towns of the country.

The Infantile Mortality Rate is a true index of the health of the population and of the care that is given to the management of infancy ; for however the age distribution of the population in different areas may vary, the age of infants below one year is constant. So figures for infantile mortality in different districts are comparable with fairness.

CONCLUSION.

A review of the preceding matter demonstrates that the year 1921, in spite of its special difficulties, was a favourable one for Swindon as regards its Public Health and also that the means adopted to ameliorate the health of the people made considerable progress. The future is fraught with anxiety. The vital need for economy must bring the whole Public Administration of the country under a searching scrutiny and the Public Health Department must weigh in with all others in this review. From this it has nothing to fear. Nothing has been allowed to live that has not demonstrated its financial stability. There is no part of the work done in Public Health which cannot be shown to repay the ratepayer a very high rate of profit upon the money that he has been called upon to pay. The only anxiety is that the Public Health Administration of the country may be attacked by those who are hostile to all progress, under a cloak of an economy campaign. There are, and there have been at all times, those who spend their life and strength in the vain attempt to prevent

progress. In normal times such persons are treated by their fellow citizens with mild contempt; but it is just possible that the undoubted financial strain that exists at present will frighten many usually level-headed citizens into the camp of the reactionaries.

Undoubtedly this is not a time to launch expensive schemes, especially such as are of an experimental nature, but it is equally not the time to deprive humanity of the benefits which increasing research have shown can be conferred upon man by putting into practice the results of theoretical research. Many of the bodily evils of mankind still exist only because of human ignorance and stupidity. Nearly fifty per cent of us die from diseases which are not only theoretical but are practically preventable and even the most parsimonious citizen would not consider it economical to sacrifice fifty per cent of his life and efficiency to save his rates.

The real difficulty before Public Health Administration is this—its aim being preventive its benefits cannot be gauged. Nobody feels any thanks for escaping from dangers which never reach him and the great aim of Public Health is to prevent these dangers ever becoming tangible.

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18th May, 1922.

APPENDICES.

I. Report of the Chief Sanitary Inspector.

II. Epitome of the Annual Report of the Medical Superintendent of the Swindon and District Isolation Hospital.

III. Report of the Rats Officer.

IV. Epitome of the Baby Week Programme (September 12th—17th, 1921)

V. Copy of the Regulations of the New Maternity Home, Milton Road, Swindon.

VI. Statistical and General Tables.

APPENDIX I.

Borough of Swindon.

ANNUAL REPORT

OF THE

Chief Sanitary Inspector,

A. E. BOTTOMLEY,

FOR THE YEAR 1921.

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

LADIES AND GENTLEMEN,

I have much pleasure in submitting my Annual Report of the work done in the Sanitary Department during the year 1921.

The tables annexed are compiled in order to form a ready digest of the work done in the Department. It hardly needs any comment of mine for the Committee to realize that we are not yet back to the normal conditions which were in existence before the war ; labour and financial difficulties are two important factors in impeding the progress of work urgently needed to be done.

A perusal of the tables will show that the result achieved is really good under the circumstances. Litigation is conspicuous by its absence though on several occasions this had to be threatened.

The most difficult hygienic problem of the present day is that of overcrowding. In Swindon we have many houses which are occupied by more than one family and as our houses are not constructed to meet this condition the evil is aggravated. Many tales of woe arising out of this cause are related to the Sanitary Inspectors, who are helpless to alleviate the trouble.

More time than usual was occupied in making investigations in connection with the outbreaks of infectious disease, so that the supervision of alterations to drainage work, etc., which is usually done by myself was relegated to the Assistant Sanitary Inspector.

The table dealing with meat and food destroyed shows a considerable decrease from last year. This does not mean a lack of supervision but rather the reverse. The butchers having a system of compensation amongst themselves it is to their interest not to drain their funds more than can possibly be helped.

One is pleased to be able to report that no complaint has been registered against any one of the twenty Registered and Licenced Slaughterhouses within the Borough.

The killing of pigs privately within the Borough has increased much of late and has entailed extra supervision on the part of the Inspectors. There is in existence in the District a Pig Keepers' Association and it is the custom now for the slaughterman who kills for the Association to notify this Department when he slaughters for any of its members within our area. Within the Borough and coming directly under our supervision are 20 Slaughter-

houses, 45 butcher Shops, 29 Fried Fish Shops, 39 Dairies, 16 Cowsheds, 32 Bakehouses, 29 Cooked Meat Shops, and in the Summer 85 places where Ice Cream is manufactured. Besides the supervision of all food destroyed, this affords quite sufficient work for the whole-time attention of one Inspector. The condition of the aforesaid premises compares very favourably with that of similar premises under other Authorities, which from time to time I have had the opportunity of viewing. Several of our bakehouses are models of hygienic conditions. Of late years much agitation has been abroad regarding up-to-date methods in milk production and I am sure the Milk Purveyors in our District are moving with the times, with, I hope, advantage to themselves and the community at large.

DISINFECTION.

This is a work that has grown, not only regarding infectious cases, but where verminous conditions exist. Though disinfection is not considered to be a means to an end it is a help in the thorough purification of premises. It is always impressed upon persons applying to have rooms disinfected that a thorough cleansing after disinfection is essential if good is to follow. In other words disinfection is not complete until the room has been thoroughly ventilated and cleansed after fumigation.

I am, Ladies and Gentlemen,
Your obedient servant,
A. E. BOTTOMLEY,
Chief Sanitary Inspector.

Public Health Department,
61, Eastcott Hill,
Swindon.
18th May, 1922.

APPENDIX II.

Swindon and District Isolation Hospital Board.

AN EPITOME OF THE

ANNUAL REPORT

OF THE

MEDICAL SUPERINTENDENT,
(DUNSTAN BREWER)

FOR THE YEAR

1ST APRIL, 1921 TO 31ST MARCH, 1922.

Public Health Department,
61, Eastcott Hill,
Swindon.
13th April, 1922.

On the 1st April, 1921 there were 18 cases remaining in the hospital; 303 cases were admitted during the year, making a total of 321 cases for the year.

Of these 321 cases treated during the year :—
261 were discharged cured.
6 died, and
54 remained in the hospital on the 31st March, 1922.

Cases admitted during the year 1/4/21 to 31/3/22.
248 cases were admitted notified as Scarlet Fever.
50 cases were ,, ,, Diphtheria
1 case was ,, ,, Enteric
3 cases were ,, ,, Erysipelas
1 case was ,, ,, Chicken Pox.

These cases, arranged according to the final diagnosis were—

	Cases
Scarlet Fever	247
Diphtheria	31
Erysipelas	3
Septic Peritonitis	1
Pneumonia	1
Septic Tonsilitis	15
Measles	2
Varicella	1
Influenza	2

SCARLET FEVER

248 cases notified as Scarlet Fever were admitted into hospital. Of these 245 proved to have or to have had the disease. In addition 2 cases notified as Diphtheria eventually proved to be Scarlet Fever, so that there were 247 cases of Scarlet Fever admitted during the year.

2 of the Scarlet Fever patients died. 47 remained in hospital at the end of the year. The remainder were discharged cured. Of the two deaths one died from the toxic variety of Scarlet Fever; the other was a Mongolian Imbecile, who died in his sleep while convalescent from mild Scarlet Fever. This manner of death is the usual termination of Mongolian Imbecility, and I think that the Scarlet Fever from which he suffered had no influence upon the fatal issue.

During the first six months of the hospital year Scarlet Fever was very light, but in the last six months it was heavy as regards numbers. Throughout the year the disease was of a mild type, but became less mild after Christmas. Complications were not numerous. There were 6 cases of Otorrhoea, 3 of Post Scarlatinal Rheumatism, 2 of Pericarditis, 1 of Pneumonia and 4 of Angina Ludovici (Bull Neck) and 2 of Rhinitis. The four cases of Bull Neck recovered, two with, and two without, operation. They gave rise to considerable anxiety at the time, as this complication is usually fatal.

DIPHTHERIA.

50 cases diagnosed as Diphtheria were received into Hospital during the year. Of these 1 was a case of Pneumonia, 15 were cases of Septic Tonsilitis, 2 were cases of Scarlet Fever, 1 was a case of Measles, and 31 cases only of true Diphtheria on final diagnosis.

Of the 31 cases of Diphtheria 22 were discharged cured, 2 died and 7 remained in hospital at the end of the year. Of the cases that died one was a case of Haemorrhagic Diphtheria, moribund on admission; the other was a child who had been sickly from birth, suffering from apparently mild Diphtheria, but who died within eight hours.

It will be seen that Diphtheria was very light and very mild. There were no cases of Laryngeal Diphtheria and only one case of the Haemorrhagic form. The only complications that occurred were two cases of Paralysis and two cases of Heart Failure, which recovered.

It is to be noted that nearly forty per cent of the cases admitted into hospital on a provisional diagnosis of Diphtheria finally proved to be suffering from some other disease. The reason for this is that it is essential to obtain treatment for Diphtheria at the earliest possible moment, and it is a settled policy in this town to admit into hospital immediately any case which is suspicious of Diphtheria

In this way the mortality from Diphtheria can be kept very low, and the disadvantage of admitting cases which eventually prove to be not true Diphtheria is very trivial.

The case admitted under the diagnosis of Enteric Fever proved to be acute Peritonitis This case was moribund on admission and lived only a few hours, but a bacteriological examination proved that it was not Enteric. Of the three cases of

Erysipelas, one was a very old man who recovered, one was a child suffering from injury to the abdomen, who recovered, and one was an illegitimate infant of a few weeks old, who died from extensive suppuration of the head and neck The case of Chicken Pox was of the gangrenous variety, but recovered.

DEATHS IN THE INSTITUTION DURING THE YEAR.

6 deaths occurred, giving a mortality rate of rather less than 2 per cent.

The cases of death were :—

(1) Haemorrhagic Diphtheria, moribund on admission.
(2) Diphtheria, complicating Congenital Disease.
(3) Toxic Scarlet Fever.
(4) Mongolian Imbecility.
(5) Erysipelas, with extensive suppuration.
(6) Acute Peritonitis, moribund on admission.

CROSS INFECTIONS.

The hospital was remarkably free from cross infections during the year under review. No cases of Diphtheria developed Scarlet Fever, nor did any cases of Scarlet Fever develop Diphtheria. Two boys were removed from the same bed in the same house, one suffering from typical Scarlet Fever ; the other from typical Diphtheria, but neither got the other's disease. Two cases of measles were admitted into hospital, but they gave rise to no other cases. A child developed Chicken Pox after it has been in the hospital a fortnight. This gave rise to two other cases while in hospital and of one case which developed Chicken Pox two days after discharge. The case which developed Chicken Pox after discharge had been in quarantine for four weeks.

A boy was admitted under the diagnosis of Scarlet Fever, but who was really suffering from Influenza. He developed double pneumonia and pleurisy, but eventually recovered. He gave rise to a somewhat extensive outbreak of Influenza in the ward in which he was placed, but with the exception of himself all the cases were trivial.

BACTERIOLOGY.

During the year 278 swabs were examined for the Diphtheria bacillus, 128 on behalf of the Corporation of Swindon, and 150 on behalf of the Hospital Board. One blood examination for Enteric Fever was made, and one blood examination from a boy who was suffering from Chronic Leuchaemia.

APPENDIX III.

ANNUAL REPORT OF THE RATS OFFICER FOR THE YEAR 1921.

LADIES AND GENTLEMEN,

Swindon did not have a rat week in November 1921, the reason being that the Rat Week of 1920 proved to be a fiasco. At the same time, good work is done in Swindon by the methods adopted. These methods are as follows:—A whole-time Rat Catcher is employed, and the public are encouraged to give information whenever trouble is caused by rats.

We have two refuse heaps and two sewage farms in the Borough which are happy hunting grounds for the rodents. These and the allotments are visited daily, and by means of traps, baits and a dog, the rats are destroyed.

Much good work has also been done in connection with the alterations to defective drains. Almost invariably the complaints we receive of rats in proximity to dwellings arise from defective drains, and in the course of the year the number is great.

For the year 1921 the Rat Catcher was able to produce 1936 tails from the rats which he had caught. If the number of rats that were poisioned could be accounted for the numbers would be much greater, but unfortunately we cannot obtain evidence of the rats destroyed by these means.

During the year under review there was a total of 76 premises, the drains of which were overhauled as a result of complaints received of damage done by rats.

I am, Ladies and Gentlemen,

Your Obedient Servant,

A. E. BOTTOMLEY,

Rats Officer.

Public Health Department,
61, Eastcott Hill,
Swindon.

18th May, 1922.

APPENDIX IV.

Epitome of the Programme for BABY WEEK

SEPTEMBER 12TH—17TH, 1921.

TUESDAY, September 13th.

A Lecture was given by Mrs. Russ-Baker, of London, at the Town Hall, preceded by a Musical Programme arranged by Madame Dockray. His Worship the Mayor presided.

WEDNESDAY, September 14th.

A Health and Child Welfare Exhibition was held in the Town Hall from 3 p.m., to 10 p.m.

Demonstrations were given on all matters connected with child welfare and home-craft.

Madame Dockray arranged a Musical Programme.

The Exhibition was opened by Mrs. Arnold-Forster, C.C., supported by His Worship the Mayor, the Mayoress, and Members of the Corporation.

The following Competitions were held in connection with the Exhibition :—

1. Open to unemployed boys of the town under 18 years of age for the best Essay on the subject " Playing the Game."
2. Open to unemployed girls of the town under 18 years of age for the best Essay on the subject " Playing the Game."
3. Open to unemployed boys of the town under 18 years of age for the best piece of home-made furniture or toy.
4. Open to unemployed girls of the town under 18 years of age for the best specimen of a renovated garment.
5. Open to any school-boy for the best toy or piece of baby furniture.
6. Open to any school-girl for the best toy or piece of needle-work.
7. Open to any mother in Swindon for the best home-made garment exhibited.
8. Open to any father in Swindon for the best piece of home-made furniture or toy.
9. Open to any mother attending one of the Child Welfare Clinics for the best renovated garment.
10. Open to any woman in Swindon for the best loaf of bread baked at home.

11. Open to any woman in Swindon for the best portable dinner suitable for a working man.
12. Open to any woman in Swindon for the best portable lunch suitable for a school-child.

Prizes were given in each of these Competitions.
The Exhibition remained open until Saturday noon.

THURSDAY, September 15th.

An exhibition of Pictures dealing with Mothercraft and Homecraft was shown at the "Arcadia" Cinema at 3 p.m. Amongst the films shown were

(1) "Mothercraft" by Mrs. H. B. Irving (Dorothea Baird).
(2) "The Production and Method of Distribution of Clean Milk."

Also Pictures of the *Daily Sketch* Baby Competition and Garden Fete held at the house of Lord Leverhulme.

Admission by tickets only, obtained free of charge from the Medical Officer of Health.

THURSDAY EVENING.

A lecture on Health and Efficiency was given in the Town Hall at 7.30 p.m., by the Medical Officer of Health, followed by a discussion, preceded by a Musical Entertainment arranged by Madame Dockray.

All men and women in the district were cordially invited.

FRIDAY, September 16th.

The exhibition of Pictures dealing with Mothercraft and Homecraft was shown at the "Rink Cinema" at 3 p.m.

SATURDAY, September 17th.

A Garden Party was held in the Town Gardens.

APPENDIX V.

Copy of the Regulations of the NEW MATERNITY HOME, Milton Road, Swindon.

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1. The Home shall be open to the inhabitants of the Borough of Swindon and the County of Wilts. Expectant Mothers residing outside the County of Wilts can only be admitted into the Home in special circumstances and on special terms.

2. The Swindon Town Council shall pay the rent of the premises, and the gas, water and electricity charges; they shall carry out the necessary alteration of the premises, and shall furnish, maintain and keep them in repair throughout and supply and maintain all necessary instruments and dressings.

3. The Medical Officer of Health for the Borough of Swindon will act as Medical Superintendent of the Home.

4. The Wilts Nursing Association shall supply the necessary nursing and domestic staff, and shall undertake the feeding of the patients, and the general management of the establishment.

5. The patients shall be responsible for the washing of their own personal clothing.

6. Six of the beds in the Home shall be allocated for the use of the Borough, and five beds for the use of the County. The standing charges shall be met by the Swindon Corporation and the Wilts County Council in the proportion of six-elevenths payable by the Corporation and five-elevenths payable by the County.

   The individual expenses of the patients, *i.e.*, their food, drugs, dressings, and other personal requirements, shall be charged separately against the Borough or the County, as the case may be, and the fees received from the patients also credited to the Borough or the County as the case may be.

7. The Matron of the Home shall receive the fees paid by the patients, and transmit the same to the Borough Collector; a separate account being kept of the fees received from Borough and County patients respectively.

8. All patients wishing to be delivered in the Milton Road Home must apply at the Home, when arrangements will be made for their admission. Women are advised to apply as early as possibly in the course of their pregnancy.

9. Urgent cases will be admitted at any time on application to the Matron.

10. Urgent Puerperal cases, excluding cases of Puerperal Fever or Puerperal Sepsis, will be admitted into the Home at the discretion of the Medical Superintendent on the application of the medical practitioners. (Cases of Puerperal Fever can be treated at the Isolation Hospital).

11. The Medical Superintendent shall see each patient and her baby prior to their discharge. The Medical Superintendent will not undertake the individual treatment of the cases whilst they are in the Home.

12. The Matron of the Home shall notify to the Medical Superintendent all admissions and impending discharges. She shall notify, under the Notification of Births Acts all infants born in the Home. She shall notify to the Medical Superintendent all cases of infant disease, deformity or death. She shall notify all cases in which artificial feeding of infants is resorted to. The Medical Superintendent shall transmit to the County Medical Officer of Health on Saturday in each week a record of the County cases admitted and discharged, and such other information as the County Medical Officer of Health may require.

13 Women may be attended either by one of the midwives of the Home or by a medical practitioner, according to their wishes. Where the patient is attended by a midwife the same rules and regulations shall be in force as obtain where women are delivered by midwives in their own homes. Where the patient desires to be attended by a medical practitioner she must make her own arrangements with the practitioner she chooses, and be responsible for his fee.

14. The County Council shall appoint four representatives on the Committee of Management of the Home.

15. On the expiration of the arrangement between the Town Council and the County Council, the furniture, instruments and utensils provided for the Home shall belong to the Councils in the proportion of 6-11ths to the Town Council and 5-11ths to the County Council, subject to an adjustment in case any part of the loan has been repaid.

16. The fees for maintenance and treatment in the Home shall be—

FOR BOROUGH CASES.

Women coming from homes in which—

(a)	The income is less than 7s. 6d. per head per week, or the total income of the family does not exceed £2 per week.	There shall be no charge.
(b)	The income exceeds 7s. 6d. per head per week, and the total income of the family is between £2 and £3 10s. per week.	The Charge shall be £1 1s. to £2 2s.
(c)	The income exceeds 12s. 6d. per head per week and the total income of the family exceeds £3 10s. per week.	The Charge shall be £3 3s. to £4 4s.

These fees include the attendance of the midwife, and all other charges during the usual period of fourteen days during which the patient shall be in the Home. These fees do not include fees paid to the medical practitioner for attendance either upon the woman or upon her child.

The fees may, however, in exceptional cases, be reduced at the discretion of the Medical Superintendent, and the Chairman and Vice-Chairman of the Health Committee.

FOR COUNTY CASES.

From 15s. to £3 3s. per week each case.

These fees include the attendance of the midwife,and all other charges during the period the patient shall be in the Home. They do not include fees paid to the medical practitioner for attendance either upon the woman or upon her child.

The fees may in exceptional cases be reduced or remitted at the discretion of the County Medical Officer.

The above-mentioned fees for County Cases shall be reconsidered at the end of twelve months

APPENDIX VI.

BOROUGH OF SWINDON.

GENERAL STATISTICS.

TABLE I.

Area (Acres)	4265
Population (1921)	55500
Number of inhabited houses (1921)	12470
Number of families or separate occupiers (1921). (Figure not available).	
Rateable Value	£260,257
Sum represented by a penny rate	£1,000 (approx).

EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

		Total	M.	F.	
Births	Legitimate	1086	543	543	Birth Rate 20.27
	Illegitimate	39	18	21	
Deaths		532	262	270	Death Rate 9.58

Number of women dying in, or in consequence of childbirth	From sepsis	–
	From other causes	7

Deaths of Infants under one year of age per 1,000 births :—
Legitimate 66.29. Illegitimate 102.56 Total 67.5

Number of deaths from Measles (all ages)	6
,, ,, Whooping Cough (all ages)	2
,, ,, Diarrhoea (under 2 years of age)	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 1921 INCLUSIVE.

TABLE 2.

	Birth Rate		Death Rate		Infant Mortality Rate.		
Year	Swindon	England and Wales	Swindon	England and Wales	Swindon	England and Wales	Illegitimate Death Rate.
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

BOROUGH OF SWINDON.

CAUSES OF DEATH. 1921.

TABLE 3.

CAUSES.	MALES	FEMALES	TOTAL
Measles	3	3	6
Scarlet Fever	2	—	2
Whooping Cough	1	1	2
Diphtheria	1	6	7
Influenza	6	5	11
Tuberculosis of Respiratory System	20	22	42
Other Tuberculous Diseases	11	12	23
Cancer, malignant disease	32	24	56
Rheumatic Fever	1	—	1
Diabetes	2	3	5
Cerebral Haemorrhage &c.	13	17	30
Heart Disease	23	39	62
Arterio-sclerosis	8	3	11
Bronchitis	3	15	18
Pneumonia (all forms)	8	11	19
Other respiratory diseases	6	1	7
Ulcer of Stomach or duodenum	2	1	3
Diarrhoea &c. (under 2 years)	11	3	14
Appendicitis & typhlitis	1	—	1
Cirrhosis of Liver	2	3	5
Acute & Chronic nephritis	10	9	19
Puerperal Sepsis	—	—	—
Other accidents and diseases of pregnancy and parturition	—	7	7
Congenital Debility and Malformation, premature birth	19	21	40
Deaths from Violence	7	—	7
Other defined diseases	69	64	133
Causes ill-defined or unknown	1	—	1
	262	270	532

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

TABLE 4.

TUBERCULOSIS	Two beds at Winsley Sanatorium, near Bath, provided by the local authority.
MATERNITY.	A Maternity Home provided by the local authority. (See page 46)
CHILDREN	Nil.
FEVER.	A fever hospital provided by the Swindon and District Hospital Board. (See Special Report).
SMALL POX.	A Smallpox Hospital provided by the Swindon and District Hospital Board. (Permanent brick building with 12 beds).
VENEREAL DISEASES.	A hospital with 6 beds provided by the Wilts County Council.

LIST OF CLINICAL TREATMENT CENTRES IN THE BOROUGH OF SWINDON.

TABLE 5.

Name of Clinic.	Where held	Days and hours of attendance.	By Whom Provided.
Maternity and Child Welfare	61, Eastcott Hill	Mondays, Wednesdays and Fridays, 2.30 p.m. to 4.30 p.m.	Swindon Corporation
Maternity and Child Welfare	Girls' Club, St. Paul's Street	Tuesday, 2.30 p.m.—4 p.m.	,, ,,
Maternity and Child Welfare	Primitive Methodist Schoolroom, Romsey St.	Thursdays, 2.30 p.m , — 4 p m.	,, ,,
Minor Ailments	61, Eastcott Hill	Every morning 8.30 a.m.—11 a.m.	,, ,,
Dental Clinic	Faringdon Street	Daily 10—12.30 a.m. & 2—5 p.m. (Saturdays 10—12.30 p.m.)	,, ,,
Eye Clinic	Faringdon Street	Alternate Thursdays, 11—5 p.m.	,, ,,
Ringworm Clinic	61, Eastcott Hill	Tuesdays, 2—5 p.m.	,, ,,
Throat, Nose & Ear Clinic	,, ,, ...	Mondays, 2—5 p.m.	,, ,,
Enlarged Thyroid Glands	,, ,, ...	Tuesdays, 2—4 p.m.	,, ,,
X Ray Clinic	,, ,, ...	Thursdays, 2—5 p.m.	,, ,,
Electrical Treatment	,, ,, ...	Mondays, 2—4 p.m.	,, ,,
Observation Clinic	,, ,, ...	Saturdays, 10—12 p.m.	,, ,,
Tuberculosis Clinic	Tuberculosis Dispensary, Milton Road	Thursdays, 11 a.m.—1 p.m.	Wilts County Council
Venereal Diseases Clinic	Isolation Hospital, Gorse Hill	Men. Wednesdays, 5—6.30 p.m. Saturdays, 1.30—3 p.m.	
		Women and Children— Tuesdays, 5—6.30 p.m. .... Fridays, 2—3.30 p.m.	Wilts County Council.

AMBULANCE FACILITIES.

TABLE 6.

(a)	For Infectious Diseases	A Motor Ambulance is supplied by the Swindon and District Hospital Board.
(b)	For non-infectious and accident cases.	A Motor Ambulance is provided by the Swindon Town Council.

TABLE 7.

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

LOCAL ACTS AND ORDERS.

The Swindon Corporation Act, 1904.
Swindon Water Act, 1894.
Swindon (Water) Orders of 1902 and 1919.
Swindon Corporation Tramway Order, 1901.
Swindon New Town Electric Lighting Order, 1895.
Swindon Corporation (Wilts and Berks Canal Abandonment) Act, 1914.

ADOPTIVE ACTS IN FORCE.	DATE OF ADOPTION.
Infectious Diseases (Prevention) Act 1890	11th March, 1902
Notification of Births Act, 1907	27th Oct., 1914
The Museums & Gymnasiums Act, 1891	6th June, 1905
The Public Health Acts Amendment Act, 1890	11th Nov., 1890

HOUSING.

TABLE 8.

Number of new houses erected during the year :—

(*a*)	Total	54
(*b*)	As part of a municipal housing scheme.	50

I. UNFIT DWELLING-HOUSES.

INSPECTION—

(1)	Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts).	393
(2)	Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	73
(3)	Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	Nil.
(4)	Number of dwelling houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation.	393

II. REMEDY OF DEFECTS WITHOUT SERVICE OF FORMAL NOTICES.

	Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	469

III. ACTION UNDER STATUTORY POWERS.

A. Proceedings under section 28 of the Housing, Town Planning, &c., Act, 1919.

(1)	Number of dwelling-houses in respect of which notices were served requiring repairs	Nil
(2)	Number of dwelling houses which were rendered fit	
	(a) by owners	Nil
	(b) by Local Authority in default of Owners	Nil
(3)	Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	Nil

B. Proceedings under Public Health Acts.

(1)	Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	30
(2)	Number of dwelling-houses in which defects were remedied—	
	(a) by owners	30
	(b) by Local Authority in default of Owners	Nil

C. Proceedings under sections 17 and 18 of the Housing, Town Planning, &c., Act, 1909.

(1)	Number of representations made with a view to the making of Closing Orders	Nil
(2)	Number of dwelling-houses in respect of which Closing Orders were made	Nil
(3)	Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling houses having been rendered fit.	Nil
(4)	Number of dwelling-houses in respect of which Demolition Orders were made	Nil
(5)	Number of dwelling-houses demolished in pursuance of Demolition Orders	Nil

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SLAUGHTERHOUSES.

TABLE 9.

No. of Slaughterhouses in the Borough :—

Registered	9
Licensed	10
Total	19

INFECTIOUS DISEASE.

TABLE showing the numbers of Infectious Diseases notified in the Borough during the year 1921.

TABLE 10.

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 & upwards			
Diphtheria	—	—	1	2	3	24	8	—	4	2	—	—	44	44	7
Erysipelas	1	—	—	—	—	1	2	—	1	—	6	1	12	—	2
Scarlet Fever....	—	—	1	2	9	83	47	10	6	—	—	—	158	144	2
Ophthalmia Neonatorum	7	—	—	—	—	—	—	—	—	—	—	—	7	—	—
Malaria	—	—	—	—	—	—	—	—	2	—	—	—	2	—	—
Dysentery	—	—	—	—	—	4	—	—	2	—	—	—	6	—	1
Acute Poliomyelitis	2	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Puerperal Fever	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—
Cerebro-S-Meningitis	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Pneumonia	5	5	1	—	—	3	—	—	4	6	7	5	36	—	19
Tuberculosis—															
(a) Pulmonary M	—	—	—	—	—	—	—	3	12	8	3	—			20
F	—	—	—	—	—	—	—	5	19	10	3	—			22
TOTAL													63	—	
(b) Non-Pulmonary M	—	1	—	1	—	1	4	4	5	—	1	—			11
F	2	1	—	1	—	4	2	1	3	3	1	—			12
TOTAL													35	—	
TOTALS.	18	7	3	6	12	120	63	23	59	29	21	6	367	188	96

TABLE SHOWING MONTHLY INCIDENCE OF CASES OF SCARLET FEVER AND DIPHTHERIA. (Corrected for errors of diagnosis), AND THE NUMBER OF DEATHS.

TABLE 11.

Month	No. of cases notified		No. of deaths.	
	Scarlet Fever	Diph-theria	Scarlet Fever	Diph-theria
1921				
January	3	8	—	1
February	7	8	—	4
March	4	7	—	—
April	2	2	—	—
May	4	—	—	—
June	2	2	—	—
July	4	—	—	—
August	1	2	—	1
September	3	—	—	—
October	23	7	—	—
November	52	2	—	—
December	51	1	2	—
TOTALS	156	39	2	6

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 1914-1921

TABLE 12.

	1921	1920	1919	1918	1917	1916	1915	1914
No. of cases notified (all forms)	98	97	73	116	129	132	140	160
Pulmonary Tuberculosis	63	72	51	86	102	95	86	101
Deaths from Pulm. Tuberculosis	42	55	44	66	60	48	51	53
Deaths from Tuber. Meningitis	11	8	8	11	8	10	10	3
Deaths from other forms of the disease	12	6	8	11	10	10	8	1
Total deaths from Tuberculosis	65	69	60	88	78	68	69	57
General Death Rate for all forms of Tuberculosis	1.17	1.28	1.16	1.74	1.5	1.3	1.32	1.07
Death Rate for Pul. Tuberculosis	.75	1.02	0.85	1.30	1.15	0.95	0.98	1.0

TABLE showing the number of cases of OPHTHALMIA NEONATORUM notified, the number treated, the results of treatment, and the number of deaths occurring.

TABLE 13.

Ophthalmia Neonatorum	Cases			Vision unimpaired	Vision impaired	Total Blindness	Deaths.
	Notified	Treated.					
		At Home	At Clinic				
27	7	4	23	27	—	—	—

NOTE—The number 27 includes all cases of Ophthalmia occurring in infants during the first year of life. It will be noted that only seven of these cases were of such severity as to be deemed worthy of notification.

LABORATORY WORK

TABLE 14.

DETAILS	No. of Cases.
1. Swabs from Diphtheria Contacts :—	
(a) Examined in London.	185
(b) Examined at Isolation Hospital	128
2. Wessermann Tests :—	
Examinations at Bristol University	2
3. Blood Examinations for Agglutination tests at Bristol University	3
4. Faeces examined at Bristol University	2
5. Tumour examined at Bristol University	1
6. Direct Swabs—(examined at Eastcott Hill)	
(a) From Throat	8
(b) From Ear.	8
(c) From Eye	23
7. Hairs examined for Ringworm	313

(This table is not complete. See page 20.)

TABLE 15.

No. of samples of water submitted for chemical and bacteriological analysis	16		
No. of samples of water submitted for special bacteriological examination	1		
No. of samples of sewage effluent submitted for Chemical examination	4		
No of samples of canal water submitted for bacteriological examination	1		
		Found	
		Positive	Negative
No. of swabs submitted for bacteriological examination for presence of Diphtheria bacilli .... , ...	313	7	306

MATERNITY AND CHILD WELFARE.

Table showing the numbers of cases attended by Doctors and Midwives in 1146 cases of Confinement.

TABLE 16.

Midwife only engaged.		Midwife and doctor engaged.	Doctor only engaged	Nobody engaged	No. Information.	Total
Males	436	114	15	—	6	571
Females	371	141	54	1	8	575
Total	807	255	69	1	14	1146

TABLES showing upon whose advice, and for what reason, artificial feeding was resorted to in the 117 cases in which it was adopted.

TABLE 17.

ARTIFICIAL FEEDING.

By Whose advice.				Total	No. of Infants not fed at all.
Doctor's	Midwife or Nurse's	Nobody's	Unknown		
23	2	23	69	117	16

TABLE 18.

REASONS FOR ARTIFICIAL FEEDING.

Condition of Mother	Mother gone out to work.	Condition of Child.	Unknown	Total	No. of infants not fed at all.
11	6	35	65	117	16

TABLE showing the Numerical Order of Pregnancies, the Number of Births, The Total Deaths and Death Rates for the Year 1921.

TABLE 19.

No. of Pregnancy	Males.	Females	Total.	Total No. of deaths	Death Rates
1st	224	231	455	24	52
2nd	123	111	234	13	55
3rd	80	68	148	5	33
4th	45	51	96	8	83
5th	28	25	53	3	57
6th	25	11	36	2	55
7th	19	17	36	2	55
8th	10	9	19	1	
9th	3	9	12	—	
10th	8	7	15	—	
11th	8	3	11	1	60
12th	4	1	5	—	
13th	2	2	4	—	
14th	—	—	—	2	
16th	—	1	1	—	
				(Unknown) 15	
Totals.	579	546	1125	76	67

RECORD OF WORK DONE AT THE INFANT WELFARE CENTRES DURING THE YEARS 1918-1921 INCLUSIVE.

TABLE 20.

	1918	1919	1920	1921
No. of infants on the books of the Centre at :—				
Eastcott Hill	1046	1189	1517	1037
Gorse Hill	—	—	—	250
Rodbourne	—	—	—	202
Total number of attendances				
Eastcott Hill	2297	2798	4444	4971
Gorse Hill	—	—	—	1216
Rodbourne	—	—	—	951
Total number of cases which received medical advice and treatment	184	341	656	761

SUMMARY OF CONDITIONS SEEN AND TREATED AT THE INFANT WELFARE CLINICS DURING THE YEAR 1921

TABLE 21.

	Babies		Toddlers		Total
	Treated	Not Treated	Treated	Not Treated	
Diseases and defects due to Ante-Natal Causes.					
Prematurity	3	—	—	—	3
Phimosis	46	23	—	—	69
Other Defects of Generative Organs	—	4	—	—	4
Congenital defects of eyes	1	11	—	5	17
Congenital defects of nervous system	—	6	—	1	7
Cleft Palate and Hare Lip	—	4	—	—	4
Tongue Tie	15	1	—	—	16
Naevus	18	—	2	—	20
Other Congenital Deformities, &c.	5	7	1	3	16
Hernia	4	14	—	1	19
Congenital Syphilis	15	—	1	—	16
Post Natal Infections.—					
Ophthalmia	27	—	—	—	27
Whooping Cough	7	—	—	—	7
Infantile Diarrhoea	51	—	1	—	52
Measles	—	1	—	—	1
Scarlet Fever	—	1	—	—	1
Erysipelas	—	1	—	—	1
Thrush	11	—	—	—	11
Chicken Pox	—	—	—	2	2
Infection of Navel	8	—	—	2	10
Various	51	1	7	—	59
Ringworm	3	—	3	—	6
Infantile Paralysis	2	—	—	—	2
Errors of Management and Dieting.					
Illfeeding	233	—	9	—	242
Skin eruption	68	—	5	—	73
Rickets	14	—	5	—	19
Scurvy	3	—	—	—	3
Poisoning	4	—	—	—	4
Starvation	5	—	—	—	5
Injuries	10	—	2	—	12
Various	15	3	1€	2	36
TOTALS	619	77	52	16	764

MILK (MOTHERS AND CHILDREN) ORDER, 1919.

TABLE 22.

Number of applications for Milk received during the year	72
Number of applications granted	60
Number of cases on live register at the end of the year	16
Average number on live register throughout the year	25
Amount of Milk distributed (approx.)	1800 gall.
Cost of milk distributed (approx.)	£250

BOROUGH OF SWINDON.

INFANT MORTALITY. TABLE 23.

1921. *Nett Deaths from stated causes at various ages under One Year of Age.*

CAUSES OF DEATH.	Under 1 week	1–2 weeks	2–3 weeks	3–4 weeks	Total under 4 weeks	4 weeks and under 3 months	3 months and under 6 months	6 months and under 9 months	9 months and under 12 m'ths	Total deaths
All Causes :—										
Certified	24	3	5	4	36	12	13	8	7	7
Uncertified	....	....	....	....	....	....	....	....	....	..
Small-pox	....	....	....	....	....	....	....	....	....	..
Chicken-pox	....	....	....	....	....	....	....	....	....	..
Measles	....	....	....	....	....	....	....	....	1	
Scarlet Fever	....	....	....	....	....	....	....	....	....	..
Whooping Cough	....	....	....	....	....	1	....	....	....	
Diphtheria and Croup	....	....	....	....	....	....	....	....	....	..
Erysipelas	....	....	....	....	....	1	....	....	....	
Tuberculous Meningitis	....	....	....	....	....	....	1	1	....	
Abdominal Tuberculosis	....	....	....	....	....	....	1	....	....	
Other Tuberculous Diseases	....	....	....	....	....	....	....	....	....	..
Meningitis (*not Tuberculous*)	....	....	....	....	....	....	1	....	....	
Convulsions	....	....	....	....	....	....	....	....	....	..
Laryngitis	....	....	....	....	....	....	....	....	....	..
Bronchitis	....	....	....	....	....	2	....	....	....	
Pneumonia (all Forms)	....	....	....	....	....	2	2	1	1	
Diarrhoea	....	....	1	....	1	....	4	4	1	10
Enteritis	....	....	....	....	....	....	2	2	2	
Gastritis	....	....	....	....	....	1	....	....	....	
Syphilis	....	....	....	....	....	1	....	....	....	1
Rickets	....	....	....	....	....	....	....	....	....	..
Suffocation, overlying	....	....	....	....	....	....	....	....	....	..
Injury at Birth	....	....	....	....	....	....	....	....	....	..
Atelectasis	2	....	....	....	2	....	....	....	....	2
Congenital Malformations	3	1	....	1	5	....	1	....	....	
Premature Birth	17	2	1	3	23	1	....	....	1	25
Atrophy, Debility and Marasmus	2	....	3	....	5	3	1	....	1	10
Totals	24	3	5	4	36	12	13	8	7	76

SANITARY STATISTICS.

TABLE OF NUISANCES RECORDED AND ABATED, 1921.

TABLE 24.

Nature of Complaints registered.	Complaints received and visited.	No. of Complaints abated.		No. of cases where no action was required.	No. of cases not abated at end of year.
		Without Notice	After Notice		
Defective drains	53	37	4	1	11
,, traps	11	5	6	—	—
,, spouts and eaves troughing	77	22	48	—	7
,, roofs	167	42	65	—	60
,, and dirty W.C. Pans	68	36	20	—	12
,, floors	143	27	30	—	86
,, and insufficient yard paving	88	28	35	—	25
,, walls	55	11	19	—	25
,, flushing cisterns	36	11	13	—	12
,, forecourts	—	—	—	—	—
,, ceilings	69	24	30	—	15
,, sinks	23	7	16	—	—
Offensive animals	10	4	—	6	—
Offensive accumulations	40	32	3	2	3
Choked drains	76	69	6	1	—
Damp walls	65	16	20	—	29
Dirty rooms	495	208	198	4	85
Overcrowding	18	7	1	5	5
Miscellaneous	1094	492	405	48	149
TOTALS	2588	1078	919	67	524

SANITARY INSPECTOR'S STATISTICS for the year 1921

VISITS AND INSPECTIONS.

TABLE 25.

Infectious Disease	248
Contacts with Small-Pox	1
Work in course of construction	826
Slaughterhouses	2430
Bakehouses	65
Milkshops, Dairies and Cowsheds	124
Markets	278
Outworkers	84
Common Lodging Houses	8
Fried Fish Shops	260
Re-visits	1731
Miscellaneous	1649
Workshops	342
Ice Cream Shops	67
Butchers' Shops	125
	8238

DEFECTS IN OUTWORKERS' PREMISES.

TABLE 26.

Dirty Rooms	6
Defective Floors	3
Defective Eaves Troughing	1
Defective Plastering	2
Defective Grate	1
Defective Copper Furnace Bars	1
Defective Roof	1
TOTAL	15

DISINFECTANTS.

TABLE 27.

Number of Applications	652
Number of Applications Granted	652
Quantity given Fluid	79 galls. 2qts.
Powder	123 lbs

DISINFECTION.

TABLE 28.

Cases of Infectious Disease	314
,, Cancer	7
,, Consumption	119
Verminous Rooms	71
Hospital Wards	5
School Rooms	162
Number of Lots of Bedding destroyed	30
Number of Lots of Bedding disinfected	626
School Shawls	25
Library Books disinfected	42
Workshops	8
Animals destroyed	13

HOUSE TO HOUSE INSPECTION.

TABLE 29.

No. of Houses inspected during the year.	114
No. of Nuisances found in connection therewith	1383
No. of Nuisances remedied during the year	1026
No. of Nuisances outstanding at the end of the year	357

MEAT AND FOOD DESTROYED.

TABLE 30.

	Tons.	Cwts.	Qrs.	Lbs.
18 Carcases of Beef	5	3	3	17
Portions of Carcases of Beef		14	1	23
Carcases of Mutton			2	12
Carcases of Pigs		9	3	24
Offal	1	11	2	16
Fish		3	3	2
43 Tins Condensed Milk				
15 ,, Tomatoes				
12 ,, Herrings				
1 ,, Salmon				
2 ,, Peaches			3	0
4 ,, Pears				
5 ,, Pineapples				
1 Tin Apricots				
8 Tins Preserved Beef				
	8	5	0	10

BOROUGH OF SWINDON

EDUCATION COMMITTEE.

* CHAIRMAN	-	Councillor T. BUTLER, J.P.
* VICE-CHAIRMAN	-	Councillor C. HILL, J.P.

Members:

THE MAYOR (Alderman R. GEORGE, J.P.)

* Alderman J. POWELL.	* Alderman A. E. HARDING.
* Alderman Mrs. E. C. NOBLE.	* Councillor Mrs. E. A. TANNER.
* Councillor Mrs. M. GEORGE.	* Councillor F. J. REEVES.
* Councillor F. EYRES.	Councillor H. WHITING.
Councillor J. BELCHER.	* Mr. J. CLARK, J.P.
* Councillor T. W. G. PULLEN.	* Mr. C. R. JEFFERY.
* Mr. A. E. WITHY.	Mr. W. H. MILLER, J.P.
Mr. W. H. STANIER.	* Miss M. E. SLADE.
† Mrs. H. E. COLBORNE.	

Secretary to the Education Committee - W. SEATON, Esq.

* *Members of the Medical Inspection Sub-Committee.*

† *Chairman of the Medical Inspection Sub-Committee.*

Staff:

School Medical Officer:

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

Assistant School Medical Officer:

ISABEL MITCHELL, B.Sc., M.B., Ch. B., D.P.H., A.I.C.
(Obiit 25th July, 1921).

Specialist Ophthalmic Surgeon:

RICHARD PHILIP BROOKS, F.R.C.S., L.R.C.P., L.S.A.

Dental Surgeon:

(*a*) ERNEST R. HOWLETT, L.D.S., R.C.S., Eng.

Clerk:

S. MANSFIELD DEE.

School Nurses:

x‡xx Miss A. M. HOARE. **†‡†† Miss I. D. SAMPSON. *‖ Miss D. M. HAYWARD.
†‖‡ Miss H. E. PAGE.

* *4 years Certificate of Hospital Training.*
†*3* " " "
x*2* " " "
‡ *Certificate of Central Midwives Board.*
** *Queen Nurse.* xx *Certificate of the Royal Sanitary Institute.*
‖ *Certificate for Fever Training.*
†† *Certificate for Tuberculosis* (*Royal Chest Hospital, London*).

(*a*) MR. E. R. HOWLETT succeeded MR. A. MACGREGOR WHITE, who terminated his engagement on the 10th May, 1921.

BOROUGH OF SWINDON

EDUCATION COMMITTEE.

Area	4,265 acres
Number of Elementary Schools	14
Number of School Departments... ...	30
Recognised Accommodation	10,338
Number of Children on Register ...	9,911
Average Attendance	8,576

Number of Secondary Schools	2
Number of Scholars on Roll :—	
Victoria Road	416
Euclid Street	337

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

Ladies and Gentlemen,

I have pleasure in presenting the Annual Report for the year 1921, upon the Medical Inspection and Treatment of School Children in the Borough.

Mr. A. MacGregor Whyte, School Dentist, resigned his appointment on 10th May, 1921, and was succeeded by Mr. E. R. Howlett, who took up duty on 1st June, 1921.

Early in the year the health of Dr. Mitchell, the Assistant School Medical Officer, began to fail; towards the middle of May she had to relinquish her duties and she died on the 25th July. The loss of Dr. Mitchell was a severe blow to the department as her many attainments in the special branches of medicine and her indefatigable industry had been of great assistance in enabling the School Medical Department to attain the standard of efficiency which was aimed at. After the loss of Dr. Mitchell there was no Assistant Medical Officer for the remainder of the year.

In order to complete the programme required by the Board of Education, Dr. Moore, a local practitioner, was employed part time to complete the medical inspection of elementary school children.

Certain sections of the Education Act of 1918, dealing with medical inspection and treatment of secondary and continuation scholars came into force in the beginning of the year. This materially increased the work of the department. In order to cope with this increase of the work; the normal development of the department; and to raise the scheme of school medical inspection and treatment in Swindon to a condition of completeness, a scheme

was drawn up by the School Medical Officer and submitted to the Medical Inspection Sub-Committee. This scheme, amongst other matters, arranged for the work to be done by three officers ; the School Medical Officer and one male and one female assistant.

In view of the financial position it was recognised that this scheme was not at present feasible and a modification thereof was drawn up and submitted to the Board of Education and to the Medical Inspection Sub-Committee which was approved temporarily. This alternate scheme dispensed with the second Assistant Medical Officer, but necessitated the appointment of an additional School Nurse and arranged for the School Medical Officer himself to undertake a great part of the actual inspection and treatment. This scheme was comprehensive and likely to prove both efficient and economical. Unfortunately the death of Dr. Mitchell threw practically the whole of the executive work upon the School Medical Officer, who found himself left with a scheme that was working in a thoroughly satisfactorily manner but without the staff to carry it out. It was felt, however, that to abandon the scheme would be prejudicial to the well-being of the rising generation and that it was well worth a supreme effort to keep it alive until a new Assistant Medical Officer was appointed. This it proved possible to do, though some modifications and curtailments were essential. In consequence of this line of action, the School Medical Department continued throughout the year to maintain a good level of efficiency. With the advent of Dr. Marion Draper as Assistant Medical Officer in January, 1922, the department will reach a stage of complete efficiency and can be worked on a much more economical scale than a lower grade of efficiency would permit.

The position at present is this; every child attending the rate supported schools in Swindon, is examined periodically for the detection of early signs of defects and treatment is available for every condition found which is capable of being removed, cured, or ameliorated by medical art. If therefore any child in Swindon grows up crippled or inefficient as a result of disease or defect which could have been remedied in childhood, he does so through indifference or neglect and not because the means of remedy were out of his reach.

Some simplification of the report for this year is possible, as it is not necessary to reiterate matters which remain the same for year after year. The co-ordination of the inspection and treatment of school children with the other branches of public health activity is now complete and it has been possible to jettison all overlapping so that the supervision of the junior citizens can follow automatically from conception to the completion of puberty, without any reduplication, in one continuous record.

MEDICAL INSPECTION.

The children systematically inspected during 1921 were "Entrants," "Leavers," and "Intermediates" (Children born in the year 1912) among the elementary scholars and all the pupils attending the secondary schools. It was not possible to examine the pupils in the continuation schools. In addition to these systematic inspections, every child known or suspected to be ailing was inspected when required.

FINDINGS OF MEDICAL INSPECTION AND ARRANGEMENTS FOR MEDICAL TREATMENT.

The statistical tables at the end of this report give the record of what abnormal conditions were found and what steps were taken for their remedy.

(*a*). Uncleanliness.—The systematic inspection of unclean conditions of the head was carried out with energy by the School Nurses. The condition is, on the whole, steadily improving, but it will always require constant watchfulness. Any really bad cases of uncleanliness (which are usually met with in children who have no guardians or for whom proper treatment is not available at home) are dealt with at the School Clinic, where the Nurses, under the direction of the Medical Officers, can obtain complete amelioration in the shortest possible time.

(*b*). Minor Ailments.—A Clinic for the treatment of Minor Ailments is held every morning at the Health Office. The majority of the cases treated at this Clinic are of such a nature that if the Clinic did not exist, no treatment would be adopted as medical advice would not be sought.

(*c*). Tonsils and Adenoids.—The Education Authority has entered into an arrangement with the Governors of the Victoria Hospital and with the Great Western Railway Medical Fund Society for the performance of operations for Tonsils and Adenoids.

Consideration of the problems of the throat and ear conditions of school children leads to the conclusion that the operation for tonsils and adenoids is only one item in the treatment of diseases of the throat and ear. It is felt that adenoids or enlarged tonsils, in such a state that their removal is necessary, are terminable conditions and that the proper method of

tackling this subject is to attack in their early stages the abnormal conditions which produce these end-results. Applying the principles of preventive medicine and, where this fails, the immediate treatment of the early abnormalities, should result in the conditions ceasing to develop and a permanent cure being obtained without the necessity of drastic surgical treatment. With this in view a Clinic for the supervision and treatment of all children suffering from diseased conditions of the nose, throat, or ear was instituted about the middle of the year. The statistics of this Clinic appear in the appendix. The experience gained has taught us that enlargement of the tonsils, etc., of such a degree that their removal is essential, is preventable and can be prevented by attention to the hygiene of the mouth, nose and throat. It will be seen from the tables that the number of children submitted to the operation for the removal of tonsils and adenoids was very much less than has been the case in previous years. This reduction is not due to any diminution of inspection work or to any difficulty in getting the cases treated; it is due entirely to the fact that the operations were not required as the diseases had been prevented from progressing by previous treatment.

(d). Diseases of the Ear occupy a prominent place in the work of the Clinic.—In connection with this an experiment was tried with three boys attending the Secondary Schools who suffered from serious diseases of the ear. These boys stood out prominently as been crippled by ear disease, whereas, in other particulars, they were able-bodied and able-minded citizens. In all three cases the disease was of many years standing and had received, from time to time, some form of treatment. The reasons for taking these three boys for experimental treatment were these:—the parents were extremely keen that a cure should be effected and the careers of these boys

would be wrecked if they could not be cured. We had a perfectly free hand and could feel sure that the children would turn up for treatment whenever required. A complete systematic examination and a bacteriological investigation were made at the start and the treatment adopted was made to follow upon lines which these investigations suggested. In three months the three cases were completely cured as regards the disease and their hearing was so far restored that one boy would pass all ordinary tests of hearing; the second would get through most tests; and the third, who at the beginning of the treatment was stone deaf to all vocalized sounds, regained a great part of his hearing and with the assistance of lip-reading, which he was taught, would be able to follow most vocations.

This experiment was convincing that ear disease in children is not the hopeless condition which we had feared. What is needed is continuous daily treatment and it has been the difficulty of obtaining daily treatment of a skilled kind which, in the past, has rendered these ear conditions so persistent. After this experiment it was decided to offer the benefit of ear treatment to every child in the borough who needed it.

(*e*). Disorders of Speech.—A Clinic was formed for the treatment of children suffering from stammering. It was found that each case required individual treatment and that one form of treatment which gave satisfactory results in one case was not suitable for other cases which, on preliminary examination, seemed to be similar. Unfortunately lack of time made it impossible to hold this Clinic as often as was required, but so far there was no case which did not show considerable improvement as a result of treatment, although it was only in the early cases that a permanent cure was effected.

(*f*). Skin Diseases.—Ringworm is a formidable problem in Swindon. In the middle of the year it was decided to investigate the matter thoroughly and to introduce some systematic method of stamping out the disease. The investigation showed that the disease was much more prevalent than was suspected, for large numbers of cases went on from year to year receiving occasional treatment when they became too obvious, and neglect when they were less active; that there was no properly organised method for diagnosing the condition or for deciding when it had ceased. An enormous number of school years were lost with great detriment and with no corresponding benefit to anybody. In order to remedy this unsatisfactory condition of things a campaign was instituted to discover what cases of ringworm existed amongst the children of the Borough; to trace, if possible, the source from which the disease spread and to found a Clinic where each case could be diagnosed with certainty by microscopic examination, and where appropriate and systematic treatment was available and kept up until the microscope had proved that the disease was terminated.

The source of ringworm in Swindon can be traced to the Cattle Market, the majority of new cases occurring after the holidays when the children had been attending the markets. Only the minority of the cases are spread from child to child. With regard to the treatment, it was only possible to offer X-ray treatment to a small number owing to the great pressure upon the time of the School Medical Officer. This was unfortunate as the X-ray is much the most satisfactory method of treatment which we possess, a cure at one sitting being the rule. It is not suitable for all cases and there are other forms of treatment which, though less rapid than the X-ray, are still curative if persevered in.

The campaign against ringworm met with most formidable opposition at its inception, but this has died down and the number of cases is declining steadily. It is quite feasible to hope that Swindon will be freed from ringworm and can be kept free.

(g). Tuberculosis.—Tuberculosis in School Children is not only exceedingly important but, as the problem is changing, it requires close and constant attention. There is now an almost general agreement that chronic tuberculosis of the lungs or consumption or phthisis, in the form that it occurs in young adults, is not a disease of the school age. On the other hand it is obvious that a very large number of school children will develop this disease in adolescence. So there is before us the great problem to solve as to whether such cases can be detected and if detected whether we possess any means of preventing the process from developing. It is usual in this connection to talk about the Pre-tuberculous condition. That every sufferer from tuberculosis of the lungs must, at one time, have been in a pre-tuberculous condition is a truism, but whether such persons, during such period, exhibit any signs or symptoms from which the threatening disease can be deduced is a much disputed point. There have, indeed, been described by many authorities various abnormal conditions under the name of pre-tuberculosis, but the evidence that these so called pre-tuberculous conditions are more common in those who eventually develop phthisis than in those who escape is contradictory. During the late war the Author of this report had the opportunity of examining about 1,000 young men for passage into the Army whom he had examined in previous years during the course of school medical inspection. Amongst these were a fair number of men who, as children, had been diagnosed as pre-tuberculous. Not one of these

cases had subsequently developed Phthisis. That this great scourge is a preventable disease is highly probable and that minute observations spread over many years will eventually enable us to overcome it is also probable, but one cannot help feeling that the campaign has not been advanced by drawing problematical deductions from observations which have not been rigidly checked.

Acute tuberculosis, either general or affecting the brain, is not uncommon in children of school age, but seldom comes under the purview of the School Medical Officer, for such children are usually acutely ill and die very rapidly. The School Medical Officer will occasionally see this disease in its early stages, and as regards the form which attacks the brain (Tuberculous Meningitis) evidence of its onset can sometimes be detected several weeks before there is any definite illness.

Tuberculosis of the joints and bones is common and disastrous in school children, but here the problem is totally different from what it was twenty years ago. It is uncommon now-a-days to see hip disease, white swelling of the knee, or Pott's disease of the spine in the advanced and readily recognised condition which was so common in past years. What we do see are the early stages of these conditions in which the diagnosis is doubtful and the signs and symptoms apparently trivial. We see and should recognise these diseases at the stage when they are readily curable and where this obtains the advanced cases are not seen. The hope that, with the advance of School Medical Inspection and Treatment, crippling by tuberculosis of the bones and joints will be a thing of the past, is not unduly optimistic.

Tuberculosis of the Glands; a form of the disease which is most commonly seen in school children, is also a subject calling for close study. It presents many highly

controversial points, but the result of the somewhat fierce battles which have been fought over this subject has resulted in great benefit to the public in that it has led us, and is steadily leading us, to more satisfactory measures of prevention and treatment.

(*h*). External Eye Disease.—Cases of acute contagious ophthalmia (Pink eye) cropped up in the Borough from time to time during the Summer and Autumn, but they led to no general epidemic. The disease is readily curable when recognised and as our scheme in Swindon renders early detection of this and similar conditions rapid and easy, no general spread of the condition was anticipated.

(*i*). Vision.—The arrangements in Swindon for the treatment of errors of refraction and the more serious diseases of the eye are complete and cover the whole ground.

(*j*). Dental Defects.—We have one full-time Dentist in Swindon who works at full pressure throughout the year. The work required to be done, is however, beyond the capacity of one man to accomplish, so that though much good work in Dentistry is performed, this section of school treatment cannot be considered as sufficient to meet the needs of the population.

(*k*). Enlarged Thyroid Gland.—The children of Swindon suffer very frequently and somewhat severely during puberty, from enlargement of the Thyroid and signs of derangement of the functions of that organ. The matter is one of great importance, for not only does it interfere with the health of the children, but interferes very seriously with their finding employment. During the year, a considerable amount of research was made in order to throw light upon the causes and results of enlargement of the Thyroid ; to try to discover why the condition is so frequent

in Swindon ; and to formulate if possible a line of prevention and treatment to overcome it. A Clinic was formed for the supervision of all children in which the Thyroid was enlarged, or who presented any symptoms of disordered action of this gland. At this Clinic the children attend once a week and accurate records of their physical condition and their re-action to efficiency tests are taken. In addition to the Clinic, the late Dr. Mitchell was preparing a comprehensive survey and enquiry into the matter. Unfortunately, her lamented death left her research in an incomplete condition, and it has not yet been possible to summarise and edit her observations. It is hoped that next year it will be possible to give a report of the findings in connection with enlargements of the Thyroid, but at the present moment such a report would be premature.

(*l*). School Accidents.—In the course of the year a fairly large number of children sustained injuries while they were on school premises. The question as to whether the Local Authority or its Servants are in any way responsible for these accidents has naturally to be considered in every case. For this reason it has been decided that every child injured upon school premises should be seen at once by one of the medical officers, who can investigate the causes which have led up to the accident, and render first aid to the injured scholar. A record of all the accidents met with, both in the Elementary and Secondary Schools, will be found in the Appendix. The majority of these accidents are extremely trivial, but there are some of a more serious nature, and the practice which allows of their being seen without delay is, undoubtedly, of value in preventing serious accidents from becoming more serious still by delay or untimely movement.

During the year there occurred no case of school accident for which either the Local Authority or its Servants were in any way responsible.

(*m*). Infectious Disease.— Epidemics of Mumps, Measles, Chicken Pox, Whooping Cough, and Scarlet Fever caused considerable interference with school life during 1921, but otherwise did not do any great damage.

Twenty-one school children died during the year 1921, from the following causes:—

Accidents	...	...	2
Diphtheria	...	...	5
Tuberculosis:—			
Tuberculous Meningitis		3	
Tuberculous Peritonitis		1	
General Tuberculosis		1	
		—	5
Dysentry	...	...	1
Scarlet Fever	...	...	1
All other causes	...	...	7
Total	...	...	21

There is nothing noteworthy in these figures except that the deaths from Diphtheria, only 5 or less than 25% of the total, are unusually low.

The practice of closing the schools during the prevalence of epidemic disease is very rarely resorted to in this Borough. In a Borough of this kind, school closure produces no beneficial results and renders the control of the spread of infection almost impossible.

SECONDARY SCHOOLS.

The statistical tables in connection with the findings of the Medical Inspection of the pupils attending the Secondary Schools will be found in the Appendix. When the Inspection had been completed a report was issued to Governors. This report appears in the Appendix. It gives a fair summary of the conditions found.

It is necessary to subject secondary school pupils to a more searching inspection than that which is requisite in the case of elementary school children, because the secondary school pupils are of a more difficult age, and many of the occupations for which they are destined require a high grade of physical efficiency. In time, the inspection of the elementary school children, at all events once in their school life, will be made to approach the standard which is in use for the secondary school pupils.

Tests for physical efficiency are carried out for every secondary school pupil. An account of the methods employed and of the results obtained, was submitted to the Board of Education at the beginning of the year, and published by the Chief Medical Officer to the Board in his Annual Report for the year 1920. A reprint of this account appears in the Appendix, so that it is unnecessary to discuss the matter further at present. Experiments with other forms of efficiency testing were carried out and some new methods which promised to produce very useful results were introduced. Lack of time has prevented the Medical Officer from standardizing these tests, but it is hoped to get on with this work in the new year.

Colour Vision.—The estimation of colour perception is an extremely important item in the testing of efficiency. The separation of persons into those which are dangerously colour blind for industrial purposes and those which are not is the first and most obvious benefit. The more difficult and complicated estimation of the exact colour range is a matter of very considerable importance in deciding the advisability or otherwise of educating and training youths for certain professions and highly technical trades. In this form of efficiency testing it is necessary to form an opinion of the range of the spectrum which is visible ; of the powers of detecting minute difference of shade ; and the rapidity

with which this mental process is carried out. As a preliminary throw-out test to which all pupils are subjected "Edridge-Green Bead Test" is used. Should any mistake be made the pupil is submitted to the more exhaustive test of "Edridge-Green Cards." The first rule of efficiency testing is that the same test may only be applied once. If the result is a failure or doubtful, it must be checked by a different test, as repetition of the same test leads into error. This is the explanation why so many pupils thrown out on the first test are eventually found to be colour normal, the mistakes having been made by inadvertence.

If one may pass a criticism upon the "Edridge-Green Bead Test," it is this:—It is absolutely unfailing in detecting cases of dangerous colour blindness, but it will let through pupils whose appreciation of the violet end of the spectrum is faulty.

For the more complete testing of Colour Vision, "Edridge-Green Cards" are used. The only criticism to be made on this test is, that the number of cards might be augmented, and one or two minor matters might be improved, but on the whole it is the most delicate and accurate method of testing colour vision that we have at present.

The lantern test has not been used because of the obvious difficulties connected with its use at school inspection. The Wool Test was used extensively in years gone by and has been discarded as worse than useless.

In the analysis of the cases of colour vision Edridge-Green's classification has been adopted. Without entering into the question whether this classification rests on a sound physiological basis, it is easy and convenient in practice.

Overstrain and Fatigue are matters of importance in school children and indeed in everybody at all times of life. It would appear that overstrain and fatigue are capable of accurate measurement by various efficiency tests. At present we lack standardised tables. It is found that there are different standards of efficiency for different ages, etc., and it is necessary to work out tables for each age before fatigue and overstrain can be measured accurately.

PROVISION OF MEALS.

The Education (Provision of Meals) Acts of 1906 and 1914, were put into force on the 26th September, and were continued to the end of the year. Details of the scheme adopted and statistics of the number of children fed, will be found in the Appendix. The scheme worked well; it was economical and gave relief wherever it was required.

EMPLOYMENT OF CHILDREN AND YOUNG PERSONS.

At the end of each term the names of all children about to leave school are submitted to the School Medical Officer who furnishes a report on their physical condition to the Juvenile Employment Committee. Apart from the value of this information to the Advisory Committee, to the employer, and the child himself, it is of very great value to the School Medical Department as forming an index of the state of efficiency of children entering industry and of the value of School Medical Inspection and Treatment, and the results which have been achieved. During the year 1921, 1,033 children were passed out of the Elementary Schools. In 51 cases no report was available, but of the 982 children of which we have information, 856 or 87.2% were efficient; 107 or 10.9% were partially

efficient; and 19 or 1.9% were inefficient. Of the inefficient children, about one-half are still capable of being made efficient by appropriate treatment. Looking through the records of these children it becomes apparent that this result, which is an extremely favourable one, has been attained by constant supervision and the detection and remedying of defects in their early stages.

CONCLUSION.

A review of the activities of the School Medical Department during the past year suggests that the scheme in Swindon is nearly complete, well appreciated by the citizens, and very gratifying in its results. At the present day especially, it is necessary to enquire with great closeness whether its work is economical and whether it offers any point upon which expenditure might be saved. In its completeness lies its economy. The various links which have been added to make the work a whole and complete scheme cost nothing except the initial outlay on apparatus which is a very small item. The great expense in connection with School Medical Work, lies in the treatment of those children who do not fall within the category for which treatment is provided. The expense incurred by one child suffering from a condition for which no provision has been made is greater than the expense entailed in making provision for all such cases as may occur in the course of several years. It must not be supposed that the work has reached finality or that there is no occasion for extension, but further extensions would prove exceedingly costly and so for the present must remain in abeyance. Nor is this altogether to be regretted, for much will be gained by allowing the scheme, as it is at present, to

become fully mature. In this way, when the time arrives for new developments, knowledge and experience will be at hand to guarantee success for any new departure and prevent costly experiments which eventually prove futile.

To seek to lessen expenditure by curtailing or mutilating the present scheme would lead, not only to interference with efficiency, but to increased costs in blind-alley work, which would leave the ratepayer with a greater burden than he has at present to shoulder.

I have the honour to remain,

Your obedient Servant,

DUNSTAN BREWER,

February 14th, 1922. *School Medical Officer.*

APPENDIX I.

REPORT OF SCHOOL DENTAL SURGEON.

I have great pleasure in submitting the Annual Report on Dental Inspection and Treatment for the year 1921.

Mr. MacGregor Whyte fulfilled the duties as Dentist until the 10th May, completing the inspection of three schools. Full time inspection and treatment commenced again in June, from then until the end of the year nine other schools have been inspected. As previously the treatment required at each school is completed before passing to the next school, this prevents any case being delayed or missed. It is satisfactory to note in one of the re-inspected schools there is a very marked improvement in the dental condition of those children who have been treated. The response of the parents to the notices sent informing them of the dental inspection, has also been encouraging, both by the increased attendances and interest shown. 1,004 parents and guardians have attended and been seen by the Dentist, thus fostering the personal interest. 2,819 appointments have been made and 2,356 were kept.

ROUTINE INSPECTION.

3,180 Children were inspected in school.

693 Children or 21.7% were found to be free from Caries.

160 Children or 5.0% required no treatment.

2,328 Children or 73.2% were recommended for treatment.

1,055 Children or 45.3% recommended for treatment attended the Clinic.

The total number of individual children including "Specials" who attended the Clinic was 1,424, who made 2,363 attendances; 720 of these were rendered dentally fit as the result of treatment at the Clinic.

The aim of the Clinic is of a conservative nature, rendering the mouth clean and serviceable; fillings, dressings, etc., take a prominent part in the work. Extraction of teeth has been accomplished mostly with the aid of Local Anaesthesia; only 19 cases of General Anaesthesia being administered. General Anaesthetics are administered by the Medical Staff, with the Dental Nurse always present. The last half hour of each morning session is reserved for treatment of "Casual" and "Special" cases.

As in previous years the inspection at the schools and conservative treatment have been limited to Infant Departments, with periodical re-inspections and treatment of those children transferred to the Upper Departments.

The Dentist would acknowledge the co-operation and good services of the School Teachers, as much has been done by them in advising and encouraging the parents, sending the children punctually, and in other ways assisting in the successful working of the Clinic.

ERNEST R. HOWLETT, L.D.S., Eng.

28th February, 1922. *School Dental Surgeon.*

APPENDIX II.

28th February, 1922.

REPORT OF THE OPHTHALMIC SURGEON.

I beg to submit my Report of children examined in the Ophthalmic Clinic during the year 1921.

Owing to the absence, through illness, of the late Assistant Medical Officer, Dr. Mitchell, the total number of examinations has been less, viz.: 837 against 1,012 in 1920.

There have however been a number of serious conditions to treat, including one of detachment of the retina after injury, two cases of blindness due to congenital cataract, three children with a high degree of squint, and one in which it was necessary to remove a useless and painful eye.

I am glad to say that many of the parents attend the Clinic with the children, and there is good evidence that they appreciate what is done, and carry out the treatment at home.

I regret, however, there are still a small number who do not obtain the spectacles prescribed or follow the advice given.

I append a tabular statement of the children examined and treated during the past year:—

CONJUNCTIVA.

Conjunctivitis,	Phlyctenular	...	...	11
"	Catarrhal	...	...	4
"	Follicular	...	...	6
"	Mucopurulent	...	...	2
				23

CORNEA.

Keratitis	Phlyctenular	...	...	5
"	Interstitial	...	...	2
Leuccoma,	Adherens	...	...	3
Nebulæ		...	...	7
Ulcer		...	...	3
Foreign Body		...	...	1
				21

IRIS AND CILARY BODY.

Synechia, Posterior	...	...	3
Iritis	...	...	1
Uveitis	...	...	1
			5

OPTIC NERVE AND RETINA.

Retina-choroidal Atrophy	...	...	1
Atrophy of Optic Nerve	...	...	3
Optic Neuritis	...	...	2
Amblyopia, ex Anopsia	...	...	14
Pseudo Glioma	...	...	1
Detached Retina (injury)	...	...	1
			22

CRYSTALLINE LENS.

Cataract, Congenital	...	...	5
" Posterior Polar	...	...	1
			6

LACRYMAL APPARATUS, LIDS AND GLOBE.

Lacrymal obstruction	...	...	2
Blepharitis Ciliaris	...	...	10
Chalazion	...	...	3
Trichiasis	...	...	2
Naevus	...	...	1
Hordeolum	...	...	2
Staphyloma Totale	...	...	1
			21

REFRACTION AND ACCOMMODATION.

Anisometropia	2
Astigmatism, Hyperopic, Simple	15
" " Compound	37
" Mixed	8
" Irregular	3
" Myopic, Simple	7
" " Compound	9
Hypermetropia	24
Myopia	11
" Progressive	1
" Incipient	5
Spasm of Accommodation	2
	124

MUSCLES AND NERVES.

Asthenopia	1
Heterophoria	1
Nystagmus	2
Strabismus, Convergent	19
" Divergent	2
	25

Cases referred for examination in which no eye defect was found	7
Cases unclassified	4
Number of patients under treatment 1st January, 1921	87
Number of new patients in 1921	256
Total	343
Total number of attendances at Clinic	837

Total number of children for whom Spectacles were prescribed during the year	*446
Number of children who have obtained Spectacles ...	408
Number of children who have been given prescriptions for Spectacles but whose parents have neglected to obtain them	38

*This figure includes some children who were examined again from previous years.

R. PHILIP BROOKS, F.R.C.S.

APPENDIX III.

No. 1.

SCHEME FOR THE INSPECTION AND TREATMENT OF CHILDREN ATTENDING SECONDARY SCHOOLS.

Once a year, starting on the first Monday in October, every scholar in the Seconday Schools is to be inspected. Those children who have not previously undergone an inspection at the Secondary Schools are to be fully inspected and the Schedule Card filled up in its entirety.

Those children who have had one or more inspections in the Secondary Schools are to have a less vigorous inspection. Subsequent inspections are to be modified as follows :—

(1) In place of the ordinary enquiry form sent to the parents prior to the inspection the appended enquiry form is to be used.

(2) Of the details on the Schedule Card, Numbers 1, 2, 3, 4, 5, 6, 8 and 19 are to be supplied and noted on the card by the Head Master.

Numbers 7, 9, 10, 11, 12, 13, 14a, 18, 21 and 22 are to be noted by the Medical Inspector and recorded in every case.

Numbers 16, 17, 20, 23, 24, 25, 26, 27, 28 and 29, are to be noted and recorded by the Medical Inspector if there was any point against the scholar in any of these particulars on a former inspection, or if any illness has occurred to the scholar since the last inspection.

Item 15 need not be enquired into after the first inspection.

Item 30 need not be enquired into after Puberty is established.

It is reckoned that an average of 10 scholars requiring a complete examination, and 20 scholars requiring a modified examination, can be examined in each session.

On the completion of the Inspection, the School Medical Officer will send to the Principal a written account of each child. This account will give details of all matters the School Medical Officer considers that the Principal ought to know in the interests of the child, and also gives notice to the Principal of any treatment that is necessary.

The School Medical Officer leaves to the Principal the duty of informing the Parents, who were not present at the examination, what treatment has been suggested by the School Medical Inspector.

After Medical Inspection the cards duly filled in by the Medical Inspector shall be brought to the Office, where they will be summarised, and Defect Cards made out. They will then be returned to the Principal together with the Defect Cards, to be stored in the cabinet kept on the school premises.

DEFECT CARDS.

A Defect Card shall be made out for each Secondary School Pupil for whom definite medical or surgical treatment has been advised: No Defect Card will be issued for children suffering from conditions such as deformities requiring only gymnastic treatment; signs of overstrain; ill-nutrition, etc., nor for children requiring dental treatment, unless such cases have been referred specially to the School Dental Surgeon by the School Medical Inspector.

MUNICIPAL TREATMENT.

Treatment at the School Clinics will be available for Secondary School Scholars in precisely the same way, and at the same time, and with the use of the same cards as obtains with the Elementary School Children, with the exception that no provision can be made for the dental treatment of Secondary School Children except in very urgent or exceptional cases.

In addition, arrangements will be made for treating exceptional cases of Ear, Speech and Nervous Conditions occurring among the Secondary School Children, at a Special Clinic, which will be held at the School Medical Department, 61, Eastcott Hill, on Thursday mornings.

Once a year, about the beginning of April, the School Medical Inspector will again visit the Secondary Schools, and enquire after those children for whom defect cards have been made out.

In any case where the Principal requires a special examination of any scholar, such an examination will be carried out at the School Medical Department, 61, Eastcott Hill, on Thursday mornings, between half-past nine and ten o'clock, if the scholar is sent up to the School Medical Department with a note from the Principal to say what is required in each case. The School Medical Officer will make out a Special Defect Card and forward the same to the Principal. This card is to be kept in the school cabinet with the other defect cards.

In cases of accident or emergency, scholars can be sent down to the School Medical Department, 61, Eastcott Hill, at any time, or if the accident is such as renders the journey impossible or questionable, the Medical Officer can be summoned to the School by telephone. It is advisable in cases of accidents other than such as are obviously trivial, that the School Medical Officer should see the patient before he is moved.

The following Schedules are appended :—

1. Schedule of Medical Inspection.
2. Defect Card.
3. Form for Notifying the Parent of Intermediate Inspection.

CONTINUATION SCHOOLS.

One examination only for the Continuation Scholars will be attempted. This examination will be given after the children have passed their 15th birthday. The examination will be recorded in column 4, on the Schedule of Medical Inspection in use in the Elementary Schools.

An examination for Colour Blindness will be given to every Continuation School Scholar.

The Statistical Tables supplied to the Board of Education, will be on similar lines to those given for the Secondary School Pupils.

The Schedule of Medical Inspection must be transferred from the Elementary School to the Continuation School when the child leaves the former for the latter.

The examination in the Continuation Schools will be carried out in November, as soon as the inspection of the Secondary Schools is completed.

Treatment of Continuation Scholars will be on the same lines as that for the Secondary School Pupils.

School Medical Department,
61, Eastcott Hill,
Swindon.
11th May, 1921.

BOROUGH OF SWINDON EDUCATION COMMITTEE.

SCHEDULE OF MEDICAL INSPECTION OF SECONDARY SCHOOL PUPILS.

Name.....

Date of Birth .....

Address 1 .....

2 .....

3 .....

School 1 .....

2 .....

3 .....

PERSONAL HISTORY. PREVIOUS ILLNESSES.

Measles at.....

Whooping Cough at.....

Chicken Pox at.....

Scarlet Fever at .....

Other Diseases :—

.....

.....

Vaccinated .....

FAMILY HISTORY.

Parent's Occupation .....

DIRECTIONS TO PARENT OR TEACHER.

	1.	2.	3.	4.
Medical Treatment required ..				
Dieting, etc.				
Games				
Exercises				
School Work				
Home Work				
Other				
Medical Officer's Initials ..				

MEDICAL INSPECTIONS.

Questions.	1.	2.	3.	4.
1. Date of Inspection ..				
2. Form (if backward) ..				
Regularity of Attendance ..				
3. Age ..				
4. Height ..				
5. Weight ..				
6. Chest Measurement ..				
Inspiration ..				
Expiration ..				
7. Nutrition ..				
Physique ..				
8. Clothing ..				
9. Skin and Hair ..				
10. Teeth ..				
11. Nose & Throat ..				
12. Glands ..				
13. External Eye Disease ..				
14. Vision : Distant R. ..				
L. ..				
Near R. ..				
L. ..				
Further examination ..				
15. Colour sense ..				
16. Ear Disease ..				
Condition of Drums R. ..				
L. ..				
17. Hearing R. ..				
L. ..				
18. Speech ..				
19. General Intelligence ..				
20. Thorax ..				
Head ..				
21. Heart & Circulation ..				
Endurance ..				
22. Anaemia ..				
23. Lungs ..				
Endurance ..				
24. Nervous system ..				
Headache ..				
Signs of Overstrain ..				
25. Chorea ..				
26. Digestion ..				
Constipation ..				
27. Spinal Curvature ..				
28. Flat Foot ..				
Rickety deformities ..				
29. Other Deformity or Defect ..				
30. Catamenia ..				
Puberty ..				
Stigmata ..				
31. General Observations ..				
Medical Officer's Initials ..				

DEFECT CARD.

BOROUGH OF SWINDON.

SCHOOL MEDICAL DEPARTMENT.

Name of Child _____ Age ____ Address _____

School _____ Standard _____ Date of M.I. _____

Defect _____ Recommendation _____

Referred by _____

RECORD OF ACTION TAKEN AND CHILD'S PROGRESS.

Date.	Progress.	Date.	Progress.

NOTIFICATION TO PARENTS OF INTERMEDIATE INSPECTION.

Name of Child.....

School .....

Dear Sir (or Madam),

Kindly furnish a description of any disease, accident, or period of ill-health from which your child has suffered since October of last year.

If your child has remained in perfect health throughout this period kindly say so. Should your child have been ill since the last inspection, or should any defect have been discovered at the last inspection, you are invited to attend the Medical Inspection, otherwise your presence is not necessary, as the examination will be of a formal character.

Yours faithfully,

No. 2.

REPORT ON RESULT OF INSPECTION OF THE BOYS ATTENDING THE SECONDARY SCHOOLS.

The following is a summary of the conditions found:

336 boys were examined. Of these 106 were free from defect and of full efficiency.

97 boys require dental treatment. Many of these cases are suffering severely. I regret to have to inform the Governors that I can offer no treatment for these cases at the School Clinic, so that they must be left to obtain treatment privately.

72 of the boys have defective eyesight requiring treatment. Of these 53 should be rendered efficient by the use of spectacles. 15 can be made partially efficient and 4 cannot be made efficient.

One boy was suffering from acute Iritis and was treated at the Clinic and cured.

Arrangements are being made for the treatment of the 72 cases to be undertaken by the School Oculist if such a course is desired.

23 boys are suffering from defective hearing. In 17 of these the defect is slight and will not interfere materially with their efficiency. 5 cases are severe and one is almost stone deaf. 4 out of the 5 severe cases are being treated at the Clinic; of these 2 will be cured speedily; the other 2 will probably be cured in time, but the hearing will be somewhat impaired.

The deaf boy, who is also attending the Clinic, is suffering from extensive ear disease, which it is hoped will be cured, but he will be permanently deaf. He is being taught to lip-read and is making good progress.

5 boys are suffering from speech defect. 4 of these are receiving treatment at a Special Clinic; in two, cure can be expected; in the other two, cure is doubtful, but great improvement may be expected.

The 27 boys who failed on the provisional test for colour blindness have been submitted to an exhaustive test with the result that 16 are proved to have the full range of colour vision; 7 are dangerously colour blind for all industrial purposes; and 4 have a limited range of colour vision which would not interfere with their passing any colour test to which they are likely to be subjected, but which would interfere with their attaining to any high position in any occupation or profession where acute colour vision is essential.

The number of industrially colour blind children (2 %) is that usually met with. Of the number thrown out by the provisional test, roughly 50 % proved to be colour normal : this is also what is to be expected. This result does not tell against the method used for the preliminary throw-out. On the other hand the number of boys who, though not colour blind, have some diminution of colour vision (only 4 or roughly 1 %) is not compatible with my experience and proves to me that the provisional test that I have used is not sufficiently delicate to produce the full value that can be obtained by the estimation of colour vision. I am therefore considering the introduction of more delicate and complicated tests because it has been my experience that the knowledge of the precise range of colour vision is an important item in preventing us from introducing boys into professions and other occupations where they have not the best chance of success.

6 boys have enlarged tonsils which require to be kept under observation. 7 have tonsils which require removal. Treatment under the Education Committee's Scheme is being offered to the 7 boys requiring operation.

3 boys are suffering from Hernia requiring operation, and in another 4 the development of Hernia is expected.

2 boys are suffering from Nasal Disease.

10 boys are suffering from slight and one from severe Spinal Curvature.

Tuberculous disease of the spine was suspected in one boy and confirmed by X-ray diagnosis. He was put under treatment and cured.

6 boys are suffering from deformities of the chest ; 3 from deformities of the shoulder ; and 5 from deformities of of the foot. All these may yield to gymnastic treatment.

1 boy has displaced the cartilage in his knee.

1 boy is an asthmatic.

2 boys are suffering from organic heart disease.

1 boy is suffering from lymphadenoma.

1 boy is doubtfully mentally defective.

1 boy is suffering from severe ill-nutrition.

3 boys were suffering from skin diseases. They have been treated and cured.

Overstrain.

24 boys showed signs of slight overstrain; 4 of severe overstrain; and two of exhaustion.

75 boys were not capable of undertaking full athletics. In 8 further cases athletics had to be severely restricted and in 9 others cut down to a minimum.

Mental Work.

In 47 boys some diminution of homework, or school-work, or both, was required. In 3 other cases the work requires modifying severely and 4 further cases were only fit for the very mildest mental exertion.

General Survey

The number of defects found are numerous and many of them are serious, but they are not above the average found generally in secondary school children. Among the senior boys the general condition is fairly satisfactory. In the lower Forms the general condition is less satisfactory and in the junior boys, recently transferred from the elementary schools, the condition is very bad. Most of these last are suffering from overstrain, several of them in a severe form. The treatment of this class of child evidently calls for consideration. There are several possible reasons

why this class should come out badly. In the first place these boys have been working hard to obtain free places. As they are children of parents with strictly limited incomes, it is probable that they have been studying under adverse circumstances in small or over-crowded rooms with bad light and ventilation. They will also have suffered from deficient exercise, deficient sleep and deficient food. Moreover, a large number of them will have come from families who for generations have not been highly educated and they will not have the hereditary powers of mental assimilation which are found in children of families which have always been educated. This, I believe to be a very important factor, as it makes their work strenuous and exhausting. Moreover, these boys would represent that class of the community which really did suffer from the privation of the war. Generally speaking the curtailing of the food supply has been beneficial, but in the poorer classes of the community the growing children have suffered from the deprivation of meat and butter.

Lastly, it must be remembered that human generations are like the generations of plants and animals subject to good and bad harvests, and it is possible that these boys, born in the years 1908 and 1909, had come into the world in unfavourable years. In this connection I might mention that in the West Riding of Yorkshire we found that the children born in 1899 and 1902 compared very unfavourably with those born in the preceding, intermediate, and subsequent years. It would appear that the management of boys of about 12 years of age, who are transferred from the elementary into the secondary schools, requires careful consideration during the period in which they are changing from the routine of elementary into that of secondary education.

RESULT OF THE INSPECTION OF THE GIRLS ATTENDING THE SECONDARY SCHOOLS.

The following is a summary of the conditions found:

328 girls were examined. Of these 92 were free from defect and of full efficiency.

86 other girls were free from all defects except dental disease and can be rendered fully efficient by a dentist.

131 girls require dental treatment. Many of these are suffering severely.

58 of the girls have defective eyesight or disease of the eye which require treatment. One girl has lost one eye from an accident. Arrangements will be made for the treatment of those girls suffering from defective sight. The cases of eye disease have already been treated and cured at the Clinic.

2 girls only are suffering from defective hearing and ear disease.

There are no cases of speech defect.

There are no cases of colour blindness.

5 girls are suffering from disease of the nose and throat requiring treatment.

1 girl is suffering from Hernia not requiring operation at present.

1 girl is suffering from Chorea; one girl from heart disease; and two from tuberculosis of the bones in a quiescent condition.

6 girls are suffering from enlargement of the thyroid gland with evidence of over-action.

8 girls were suffering from skin disease. These cases have been treated and cured.

1 girl had nits in her hair in large numbers.

Overstrain.

27 girls show signs of overstrain. As with the boys, the majority of these girls belong to the class that has recently been transferred from the elementary schools and are mainly girls born in the years 1908 and 1909.

58 girls are either incapable of undertaking full athletics or require the exercises to be modified.

Mental Work.

In 38 girls some diminution of homework or school-work was necessary.

15 girls have been referred for further observation as their conditions were unsatisfactory, but the precise natures of the troubles are not yet clear.

General Survey.

It is to be noted that speech defects and colour blindness do not occur among girls. Colour blindness is one of the genetic diseases, *i.e.*, diseases that are hereditary in the strict sense of the term, and like all such diseases it is limited to males, though it is transmitted only through females. Speech defects (which are partly genetic) are occasionally found in females; colour blindness practically never.

The estimation of physical and mental fitness by efficiency tests is much less satisfactory in the case of girls than in that of boys. This is due in great part to the fact that we have had much less opportunity of practising and estimating these tests on females than we have on males. Moreover, it appears that in girls, lack of efficiency and over-pressure are liable to show themselves in abnormal development and growth and abnormal menstrual functions, and in the present state of our knowledge these matters are

not capable of just estimation. It follows from this, that whereas in the education of boys we have fairly accurate means of telling whether we are putting the correct pressure upon them, in the case of girls we have no such accurate means of estimation.

TREATMENT OF DENTAL DEFECTS IN SECONDARY SCHOOL CHILDREN.

It is quite impossible for me to offer dentistry to the secondary school children as I have only one Dentist and his time is more than fully occupied in carrying out the requirements of the Board of Education in connection with the infants attending the elementary schools.

It is to be noted that 220 of the 664 children examined require more or less extensive dental treatment, and it is most important that this treatment should be obtained; for not only does dental decay cause disease and trouble in childhood but it exercises a very powerful action in the production of inefficiency and social and vital failure in later years. It is perhaps the most frequent cause of ultimate failure in children who promise well because it leads directly to serious impairment of health and energy, particularly during the fourth decade, when the fruits of education and rearing become tangible. It is therefore from an educational, as much as from a health point of view, that I should urge upon the Governors the advisability of considering seriously what can be done to obtain dental treatment for the pupils. It might be possible to arrange with one of the local Dentists to set aside part of his time for the treatment of secondary school children. Should it be impossible to obtain the services of a Swindon Dentist, it might be possible to obtain the services of a Dentist from a neighbouring town. Perhaps, if the Governors let it be known

that they are prepared to employ a Dentist half-time, it would be an inducement for another Dentist to settle in Swindon, if the local talent is unable to cope with the work. It must be remembered that the amount of dental work to be done this year is considerably more than will be required annually in the future. The cost to the Governors would probably be in the neighbourhood of £200 a year, or say an average of 5/- per pupil per annum. I reckon that it would take 30% of the Dentist's time to do all the work required for the secondary schools. The time may come when it will be feasible for the Corporation to supply a second Dentist, but we are not likely to get one at present and I advise the Governors not to wait.

No. 3.

EFFICIENCY TESTING AMONGST SECONDARY SCHOOL CHILDREN.

(This report appeared in the Annual Report for the year 1920, of the Chief Medical Officer of the Board of Education).

It was early in 1912 after careful "following up" of children found defective on school inspection that a feeling of dissatisfaction with the ordinary routine of inspection, led me to attempt to discover and estimate "life-values," by tests based upon physiological rather than upon anatomical bases. Since that date, I have introduced and experimented with a large number of tests. Many of these tests have been discarded either because they failed to give any information which could be interpreted, or because they took too long and were too complicated, or in other ways unsuitable to be applied in the ordinary course of a Medical Inspection. Many tests laid aside for a time have been resurrected, altered, simplified or elaborated, but at

the present moment I am only satisfied with two tests which possess the advantages of giving information of very great value; of being free from gross complicating errors; and of being easily conducted in the course of a thorough Medical Inspection. These two tests are the measurement of the re-action of the heart to exertion, and the measurement of the time during which the breath can be held without discomfort. Although it was not till about the middle period of the war that the use of endurance tests became fairly general, I claim in no wise either to have invented the idea, or to have invented any special tests, for I find that the same ideas and very much the same tests appear to have struck many observers during the past 20 years.

In May, Colonel Flack of the Royal Air Force, granted me the favour of an interview and a demonstration of the endurance tests which he and his colleagues have perfected and utilized in the examination of recruits for flying. Clearly there must be a great difference between such tests as are applicable to presumably healthy young adults destined for one specific career, and those applicable to children of every degree and capacity and destined for every kind of employment. It will be no surprise to find that both in the tests themselves and in the results and interpretation of those tests, there will be differences between Colonel Flack's tests as applied to presumptive Airmen, and my tests as applied to Secondary School Children. Yet it is surprising that, working with such totally different material, and with tests which were individually evolved without collusion, how near we have got to each other in regard to the tests used, and that, with one important reservation to be mentioned later, the results obtained by both of us are practically identical.

The test for the power of the heart to re-act to stimulation and to recover when the call for increased action has ceased.

The details of the method used at present are as follows:—

(1) The pulse rate at rest is counted.

(2) The boy is made to exert himself for a standard time and in a standard degree.

(3) The pulse is again counted and recorded until it falls to the rapidity of the rest position. The time which elapses between the termination of the exertion and the return of the boy's pulse to its rest rate is recorded.

(4) This examination must take place after the ordinary physical examination, because this will give time for all normal nervousness to have passed.

(5) The pulse is taken in the sitting position. The pulse in the standing position in a Secondary School Child, is on the average, four beats per minute above that in the sitting position.

(6) The prescribed exertion is to jump up and down twelve times. The height cleared is seven inches. Twelve jumps must be completed within seven seconds.

(7) The boy sits down again and the pulse is counted continuously and recorded in $\frac{1}{4}$ minutes, until it sinks to and remains at the rest rate.

It will be noted that the prescribed exertion differs from that which is used in the examination of Air Recruits. It has been found that the exertion of 12 jumps is the most suitable in the examination of children. The height jumped is the same for all ages. In the smaller children the relative

space cleared is greater than in the larger children, but on the other hand the weight lifted is less, and it is found that in health these two factors about balance each other, and so produce a nearly constant factor. Many other forms of exertion, including that of chair mounting which is utilized in the Air Force, have been experimented with, but experience has shown that owing to the great variation in height and weight and rapidity of action which is met with in school children, none of these produce such a reliable standard exertion as the 12 jumps.

The pulse rate is counted immediately the exertion ceases. I have not found it practicable to count the pulse during the exertion as a routine practice.

RESULTS.

The pulse rate at rest in children varies enormously within physiological limits from 60 to 140 per minute. It has a tendency to become somewhat slower and less variable when puberty is past. Though the pulse rate in different children varies enormously, it has been found by prolonged observation that the pulse rate is fairly constant for each child in identical circumstances, e.g., a child sitting down in class at 10 a.m. on Tuesday morning has a pulse rate of 100; it will be found to vary very little from 100 on a subsequent Tuesday morning at 10 a.m., providing always that other circumstances are fairly constant.

It is found that between the limits of 60 and 140, the child is neither better nor worse for having a slow or quick pulse.

It is found on following these observed children over some years, that where the normal pulse rate is high, *i.e.*, over 120, the influence of fever in diseases which do not specially affect the heart muscle, *e.g.*, mild Scarlet Fever,

is to diminish, not to increase the pulse rate during the fever and for the pulse to return to the higher level when the disease is over. Pulse rates above 140 are usually due to discoverable disease and the same is generally true when the pulse rate is below 60, and practically always so when it falls much below 60. Of course a pulse rate of any figure may be met with in disease.

The result of the prescribed exertion is to raise the pulse rate; the extent of the rise varying in different children under different circumstances. Generally speaking the less the rise, the greater the efficiency of the circulation. Colonel Flack and his colleagues found this to be absolute in intending Airmen, but I have not found it so in children, for I have found that an increase in the pulse rate of less than 12 beats per minute is usually indicative of serious disease of the Cardio-Vascular Apparatus. For a Secondary School Child the normal increase of rapidity is from 20 to 40 beats per minute. Increases above 40 are unfavourable and the greater the increase the less favourable is the outlook. It occasionally happens that the prescribed exertion produces no increase in the pulse rate. This phenomenon is met with in some forms of Thyroidism and in some cases of nervous exhaustion. It is of bad significance. During the many years that I have been carrying out this test, I have only once met with a child in which the pulse rate was lower after the prescribed exertion than before it. This was a case of severe Rheumatic Myocarditis. In children where the increase after exertion is less than 12 beats, disease of the Cardio-Vascular Apparatus should be searched for and in many cases it will be demonstrated. The increase in the pulse rate occurs early in the course of the exercise. The rate mounts very quickly during the first three jumps, and then remains fairly constant. Unless the heart is diseased the same increased

rapidity will be found after six jumps, 12 jumps or 18 jumps. In disease the increase is much more erratic and is not maintained. In judging the effect of exertion, it is well to consider the relative as well as the actual increase in the pulse rapidity.

The time which the heart takes to return from the exertion to the rest rate also varies in different children, it being generally true that the longer the time taken to return, the less is the efficiency of the circulation. Here again Colonel Flack and his colleagues found this to be absolutely true in intending Airmen. I have found in Secondary School Children that return to the normal very quickly, *e.g.*, in less than 15 seconds, is a bad point, otherwise my experience is absolutely in accord with that of Colonel Flack. The normal time of return in Secondary School Children varies between 15 and 45 seconds. Where the time taken is greater than 45 seconds, the cause will probably be discovered by careful examination.

In conclusion it may be stated that the rate of the pulse in normal school children increases on exertion from 20 to 40 beats per minute, and after exertion returns to the rest rate in between 15 and 45 seconds.

The discrepancy between the interpretation of the results found by Colonel Flack and myself is explained, I believe, by the fact that Colonel Flack would only be dealing with presumable healthy adults and that many of my cases are children who are obviously diseased, for I find that those cases in which the increase of the pulse rate is trivial—4 to 12 beats per minute—and the return to the normal very rapid—10 to 15 seconds—are mainly cases with active disease of the vascular system, usually of a most serious character. That my figures for the normal child—

20 to 40 beats and a return of 15 to 45 seconds—should differ from Colonel Flack's standard of 36 beats per minute and a return to the normal of 30 seconds as a minimum standard, is what might have been expected, and it was mainly to establish standards suitable for Secondary School Children that my investigations have been pursued.

EFFICIENCY TEST OF BREATH HOLDING.

This test is very simple, very reliable, and gives evidence of the greatest importance. It consists of asking the boy to fill his chest and count the number of seconds during which the breath can be held. It is found that the efficiency is in direct proportion to the length of time during which the breath is held.

Method.

The boy is first asked to take a deep breath and expel it. Notice is taken of how he breathes. It may be stated generally that the rhythm of respiration :—expiration, inspiration, pause, is normal up to about three years of age, and that the rhythm of inspiration, expiration, pause, is normal for the rest of life. In asthmatics the infantile rhythm is usually maintained unless or until the disease is cured.

The abdominal type of respiration is met with up to about seven years of age, afterwards the type is usually thoracic until puberty, when it again becomes abdominal. In asthmatics it is always thoracic. I believe Physiologists are agreed that the thoracic type of respiration is not normal at any age and ascribe, probably correctly, its prevalence in mid-childhood to faulty training and clothing. Having noted the type of respiration, the boy is asked to empty his chest audibly and then to fill his chest by "blowing out his tummy"; he is then told to keep his mouth shut; the nostrils are lightly clipped with the fingers and the time

which elapses before the boy makes spasmodic efforts to breathe is recorded in seconds. The number of seconds during which the breath can be held varies with the age of the boy. Below 12 years of age this test is not of much value; over 12 years it is of great value. The normal time for a boy of 12 is over 30 seconds. In Secondary School Children the time varies between 10 seconds and 100 seconds. Where the time is less than 30 seconds, disease or else temporary exhaustion will always be detected. By this test it is possible to estimate the "athletic value" of a boy. It is found by experience that a boy's efficiency in games varies directly with his efficiency as estimated by this test. Boys who can hold their breath for longer than 50 seconds will be found, almost without exception, to be keen swimmers. The exercise of swimming unquestionably increases the efficiency under this test, but it is found by experience that boys who have never been in water, but who can hold their breath for long periods, take to swimming like ducks as soon as they get the opportunity. I am inclined to look upon this test as the most valuable efficiency test that we possess, and its extreme simplicity renders it capable of application in practically all cases.

Colonel Flack's minimum of efficiency for intending Airman is 45 seconds; my minimum for boys of 12 to 15 is 30 seconds. The correct physiological minima for different ages and sexes require to be standardized.

I attach a few results of the examination of 336 boys in the Secondary Schools of Swindon. Figures falling below my standard of efficiency are underlined. In the "remarks" column the more salient findings of the ordinary inspection which bear on physical efficiency are noted.

In forming a judgment from these efficiency tests the results should be considered together. There are many other efficiency tests applicable to school children, but so far, I have not got to the stage of fixing standards which are trustworthy.

Most of these tests are only necessary in certain classes of children, *e.g.*, the estimation of the range of colour perception for children who are destined to be Analytical Chemists or Chemists in connection with Dye Works, etc.; the estimation of the size of the sphere of auditory perception, etc., etc., necessary in other professions.

The object at the back of my mind is to try to evolve tests by which special aptitude and efficiency can be detected and measured, so that valuable advice in the choice of a career can be forthcoming and children of superior intelligence directed to those employments where their special efficiencies are likely to prove of high value.

EXAMPLE OF RESULTS OF ENDURANCE TESTS APPLIED TO THE 336 BOYS EXAMINED.

EXPLANATION.

Heart 1 is the pulse rate at rest.

Heart 2 is the pulse rate after exertion.

Heart 3 is the number of seconds elapsing between the prescribed exertion and the return of the pulse to the rest rate.

Lungs is the number of seconds during which the breath can be held.

No.	Heart.			Lungs.	Remarks.
	1.	2.	3.		
28	100	140	45	32	
29	68	100	45	45	
30	76	100	30	32	
31	88	96	15	17	Constricted chest.
32	84	100	15	27	Enlarged tonsils.
33	104	152	45	47	
34	88	92	5	55	Organic heart disease. Lymphadenoma.
35	64	100	75	37	Acute iritis. Large tonsils. Signs of overstrain.
36	72	96	15	33	
37	132	136	15	37	Heterophoria and poor nervous balance.
38	92	120	30	42	
39	76	80	15	22	Weak muscular tone. Patent abdominal rings. Flat foot and bad phyisque.
40	92	112	15	23	

No. 4.

SCHEME FOR THE FEEDING OF CHILDREN UNDER THE EDUCATION (PROVISION OF MEALS) ACTS, 1906 & 1914.

Selection of Children.

The Head Teachers are instructed to notify to the Education Office any cases of children, who, in their opinion are "unable by reason of lack of food to take advantage of the Education provided for them," on forms similar to that printed below. The cases are revised by the School Medical Officer. The children are fed from the date of the notification by the Head Teachers and are seen within a week by the School Medical Officer at the Centre.

ELEMENTARY SCHOOLS.

HEAD TEACHER.	SCHOOL MEDICAL OFFICER.
Name of Child.....	Approved for
Age.....	.....
Address.....	.....
School.....	.....
(Signed)..... *Head Teacher.*	Disapproved ..... *School Medical Officer.*
Date..... 1921.	Date..... 1921.

NOTE:—As cases arise this Form should be filled up by the Head Teacher and sent to the Education Office by ELEVEN O'CLOCK in the morning, and the child sent to the Feeding Centre THE NEXT DAY. The Form will be sent on to the Feeding Centre for provision to be made for the child's meals and the Doctor's visit.

EDUCATION OFFICE, SWINDON.
SEPTEMBER, 1921.

Feeding Centre.....

Meals.

The meal provided is a Dinner. The dietary is approved by the School Medical Officer and the Superintendent of Domestic Subjects jointly. The meals are served each day including Saturday, Sunday and Holidays.

Registration.

A Register of Attendances is kept and marked each day by the Teacher of Domestic Subjects supervising the meal.

Supervision and Serving.

The supervision and carrying out of the Scheme is done by the Superintendent of Domestic Subjects, the actual serving by the paid servants whose general duties are attached to Domestic Subjects Centres, and the Teachers of Domestic Subjects voluntarily supervise and help in serving the meals.

Equipment.

The equipment of the Domestic Subjects Centres is used and certain additions have been made consequent on the Centres being used for feeding of children in the direction of utensils, &c. The furniture of the Centres is used for serving the meals.

Preparation of Food.

The food is cooked as nearly as can be arranged, without interfering with the instruction, by the pupils attending the Housecraft Classes at the various Centres. The Centres used are Ferndale Road, Westcott and Lincoln Street. The meals are served at 12-15 p.m. daily, at these Centres.

The Committee.

The Scheme is entirely controlled by the Education Committee for the present, but if more extensive feeding becomes necessary through further unemployment, the Committee will extend it by the formation of the School Canteen Committee as stated under Section I. of the Act of 1906.

FEEDING OF CHILDREN UNDER THE EDUCATION (PROVISION OF MEALS) ACTS, 1906 & 1914.

SPECIMEN MENUS.

FIRST WEEK—

MONDAY.	Mince, Potatoes and Cabbage.
TUESDAY.	Meat in Batter, Baked Potatoes, Gravy.
WEDNESDAY.	Steamed Meat and Pulse Puddings, Potatoes, Gravy.
THURSDAY.	Meat Pasties, Potatoes, Gravy.
FRIDAY.	Stewed Liver, Potatoes, Greens.
SATURDAY.	Soup and Baked Bread.
SUNDAY.	Mince, Baked Potatoes and Gravy.

SECOND WEEK—

MONDAY.	Meat and Lentil Pie, Parsnips and Gravy.
TUESDAY.	Soup and Baked Bread.
WEDNESDAY.	Meat in Batter, Baked Potatoes.
THURSDAY.	Mince, Potatoes.
FRIDAY.	Meat Pasties, Potatoes and Gravy.
SATURDAY.	Soup and Baked Bread.
SUNDAY.	Steamed Meat Pudding, Potatoes and Gravy.

PROVISION OF MEALS.

26th SEPTEMBER, 1921 to 31st DECEMBER, 1921.

1. Date of Commencement, 26th September, 1921.
2. Number of Children - - 81
3. Average Number of Children per week 33
4. Number of Meals - - - 2890
5. Average Number of Meals per week - 206
6. Cost to 31st December, 1921 :—

Cost of Food	£31	19	3
All other Expenditure	£14	9	8
	£46	8	11

STATISTICAL TABLES.

TABLE I.—Number of Children Inspected 1st January, 1921, to 31st December, 1921.

A.—ROUTINE MEDICAL INSPECTION.

Age.	Entrants.						Intermediate Group.	Leavers.					Grand Total.
	3	4	5	6	7	Total.	8 & 9	12	13	14	15	Total.	
Boys ...	77	101	96	21	5	300	439	196	149	2	—	347	1086
Girls ...	51	97	108	36	14	306	432	138	220	2	—	360	1098
Totals ...	128	198	204	57	19	606	871	334	369	4	—	707	2184

B.—SPECIAL INSPECTIONS.

Age.	Special Cases.	Re-Examinations (*i.e.*, No. of Children Re-examined.)
Boys	314	278
Girls	345	325
Totals ...	659	603

C.—Total Number of Individual Children Inspected by the Medical Officer, whether as Routine or Special Cases. (No child being counted more than once).

No. of Individual Children Inspected ...	2,923

TABLE II.—Return of Defects found in the Course of Medical Inspection in 1921.

Defect or Disease.		Routine Inspect'ns		Specials.	
		Number referred for treatment.	Number requiring to be kept under observation but not referred for treatment.	Number referred for treatment.	Number requiring to be kept under observation but not referred for treatment.
(1)		(2)	(3)	(4)	(5)
	Malnutrition	2	—	4	1
	Uncleanliness :				
	Head	43	—	—	—
	Body	5	—	4	—
Skin	Ringworm :				
	Head	2	—	159	—
	Body	—	—	25	—
	Scabies	4	—	1	—
	Impetigo	3	—	2	—
	Other Diseases (Non-Tubercular)	25	—	13	—
Eye	Blepharitis	13	—	1	—
	Conjunctivitis	2	1	1	—
	Keratitis	—	—	—	—
	Corneal Ulcer	—	—	—	—
	Defective Vision	201	—	1	—
	Squint ...	25	3	1	—
	Other Conditions ...	3	1	2	2
Ear	Defective Hearing	11	16	3	4
	Otitis Media	1	—	—	—
	Other Ear Diseases	18	8	77	23
Nose and Throat	Enlarged Tonsils	8	188	17	30
	Adenoids	—	4	1	3
	Enlarged Tonsils and Adenoids...	1	7	7	8
	Other Conditions	6	8	28	19
Glands	Enlarged Glands(Non-Tubercular)	1	18	4	4
	,, Thyroid	23	34	33	34
Speech.	Defective Speech	4	3	4	2
Heart & Circulation	Heart Disease :				
	Organic	—	16	2	3
	Functional	—	36	—	5
	Anaemia	1	4	2	1
Lungs	Bronchitis	1	—	—	—
	Other Non-Tubercular Diseases...	3	9	6	9
Tuberculosis	Pulmonary :				
	Definite	—	—	5	5
	Suspected	1	—	2	2
	Non-Pulmonary :				
	Glands	—	1	—	1
	Spine	—	—	—	—
	Hip	—	—	—	—
	Other Bones and Joints ...	—	—	2	2
	Skin	—	—	—	—
	Other Forms	—	—	2	2

TABLE II.—(Continued).

(1)		(2)	(3)	(4)	(5)
Nervous System	Epilepsy	—	—	2	6
	Chorea	1	1	6	4
	Other Conditions	2	6	25	13
Deformities	Rickets	—	4	3	2
	Spinal Curvature	2	20	8	4
	Other Forms	1	1	6	5
Other Defects or Diseases		7	13	57	47
Number of Individual Children having defects which require treatment or to be kept under observation ...			1,616		

TABLE III.—Numerical Return of all Exceptional Children in the Area in 1921.

			Boys	Girls	Total
Blind (including partially Blind) within the meaning of the Elementary Education (Blind and Deaf Children) Act, 1893.		Attending Public Elementary Schools	—	—	—
		Attending Certified Schools for Blind	2	2	4
		Not at School	—	—	—
Deaf and Dumb (including partially Deaf) within the meaning of the Elementary Education (Blind and Deaf Children) Act, 1893.		Attending Public Elementary Schools	1	—	1
		Attending Certified Schools for the Deaf	—	3	3
		Not at School	—	1	1
Mentally Deficient	Feeble-Minded . .	Attending Public Elementary Schools	—	2	2
		Attending Certified Schools for Mentally Defective Children	12	12	24
		Notified to Local Control Authority by Local Eucational Authority during the year	1	1	2
		Not at School	1	—	1
	Imbeciles . .	At School	—	—	—
		Not at School	—	—	—
	Idiots ...		—	1	1
Epileptics ..		Attending Public Elementary Schools	2	5	7
		Attending Certified Schools for Epileptics	—	—	—
		In Institutions other than Certified Schools ...	—	—	—
		Not at School	3	2	5
Physically Defective	*Pulmonary Tuberculosis...	Attending Public Elementary Schools	3	5	8
		Attending Certified Schools for Physically Defective Children	—	—	—
		In Institutions other than Certified Schools ...	—	—	—
		Not at School	2	3	5
	*Crippling due to Tuberculosis...	Attending Public Elementary Schools	2	2	4
		Attending Certified Schools for Physically Defective Children	—	—	—
		In Institutions other than Certified Schools ...	—	—	—
		Not at School	1	—	1

TABLE III. (Continued).

			Boys	Girls	Total
Physically Defective (con.)	Crippling due to causes other than Tuberculosis, *i.e.* Paralysis, Rickets Traumatism.	Attending Public Elementary Schools	13	8	21
		Attending Certified Schools for Physically Defective Children	—	—	—
		In Institutions other than Certified Schools ...	—	—	—
		Not at School	1	2	3
	Other Physical Defectives, *e.g.*, delicate and other children suitable for admission to Open-air Schools; children suffering from severe heart disease.	Attending Public Elementary Schools	31	18	49
		Attending Open-air Schools ...	—	—	—
		Attending Certified Schools for Physically Defective Children, other than Open-air Schools	—	—	—
		Not at School	—	2	2

* Only 5 of these cases have been notified under the Public Health (Tuberculosis Regulations, 1912.

Table IV.—Treatment of Defects of Children during 1921.

A.—Treatment of Minor Ailments.

Disease or Defect.	No. of Defects under treatment.			Number of defects cured	No. of defects remaining under treatm'nt	No. of attendances at Clinic	No. of Consultations
	From previous Year	New Cases	Total				
Contagious Skin Diseases—							
Impetigo	12	236	248	241	7	2511	491
Scabies	2	38	40	40	—	322	148
Other Diseases ...	—	1	1	1	—	1	1
Non-contagious Skin Diseases—							
Pityriasis Rosea ...	—	2	2	1	1	38	8
Eczema	1	18	19	18	1	144	39
Psoriasis	—	3	3	2	1	30	3
Seborrhoea	1	13	14	14	—	39	25
Alopecia	—	4	4	4	—	26	8
Warts	2	5	7	5	2	149	20
Other Diseases ...	3	48	51	49	2	342	95
Ear & Throat Diseases—							
Glands	—	5	5	4	1	12	10
Thyroid Gland ...	—	64	64	—	64	554	64
Wounds and Injuries—							
Injuries	3	102	105	103	2	1043	219
Dog Bites	—	1	1	1	—	1	1
Burns	—	2	2	2	—	8	3
Others	—	—	—	—	—	—	—
External Eye Disease ...							
Foreign Body ...	—	4	4	4	—	7	7
Stye	—	7	7	7	—	41	13
Keratitis	—	10	10	8	2	405	71
Blepharitis	5	10	15	14	1	292	33
Conjunctivitis ...	—	14	14	14	—	117	43
Iritis	—	1	1	1	—	6	2
Pink-eye	—	4	4	4	—	47	15
Other Diseases ...	—	19	19	18	1	246	31
Neglect—							
Dirty Head	2	4	6	6	—	26	8
Dirty Body	—	7	7	7	—	116	27
Verminous	—	2	2	1	1	48	7
General— Sore Throats, Ill-health, etc. ...	5	200	205	201	4	734	419
Totals ...	36	824	860	770	90	7305	1811

Total number of Children treated ...	846.
Number of Bacteriological Examinations	39.
Number of X-ray Examinations ...	20.

Table A 1.—Treatment of Ringworm.

Number of cases.	Number of Consultations	Number of Attendances made by Children at Clinic.	Number of Bacterio-logical Examinations	Number of Cases X-rayed	No. of Cases cured	Number of Cases still under treatment.	Number of Cases for which no report is available
183	746	2,232	313	29	97	65	21

X-Ray Treatment of Ringworm.

Number of Cases	Number of X-ray Exposures	Number of Cases cured	Number of Cases remaining under treatment
29	85	22	7

B.—Treatment of Visual Defects.

NUMBER OF CHILDREN.								
Referred to Eye Clinic.			Submitted to Refraction.	For whom Glasses were Prescribed.	For whom Glasses were Provided.	Recommended for Treatment other than by Glasses.	Received other Forms of Treatment.	For whom no Treatment was considered necessary.
Re-exams: from Previous Year.	From Present Year.	Total.	Under Local Education Authority's Scheme, Clinic or Hospital.					
195	259	454	454	401	363	38	38	15

C 1.—Treatment of Defects of Nose and Throat.

Referred for Treatment.	NUMBER OF CHILDREN.			
	Received Operative Treatment.			Received other Forms of Treatment.
	Under Local Education Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.	
84	23	1	24	47

C 2.—Treatment of Defects of Nose, Throat, and Ear at Special Clinic.

Number of Cases referred for treatment.	Number of Consultations.	DEFECTS.								
		Tonsils Considerably enlarged.	Tonsils. Enlarged.	Adenoids.	Glands.	Nasal Spurs and Deflections.	Nasal Inflammation.	Discharging Ears.	Myringitis and Perforation of Membranes.	Thickened, Scarred and Opaque Membranes.
196	1372	18	37	15	7	19	31	81	17	22

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 X-rayed.	No. of Bacteriological Examinations.	No. of Cases cured.	No of Cases remaining under treatment.	No. of Cases for which no report is available.
Indrawn and fixed Membranes	Deafness (Slight).	Deafness (Severe).	Physicially Defective. Deaf.	Wax in Ears.								
14	11	2	4	22	26	23	21	1	8	112	43	41

D.—Treatment of Dental Defects.

1.—Number of Children dealt with.

	Age Groups.												"Specials"	Grand Total.
	3	4	5	6	7	8	9	10	11	13	14	Total		
(*a*) Inspected by Dentist ...	79	273	565	728	748	683	91	10	1	1	1	3180	369	3549
(*b*) Referred for treatment							2328						369	2697
(*c*) Actually treated ...							1055						369	1424
(*d*) Re-treated (result of periodical examination)							30						—	30

2.—Particulars of time given and of Operations undertaken.

No. of Half Days devoted to Inspection.	No. of Half Days devoted to Treatment.	Total No. of Attendances made by Children at the Clinic.	No. of Permanent Teeth.		No. of Temporary Teeth.		Total No. of Fillings	No. of Administrations of General Anaesthetics included in (4) and (6).	No. of other Operations.	
			Extracted.	Filled.	Extracted.	Filled.			Permanent Teeth.	Temporary Teeth.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
43	348	2363	142	334	1472	1678	2012	19	171	2126

Table E.—Treatment of Uncleanliness.

Number of Special Uncleanliness Inspections made by School Nurses during 1921	133
Total number of children examined by School Nurses for Uncleanliness during 1921	18,731
Number of individual children found Unclean during 1921 (mainly Nits in hair)	1,471
Number of individual children cleansed	539
Number of children excluded from School for Verminous conditions	128

F.—Treatment of Defects discovered from all sources during the year 1921.

Condition.	No. of defects found for which Treatment was considered necessary.			No. of defects for which no report is available	No. of defects treated	No. of defects not treated	Percentage of defects treated
	From previous year	New	Total				
Cleanliness of—							
Head	4	1477	1481	199	1282	—	86·5
Body	—	9	9	—	9	—	100·0
Nutrition	—	41	41	18	10	13	24·3
Teeth	1545	3163	4708	765	2225	1718	47·2
Nose and Throat	20	64	84	13	71	—	84·5
Ear Disease	1	131	132	8	108	16	81·8
Hearing	2	53	55	9	25	21	45·4
External Eye Disease	1	125	126	1	113	12	89·6
Vision and Squint	4	552	556	53	439	64	78·9
Glands	2	73	75	15	23	37	39·6
Thyroid Gland	—	155	155	26	99	30	63·8
Skin	—	457	457	6	443	8	96·9
Heart and Circulation	—	74	74	17	40	17	54·0
Lungs	—	29	29	9	16	4	55·1
Nervous System	—	57	57	5	47	5	82·4
Speech	—	21	21	—	18	3	85·7
Mental Condition	6	8	14	5	6	3	42·8
Tuberculosis—pulmonary (suspected)	—	7	7	—	7	—	100·0
non-pulmonary ...	—	7	7	1	6	—	85·7
Deformities	5	50	55	10	34	11	61·8
Miscellaneous	—	455	455	19	399	37	87·6
Total ...	1590	7008	8598	1179	5420	1999	63·0

G. Summary of School Accidents which occurred during the Year 1921.

(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					
5	27	32	238	27	7	5	2

Table V.--Summary of Treatment of Defects as shown in Table IV.
(A, A1, B, C1, C2, D, F, and G, but excluding E.)

Disease or Defect.	NUMBER OF CHILDREN.			
	Referred for Treatment.	Treated.		
		Under Local Education Authority's Scheme.	Otherwise.	Total.
Minor Ailments	846	846	—	846
Ringworm	183	162	21	183
Visual Defects	454	439	—	439
Defects of Nose, Throat & Ear ...	196	155	3	158
Dental Defects	2697	1424	—	1424
Other Defects	522	293	151	444
Total ...	4898	3319	175	3494

Table VI.—Summary relating to Children Medically Inspected at the Routine Inspections during the year 1921.

(1)	The total number of children medically inspected at the routine inspections	2184
(2)	The number of children in (1) suffering from defects (other than uncleanliness or defective clothing or footgear) who require to be kept under observation (but not referred for treatment)	373
(3)	The number of children in (1) suffering from—	
	Malnutrition	3
	Skin Disease	43
	Defective Vision (including squint) ...	236
	Eye Disease	23
	Defective Hearing	55
	Ear Disease	24
	Nose and Throat Disease	628
	Enlarged Glands (non-tubercular) ...	259
	Defective Speech	8
	Dental Disease	460
	Heart Disease—	
	Organic	16
	Functional	49
	Anaemia	8
	Lung Diseases (non-tubercular)	21
	Tuberculosis—	
	Pulmonary { Definite	—
	Pulmonary { Suspected	1
	Non-pulmonary	1
	Disease of the Nervous System	14
	Deformities	87
	Other Defects and Diseases	28
(4)	The number of children in (1) who were referred for treatment (excluding uncleanliness, defective clothing, etc.)	713
(5)	The number of children in (4) who received treatment for one or more defects (excluding uncleanliness, defective clothing, etc.) ...	451

Specials are not included in this table.

Higher Education.

Table I.—Number of Children attending the Swindon Secondary Schools, Inspected 1st January, 1921 to 31st December, 1921.

A.—ROUTINE MEDICAL INSPECTION.

	Age Groups.								Total
	11	12	13	14	15	16	17	18	
Boys ..	2	28	85	101	86	23	8	3	336
Girls ..	2	23	78	75	77	49	14	10	328
Totals ...	4	51	163	176	163	72	22	13	664

B.—SPECIAL INSPECTIONS.

	Special Cases.	Re-Examinations (*i.e.*, No. of Children Re-examined)
Boys	6	18
Girls	3	31
Totals	9	49

C.—Total number of individual children inspected by the Medical Officer, whether as Routine or Special cases, (No child being counted more than once in one year).

Number of Individual Children Inspected ... 664.

Table II.—Return of Defects found in the Course of Medical Inspection in 1921.

Defect or Disease.	Routine Inspect'ns.		Specials.	
	Number referred for treatment.	Number requiring to be kept under observation, but not referred for treatment.	Number referred for treatment.	Number requiring to be kept under observation, but not referred for treatment.
(1)	(2)	(3)	(4)	(5)
Malnutrition	1	—	—	—
Uncleanliness—Head ..	1	—	—	—
Skin — Scabies	—	—	—	—
Skin — Impetigo	—	—	—	—
Skin — Other Diseases (Non-Tubercular)	11	—	—	—
Eye — Blepharitis	8	—	—	—
Eye — Conjunctivitis	5	—	—	—
Eye — Defective Vision	104	20	—	—
Eye — Squint	4	—	—	—
Eye — Other Conditions	2	—	—	—
Ear — Defective Hearing	8	17	—	—
Ear — Otitis Media	6	—	—	—
Nose and Throat — Enlarged Tonsils	8	20	—	—
Nose and Throat — Other Conditions	3	1	—	—
Enlarged Cervical Glands (Non-Tubercular)	—	—	—	—
Enlarged Thyroid Gland	6	—	—	—
Defective Speech	5	—	—	—
Heart. Functional	—	3	—	—
Dental Disease	228	—	—	—
Tuberculosis — Spine	1	—	—	—
Tuberculosis — Other Bones and Joints ...	—	2	—	—
Nervous System — Chorea	1	—	—	—
Nervous System — Other Conditions	—	1	—	—
Mental Condition	—	1	—	—
Deformities — Spinal Curvature	11	—	—	—
Deformities — Other Forms	14	1	—	—
Other Defects or Diseases	4	5	9	—

Number of Individual Children having Defects which require treatment or to be kept under observation 396

Table III.—Analysis of Children failing to Pass the "Edridge-Green Bead Test," referred for complete examination for Colour Blindness.

	Boys.
Heptachromatic	16
Hexachromatic	4
Pentachromatic	—
Tetrachromatic	2
Trichromatic	3
Dichromatic	2
Monochromatic	—
TOTAL	27
Deficiency of the Violet end of the Spectrum ...	6
Deficiency of the Red end of the Spectrum ...	7
Dangerously Colour Blind for Industrial purposes ..	7
Colour Blind so as to prevent success in certain Industries and Professions	4
Deficiency of no serious import	—

Table IV.—Treatment of Visual Defects.

NUMBER OF CHILDREN.								
Referred to Eye Clinic.			Submitted to Refraction.	For whom Glasses were Prescribed.	For whom Glasses were Provided.	Recommended for Treatment other than by Glasses.	Received other Forms of Treatment.	For whom no Treatment was considered necessary.
Re-exams: from Previous Year.	From Present Year.	Total.	Under Local Education Authority's Scheme, Clinic or Hospital.					
7	42	49	49	45	45	2	2	2

Table V.—Summary of Accidents which occurred to Secondary School Pupils during the Year 1921.

Number of Cases.			Total Number of Attendances made by pupils 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					
1	8	9	18	7	1	2	—

Table VI.—Treatment of Defects discovered in Secondary School Children.

Disease or Defect.	Number of Children.			
	Referred for Treatment.	Treated.		
		Under Local Education Authority's Scheme.	Otherwise.	Total.
Vision	104	42	37	79
Eye Disease	6	1	3	4
Ear Disease	6	5	1	6
Speech	5	3	1	4
Deformities	5 †	1	2	3
Nose & Throat	35 *	2	21	23
General	32	4	14	18

* Including cases referred for observation who subsequently required treatment.

† Excluding cases referred for gymnastic treatment only.