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WEST SUFFOLK COUNTY COUNCIL.

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ANNUAL REPORT

OF THE

School Medical Officer

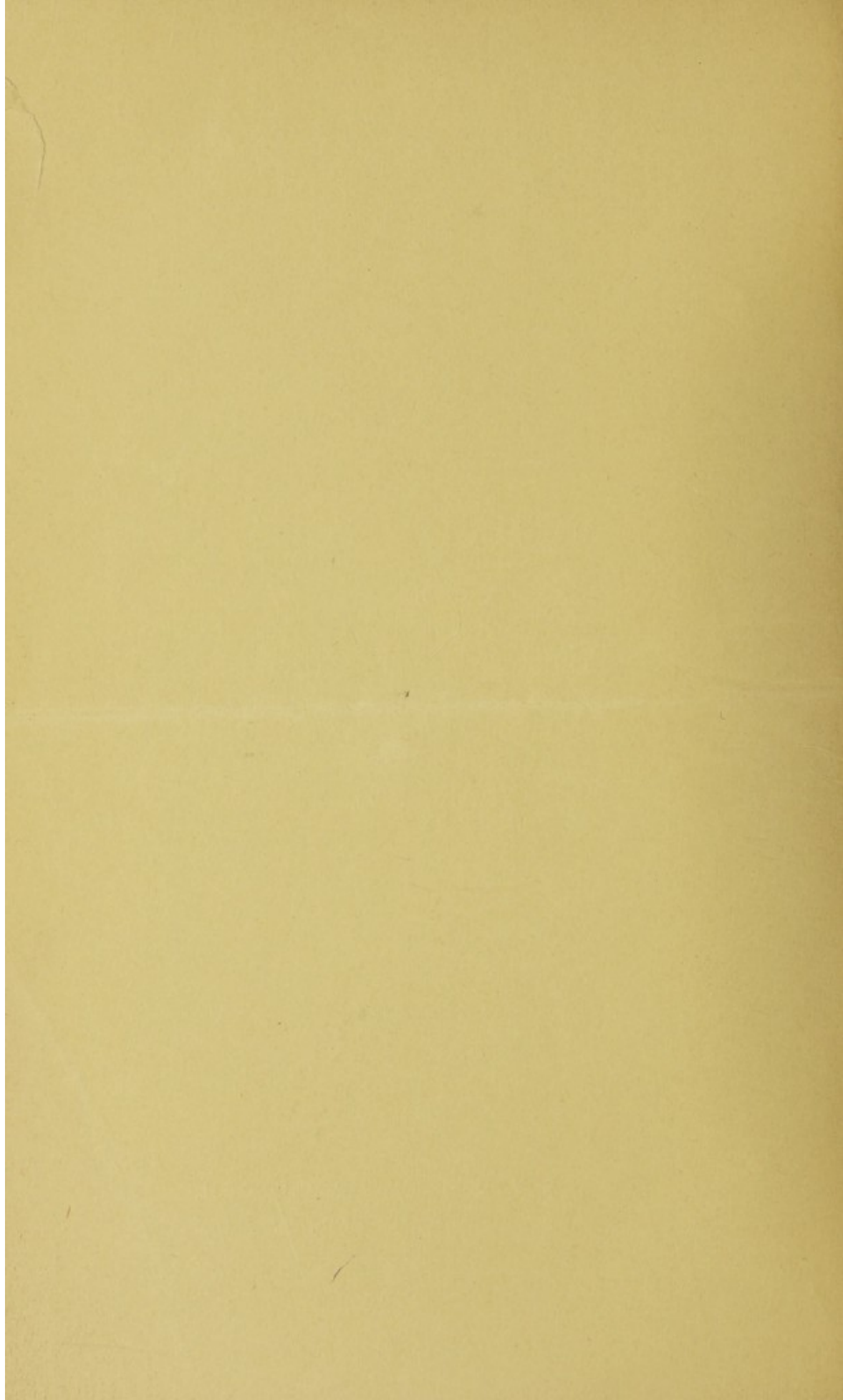
FOR THE

YEAR 1935.

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J. F. DAVIDSON, M.B., Ch.B., D.P.H.,

*Chief School Medical Officer.*





## GENERAL STATISTICS.

## POPULATION OF THE COUNTY.

The population of the County was 104,250. As the Borough of Bury St. Edmund's with a population of 16,810 is the only separate authority for Elementary Education within the Administrative County, the County Education Committee is concerned for the purpose of Elementary Education with a total population of 87,440.

## NUMBER OF SCHOOLS AND SCHOLARS.

There are 139 Elementary Schools in the County Area; 37 of these being Council Schools and 102 Voluntary Schools. The average number of children on the rolls of Elementary Schools during the year 1935 was 12,273, and the average attendance was 11,169.

## STAFF OF THE SCHOOL MEDICAL DEPARTMENT.

<i>School Medical Officer</i> ... ..	J. F. Davidson, M.B., Ch.B., D.P.H.
<i>Assistant School Medical Officers</i>	E. C. Downer, M.A., M.B., Ch.B., D.P.H. (Resigned 15-6-35).
	A. A. Lisney, M.A., M.B., Ch.B., B.A.O., D.P.H.
	W. Hogg, M.B., B.S., D.P.H. (Appointed 17-6-35).
<i>School Dental Officers</i> ... ..	K. I. Drake, L.D.S. (Resigned 31-8-35).
	J. M. Wilson, L.D.S.
	A. B. Brodie, L.D.S. (Appointed 7-9-35).
<i>Chief School Nurse</i> ... ..	G. M. Penly Cooper, S.R.N.
<i>School Nurses</i> ... ..	L. Richardson, S.R.N.
	B. Collins, S.R.N.
	C. Coleman, S.R.N.
<i>Chief Clerk to the Department</i> ...	D. Kilner.

All the above staff are employed in other sections of the County Public Health Department.

## GENERAL REMARKS ON THE SCHOOL MEDICAL SERVICE.

## (A) PRESENT POSITION OF THE SERVICE.

There has been no change in the general policy governing the work of this Service, and it can be said that the service of School Medical Inspection in West Suffolk is co-ordinated in full with the other services of the County Public Health Department.

This co-ordination applies not only to the staff of Medical Officers and School Nurses, but it extends to the various Record Systems maintained in the Central Office; I am happy to state also that this co-operation is equally evident among all other agencies and individuals having charge of child life in West Suffolk. I believe we have been able to establish real team work in this area, and the benefits are already apparent.

Several years ago in my Annual Report, I made it quite clear that the help and assistance of School Managers and their teachers were not only welcomed but were required if the best interests of the children were to be served. In many ways I have been gratified by the response made by the School Managers, and their kindly co-operation has done much for the welfare of the children; it is my sincere wish that this co-operation and interest might become more general and more evident in some areas, because nothing can be more valuable to the proper conduct of this Service than knowledgeable and sympathetic local interest and support. To the teachers as a body, I record my gratitude elsewhere in this Report, and this I do very sincerely because their work has been of the greatest value to the activities of this Department.

Generally, the work of the Department in 1935 has been carried out under the schedule of the Board of Education. In my ten year's experience of School Medical Inspection work I have frequently been restless under the cut and dry policy of the Board, and many times I have wished for greater freedom and elasticity in directing the



work, but I am convinced that the system is well founded in its general principles; to my mind, it is essential that routine medical inspection at certain definite age periods should be continued because by no other method can be obtained the same detailed results. I believe, however, that the progress of School Medicine demands to-day some rearrangement of its general policy, and I believe equally that greater freedom should be given to the responsible Medical Officers so that the Service and its activities may be administered to serve best the requirements and needs of each particular local area, and I express the hope that this reform may not be long delayed.

#### (B) GENERAL NOTE ON THE HEALTH OF THE CHILDREN.

The actual findings of routine medical inspection will be found later in this Report, but I propose under this heading to make one or two general notes which I hope may be of some interest.

The return for the year, while showing certain matters which must give rise to concern, happily also demonstrates the very satisfactory position of the work in other ways.

The unpleasant feature of the return still centres round the presence of malnutrition in the County School children. Under the direction of the Board, a special table was compiled relating to the occurrence of malnutrition in elementary school children, and I also applied this table in a modified way to the Secondary Schools. The results in both sections of the work are discussed in detail later, but I should like to point out here that, although there is no need for undue apprehension, there is a clear indication that every possible effort must be made to improve the present position, which is, that, in the elementary school children examined in 1935, 10.9 per cent. showed excellent nutrition, 56.9 per cent. showed normal nutrition, 29.1 per cent. showed slightly sub-normal nutrition, and 3.1 per cent. showed bad nutrition; in the five Secondary Schools the following percentages of children showing slightly subnormal nutrition were found: 24, 23, 15, 29, and 37.

Every effort has been made in recent years to improve the present state of matters, and I believe that good results will slowly and steadily appear; I believe also that the essential remedy for the future is to be found in appropriately timed and applied instruction on a greatly increased basis to girls of school leaving age in (1) how to buy food to the best advantage on the weekly money on which they themselves may expect to live, and (2) how to cook food decently and without waste.

During the year, propaganda on nutrition has been extensively carried out by officers of the Department; this work has been done at schools, at clinics, under the auspices of the Women's Institute movement, and under the auspices of the British Red Cross Society. During the year also the very excellent booklet on food and nutrition compiled by the British Medical Association was issued to the various Women's Institutes in the County by the West Suffolk Branch of the Association.

The adoption of milk in schools has also been widely pressed, as have all other similar measures of help. The fact remains, however, that unless the wives and mothers of to-morrow are given instruction on the lines I have indicated the position will remain unaltered, and, until this knowledge and training are driven home continually and in detail, we can hope for little permanent improvement.

Turning from this question, it is pleasant for me to be able to record that, contrary to my expectations, there has again been an improvement in the already good figure for cleanliness; there has been an extension of the general eye work and no fewer than 362 cases were refracted by the County Staff while 40 cases were refracted by private or other agencies; spectacles were prescribed in 352 of the county cases, and at the end of the year only 10 children had failed to obtain the necessary glasses—a record of some distinction; and, finally, there has been a considerable improvement in the returns of the Dental Service through which no fewer than 747 additional children were treated and in which the acceptances of treatment increased from 42 per cent. to 51 per cent.

#### (C) THE QUESTION OF MALNUTRITION IN ELEMENTARY SCHOOL CHILDREN.

In accordance with the Board's instructions, the work under this heading has been recorded under special heads, and in view of the importance of this question, I make the following notes on the West Suffolk findings.

In the routine inspection of Entrants, 1190 children were examined; of these 11.6 per cent. had excellent nutrition, 59.4 per cent. had normal nutrition, 26.8 per cent. were slightly sub-normal, and 2.2 per cent. were bad.

*Note.*—In this important group of children, 71 per cent. were found to be either excellent or normal, while 29 per cent. were found to be either slightly sub-normal or bad.



In the routine inspection of the Second Age-group, 1068 children were examined; of these 6.8 per cent. had excellent nutrition, 54.7 per cent. had normal nutrition, 34.1 per cent. were slightly sub-normal, and 4.4 per cent. were bad.

*Note.*—In this group of children, 61.5 per cent. were found to be either excellent or normal, while 38.5 per cent. were found to be either slightly sub-normal or bad.

In the third Age-group (routine inspection), 1198 children were examined; 13.5 per cent. had excellent nutrition, 55.4 per cent. had normal nutrition, 28.5 per cent. were slightly sub-normal, and 2.6 per cent. were bad.

*Note.*—In this group of children, 68.9 per cent. were found to be either excellent or normal, while 31.1 per cent. were found to be either slightly sub-normal or bad.

In summary, 3810 children were examined routinely with the following result:—

Excellent Nutrition ...	10.9 per cent.	}	= 67.8 per cent.
Normal Nutrition ...	56.9 per cent.		
Slightly Sub-normal ...	29.1 per cent.	}	= 32.2 per cent.
Bad ...	3.1 per cent.		

*General Note.*

(1) It will be seen that in these routine examinations:—

- (a) Roughly 68 per cent. of the children are in a satisfactory condition.
- (b) Some 29 per cent. of the children are slightly below normal, and
- (c) 3.1 per cent. of the children have bad nutrition.

(2) From the return, the position of maximum trouble is in the second Age-group (Intermediates) where only 6.8 per cent. had excellent nutrition and where 4.4 per cent. had bad nutrition.

(3) A hopeful aspect of the table is that in the Entrant Group in 1935 11.6 per cent had excellent nutrition and only 2.2 per cent. had bad nutrition.

(4) Finally, from the table the Leaver children appear again to be better, with 13.5 per cent. with excellent nutrition and with only 2.6 per cent. with bad nutrition.

The Table is still in its experimental stages, but I believe it is a most useful one and it will be interesting to compare the Tables of subsequent years.

In the normal way of things one could justifiably express the hope that the good batch of Entrant children will improve the subsequent Intermediate and Leaver children, always providing that no serious intercurrent infectious diseases lay hold of them in these subsequent years. There is just one other factor which may act against this theory—namely, can we be sure that the early school years do not tax the Entrant children in such a way that they drop in their nutrition, and that when they become acclimatised or hardened, they once again tend to increase in their nutritional state. This is a point of great interest and one worthy of some care and attention in an endeavour to prove or to explode it.

**(D) MILK IN SCHOOLS SCHEME.**

It will be remembered that this Scheme of the Milk Marketing Board came into force on October 1st, 1934.

The Scheme was put into operation in this County on a voluntary basis and this basis has continued. The Authority takes no financial responsibility for any milk supplied under this Scheme.

The conditions which govern the Scheme are:—

(1) The Scheme to be a voluntary one having the support of the County Council and the Education Committee.

(2) No milk to be supplied under the terms of the Scheme to any school unless the producer and the milk are covered by a certificate of approval from the County Medical Officer.

The following is the method which I employ in issuing certificates of approval; in every application which I receive, I cause investigations to be made concerning the premises and methods of the producer, and, after these have been carried out, I obtain a covering certificate from the Agricultural Department. In addition, the milk is sampled bacteriologically, and it must comply with the present standard for Grade "A" milk. If these two investigations are satisfactory, and, generally, this means that the producer is on the County Accredited Register, I issue a certificate of approval to the producer



reserving the right to suspend the certificate if at any time the necessity for that action should arise. Finally, samples of the milk actually being supplied to schools are taken from time to time and are examined bacteriologically (a) for the total count of organisms per 1 c.c., (b) the presence or absence of *B. Coli*, in 1/100 c.c., and (c) the presence or absence of the tubercle bacillus.

For convenience, I give this Table which compares the position at the end of 1934 with the position at the end of 1935:—

	1934.	1935.
Number of schools in which the scheme is operating ...	34	75
Number of children in receipt of milk ...	2232	3749
Number of children in attendance at these schools ...	3714	6896

I consider that the progress of the scheme has been reasonably satisfactory, but there is certainly need for continued improvement. In the main, the arrangements have worked easily and I trust that there may be a considerable extension to its present scope.

#### (E) THE COUNTY DENTAL SERVICE.

This Service has made considerable progress during 1935, and all members of the staff have done their utmost to improve the position upon which I reported unfavourably in 1934.

Firstly, the number of children actually treated in 1935 was 4,604, an increase of no fewer than 747 children on the figure (3,857) for the previous year.

Secondly, the percentage of children accepting treatment in 1935 was 51, which shows an increase of nearly 10 per cent. on the figure for the previous year.

Thirdly, the number of children actually treated in 1935 exceeds the number treated in any previous year.

Fourthly, in the years 1931, 1932 and 1933, the percentage of children requiring treatment was never less than 90 per cent.; in 1934, 82 per cent. of the children inspected required treatment; and in 1935 the percentage of children requiring treatment fell to 74 per cent.

The main general conclusion on the year's work is the all round improvement in the essential treatment figures, and it is also to be noted that the strenuous work of 1931, 32, 33, 34, and 1935 is at last beginning to show itself on the general state of the teeth of the children; in other words, very gradually, we are lowering the number of children requiring treatment and increasing the number of children accepting treatment.

My gratitude for this marked improvement goes out to the Dental Officers and to the Head and other teachers whose efforts have brought about this encouraging result. I know personally that the members of the teaching staffs have done their utmost for the good of the work, and I have pleasure in bringing this fact to the knowledge of the Committee.

#### (F) HEALTH EDUCATION.

This work has been continued intensively throughout the year in all parts of the County. As I have said previously, I am a great believer in these efforts and I have obtained evidence on every side of the good which they bring about.

It is an interesting sidelight to find that the general population is much more interested in health work, in matters of nutrition, and in hygiene generally, in those areas where there has been an active clinic for several years. A great deal of the difficulty experienced in getting parents to consent to treatment for their children or even in getting them to carry out the simplest rules of personal hygiene is to be found, not in laziness or in slothfulness, but in sheer ignorance of what is required. Very often a parent will sign a refusal to dental treatment, but it is rarely that the Dental Officer fails on a personal interview to convince the parent that treatment is necessary; it has even been my experience that parents will have nothing to do with our simple dental forms of consent lest their signature may commit them to unknown and to untold responsibilities, involving themselves, their homes, and their futures.

This position can only be remedied by wise and kindly and simple advice, and this I am strenuously attempting to carry out. We are making progress, but it is a slow progress, and it can only be maintained by persistent and well-timed teaching efforts, sometimes to meetings of parents and adults generally, but most often through private individual talks by the Health Visitors in the homes of the people.



**(G) PHYSICAL EDUCATION AND HYGIENE.**

I can best serve this important subject by quoting the remarks made by Sir George Newman in his Report, "The Health of the School Child, 1933." These were: "First, the subject must be included in the curriculum of all schools; it must be in the time-table; it must be carried out by the school teacher, on the school premises, in school hours; it must be conducted in accordance with some approved standards; the school teacher must be equipped; to secure efficiency and reasonable uniformity, the subject must be supervised in each educational area by duly appointed supervisors or organisers, who can guide, train and supplement the teachers; and finally, the subject must be regarded as part of the routine education of the child in hygiene."

There is no need for me to add my opinion to that statement, and I content myself by expressing the hope that this provision will again be made in West Suffolk in the near future.

**(H) SANITARY AND GENERAL CIRCUMSTANCES OF SCHOOLS.**

The Assistant Medical Officers continue to inspect routinely and to report on these matters at their visits to the schools. Recently a new system has come into being, and such reports are transmitted in duplicate by me to the Education Secretary and to the County Architect, and they are later considered by the appropriate Committee at whose meeting I attend.

A large number of routine defects have been dealt with in this way, and I have every confidence that this Section of the work will be much more alive in the future than it has been in past years.

In many cases there is still required the active co-operation of the School Managers, for it would be idle to say that the schools in this County are generally satisfactory from the point of view of the simplest hygienic requirements. Improvements are being obtained but much has yet to be done before present day standards are reached in many of our County schools.

In this respect, I repeat my notes of last year:—There is still a tendency in some quarters to consider that these things are of little moment; in others there is apathy, and there is too often a tendency to leave things where they have been for many years in the past.

There is no escape from the fundamental importance of such things as sustained cleanliness, adequate and clean drinking water, adequate and cleanly sanitary arrangements, and the proper appreciation of adequate ventilation.

All these things should not only be emphasised and taught in school, but the school itself should form an example of their proper practice. In advising them, I am not setting an extravagant standard; on the contrary, it is only a standard of common decency and of common necessity.

Finally, it must be remembered that the whole service of preventive medicine has its roots in personal and environmental hygiene; the teaching and practice of hygiene in schools, therefore, assumes a very great and a very vital importance; it is no fad of the moment or of the medical mind; on the contrary it is positive work from which much can be expected in the future.

**GENERAL STATISTICAL FACTS IN 1935.**

The Medical Officers carried out 3810 routine examinations during the year; in addition 39 special examinations and 5060 re-examinations were made. The full total of inspections in 1935 was 8,909.

The figure for this year's work shows an increase of 317 inspections over the figure for the previous year, and this addition is mainly accounted for by the considerably greater number of children who were examined as re-examinations during the year.

The policy of retaining the medical schedules in the Central Office where the selection of children due for routine examination is made has now been in force since 1933, and I feel that the position which in 1933 and 1934 showed some evidence of upheaval in the figures has now become stable, and that the figures from now onwards, can be taken as an accurate index of what the service has to accomplish.

We are now able to feel assured that the routine examinations are being carried out according to the required age groups, and altogether the position is much more satisfactory. The scheme has functioned without difficulty and it has certainly given real accuracy to the work.



## FINDINGS AND RESULTS OF MEDICAL INSPECTION.

### PERCENTAGE OF DEFECTS.

The number of individual children found at all routine medical inspections to require treatment (excluding uncleanliness and dental diseases) was 248.

In the prescribed groups of entrants, intermediates, and leavers, a total of 227 children (6.6 per cent.) were found to require treatment; the percentage distribution in the three groups was: Entrants 5 per cent., Intermediates 8.7 per cent, and Leavers 6.2 per cent. In the other routine examinations 21 children (5.9 per cent.) were found to require treatment.

In the previous year the percentage of children in the prescribed groups requiring treatment was 4.7 and, therefore, in 1935 there has been a slight increase of 1.9 per cent. in the number of children requiring treatment.

In 1934 the percentage of children requiring treatment was exceptionally low, and it was, in fact, a record year. The slight increase in 1935 is, therefore, of no serious moment, and it may be fully accounted for by the ordinary fluctuations in the work.

### UNCLEANLINESS.

During the year the School Nurses made an average of 3.7 visits of inspection to each school in the area, and they carried out 28,145 examinations. The number of individual children found unclean was 344, this figure being 3.1 per cent. of the average number of scholars in attendance.

In this matter I have been proved happily to be a false prophet because in recent years I have reported repeatedly that I did not believe we could still further reduce the existing low figure for uncleanliness. It is interesting to note the figures set out in the Table below which covers a period from 1926 to 1935.

<i>Year.</i>	<i>Number of individual children found unclean.</i>				<i>Percentage of unclean children.</i>			
1926	...	...	...	1315	...	...	...	10.7%
1927	...	...	...	1142	...	...	...	9.3%
1928	...	...	...	881	...	...	...	7.3%
1929	...	...	...	811	...	...	...	6.8%
1930	...	...	...	821	...	...	...	6.9%
1931	...	...	...	717	...	...	...	6.2%
1932	...	...	...	489	...	...	...	4.2%
1933	...	...	...	459	...	...	...	3.9%
1934	...	...	...	465	...	...	...	4.1%
1935	...	...	...	344	...	...	...	3.1%

This Table shows clearly the record of work that has been accomplished in the last ten years; it is a testimony to the services of the School Nurses and to the interest and help of Head and other teachers; and it demonstrates that both parents and children are becoming steadily more "cleanliness conscious." The excellent result shown in this Table is indeed a credit to all the workers concerned and to the parents of West Suffolk who have shown their willingness and ability to improve the condition of their children; its merit becomes more marked when it is remembered that it has been obtained by kindly and persistent advice and help and that in my time at least not a single prosecution has been undertaken.

### MALNUTRITION.

This question has been fully discussed in an earlier section of this Report, and I propose to give here only the special Table required by the Board under this heading.

Age-groups.	Number of children inspected.	A. (Excellent).		B. (Normal).		C. (Slightly Subnormal).		D. (Bad).	
		No.	%	No.	%	No.	%	No.	%
Entrants ...	1190	138	11.6	707	59.4	319	26.8	26	2.2
Second Age-group ...	1068	73	6.8	584	54.7	364	34.1	47	4.4
Third Age-group ...	1198	162	13.5	664	55.4	341	28.5	31	2.6
Other Routine Inspections	354	42	11.9	212	59.9	87	24.5	13	3.7
TOTAL	3810	415	10.9	2167	56.9	1111	29.1	117	3.1

#### **EAR, NOSE AND THROAT CONDITIONS.**

In 1935, three cases of ear disease were recommended for treatment, while three were noted for observation. Included in these figures were two cases of defective hearing noted for treatment and two cases of defective hearing noted for observation. At the end of the year six children were being maintained by the Authority at Certified Schools for the Deaf.

Conditions of the nose and throat recommended for treatment numbered 101; this figure was made up of 36 cases of enlarged tonsils, and 65 cases of enlarged tonsils and adenoids; in addition, 432 cases of these defects were maintained under observation.

The policy of the Department in recommending treatment for these cases only when it is obvious that the condition is affecting the child's health and development has been maintained; in addition, a large number of cases in which the tonsils and adenoids are in some way abnormal are kept under observation lest an extension of their abnormality may one day lead to real interference with health.

This Education Authority has no scheme for the operative treatment of these conditions, and work is carried out by the various Voluntary Hospitals within and without the County, and the Authority does not assume any financial responsibility for the operative treatment of these cases.

I can only repeat my note of last year in which I stated that the present position was open to much justifiable criticism; it is still my belief that any procedure, which the Local Authority is authorised by law to finance should so be financed, and should not be carried out at the expense of the Voluntary Hospital System.

By courtesy of the Hospital Authorities, I am able to state that in 1935, 55 children were operated upon in the West Suffolk General Hospital for conditions of the nose and throat.

#### **DISEASES OF THE SKIN.**

Only one case of ringworm was noted for observation, and this disease continues, as in recent years, to be comparatively rare in the County.

Six cases of impetigo were recommended for treatment and one was recommended for observation.

No other skin disease of importance was noted.

The continued improvement in the number of skin diseases recorded each year follows the improvement in the general cleanliness of the school population and to-day's position is one more testimony to the work of the School Medical Service.

#### **EXTERNAL EYE DISEASE AND DEFECTIVE VISION.**

Under this heading, treatment recommendations were made in 143 cases of defective vision and in three cases of squint.

In addition, 64 cases of defective vision, 8 cases of squint, and 11 cases of other eye conditions were maintained under observation.

#### **DISEASES OF THE HEART AND CIRCULATION.**

No case of organic heart disease was found at routine inspection, but 153 cases of functional disorder of the heart were noted; one case of anæmia was referred for treatment, while 112 similar cases were maintained under observation.

I repeat my note of last year when I said that the high number of functional heart cases under observation is much more a matter of safety than of urgency, and it is to be expected that practically all, if not all, these children will reach and pass through adult life quite unencumbered by any heart disease or heart symptoms.

It has been my experience over a number of years that in both adults and children the less said about functional heart trouble the better, and I have yet to find any serious result arising from this view.

The rather high number of cases of anæmia is somewhat disquieting, especially in view of the malnutrition found in this County; the two conditions are closely related and both must be a matter of some concern.

#### **DISEASES OF THE LUNGS.**

During the year, 12 cases of bronchitis were noted for observation, while 195 cases of other non-tuberculous diseases were maintained under observation.



The figure for other non-tuberculous diseases is high, and it is a considerable increase on the previous year's result, but I believe the result is due more to the caution of the medical staff than to any serious change in the health of the children.

#### **TUBERCULOSIS.**

No definite case of Pulmonary Tuberculosis was discovered at routine inspection during the year, but two cases of suspected disease were kept under observation; one case of tuberculosis of the skin, and four cases of tuberculosis of other forms and five cases of gland infection were maintained under observation.

The work of contact examination has been continued, and special care has been given to all children suspected of being in a pre-tubercular state.

#### **DISEASES OF THE NERVOUS SYSTEM.**

Diseases of this type were confined to two cases of epilepsy and one case of chorea; all three cases were noted for observation while one case of other nervous condition was also kept under observation.

#### **CRIPPLING DEFECTS.**

Four cases of rickets and seven cases of spinal curvature were noted for observation; there were 7 other forms of crippling disease or deformity noted for treatment, while 19 were maintained under observation.

### **ORTHOPÆDIC TREATMENT.**

The main provision for this treatment in West Suffolk is centred at the West Suffolk General Hospital, where there is provided (a) Monthly consultations by the Consulting Orthopædic Surgeon, (b) Weekly out-patient attendances by the Assistant Orthopædic Surgeon, (c) Massage, Remedial Measures and Electrical Treatment, etc., and (d) operative and in-patient treatment for suitable cases.

For local convenience, the County Council, through this Department, avail themselves of the special British Red Cross Society (Cambridge Branch) Orthopædic Clinic, which is held at Newmarket.

At the West Suffolk General Hospital children of school age made 138 out-patient attendances, and 6 children of school age received in-patient treatment. A total of 9 orthopædic operations was performed on school children in hospital during 1935.

Where necessary, special cases are sent to recognised Orthopædic Hospitals outside the County, and the choice of these cases largely depends on the initial recommendations of the Consulting Surgeon.

*General Note.*—This service is generally satisfactory in the area, and much credit is due to the Orthopædic Staff of the West Suffolk General Hospital for accomplishing much excellent work frequently under heavy handicap.

The County has been fortunate to escape any epidemic of disease which brings in its train crippling sequelæ, but it is astonishing to find the number of ordinary cases which require this special treatment.

The expenditure of the Committee on this service is well justified and the fine results from it are one of the most satisfactory accomplishments of present day Preventive Medicine.

### **GENERAL REFRACTION AND EYE WORK.**

In 1935, 362 cases were refracted by the County Staff, and this figure shows an increase of 33 over that for the previous year. The total number of defects dealt with under various auspices was 408, which shows an increase of 24 over the figure for 1934.

Under the Authority's Scheme, spectacles were prescribed for 352 cases, and at the end of the year 342 children had obtained the necessary glasses. The remaining 10 cases are carried forward for settlement during the current year. Under private and other auspices, spectacles were prescribed and obtained in 39 cases.

The result of the working of this scheme is a very satisfactory one, and I would call attention to the considerable increase in the work undertaken by the County Staff. In 1933, 293 cases were refracted, in 1934 the number was 329, and in 1935 the figure had increased to 362. The increase in the work has necessitated a considerable amount of additional time being given to it, but the entire service is so important and so beneficial that I am prepared to devote even more time to it if this should be necessary.



## INFECTIOUS DISEASES.

In 1935, 19 schools were closed on account of outbreaks of infectious diseases; the following are the details: Measles 2, Scarlet Fever 3, Whooping Cough 3, Chickenpox 1, Influenza 2, Measles and Scarlet Fever 2, and Diphtheria 6.

During the year, 75 Low Attendance Certificates were issued by the Medical Department in respect of the following conditions: Measles 5, Whooping Cough 8, Chickenpox 16, Scarlet Fever 5, Influenza and Colds 27, Mumps 5, and Coughs and Colds 9.

The main feature of the year's experience was the considerable decrease in both Measles and Whooping Cough, both of which diseases had caused widespread trouble and concern in the previous year. I have been at some pains to point out the devastating results that may arise when these diseases are treated cheaply:—They are tragic diseases for they kill and they produce after-results which may lead to serious and continued impairment of the health of their victims. It cannot be too strongly urged and taught that these two diseases must be looked upon seriously and we must continue to impress on the people that adequate and simple precautions in the acute stage and in early convalescence will do much to rob them of their dangers to child life.

Scarlet Fever was spasmodic in its occurrence and trouble was experienced at Icklingham, Flempton, Hawstead and Haverhill. No serious consequences to the public health followed these outbreaks which in the main were mild and comparatively unimportant.

The six school closures for Diphtheria occurred in the Sudbury area during the summer when a sharp and localised but unfortunately tragic outbreak was experienced. It is with the greatest regret that I report the death of two children from this disease in Sudbury. Every possible step was taken to protect the school population and I am happy to say that the children as a whole escaped from the danger which tragically caused the death of two of their fellows. In this Sudbury outbreak it was only natural that very considerable concern should arise locally and in a difficult situation I was very much indebted to the co-operation of the Sudbury Council and their Medical Officer; the efforts made by these various people were extremely valuable, and a situation which might easily have become one of some panic was thoroughly held in check. At the time much talk locally, unfortunately spreading to the London Press, concerned the alleged danger of the bathing pool as the factor concerned in the diphtheria infection, but I place it on record as I did at the time of the trouble, that in my opinion there was absolutely no foundation for this view.

Influenza and colds generally showed an increase on the previous year, but no great concern was felt at any time in relation to these diseases.

No other disease was sufficiently noteworthy to require comment.

Finally, I take this opportunity of expressing my gratitude to the various local Authorities and to their Medical Officers of Health who so efficiently and willingly assisted me in this work.

## SCHOOL CLINICS.

The County School Clinics continue to carry out their functions, which are (a) to treat minor ailments, and (b) to provide for the examination and re-examination of children requiring special medical supervision.

During the year 156 cases were treated under the Authority's Scheme, and 76 cases were referred to other sources for necessary treatment; the total number of cases dealt with through the clinics was 232.

The following is a summary of the conditions treated or referred for treatment: Ringworm Scalp 9, Ringworm Body 7, Scabies 4, Impetigo 53, Other Skin Diseases 40, Minor Eye Defects 56, Minor Ear Defects 15, and Miscellaneous (minor injuries, etc.) 48.

The policy governing these clinics has remained unaltered, and I feel that they carry out their work in a useful and efficient way and that they now function with credit and with real service to the community.

## THE WORK OF THE COUNTY SCHOOL NURSES.

This work continues on the lines which I have indicated in previous reports and which I set out in detail in the Report of 1934.



Their services have been used extensively and very advantageously in the investigation of infectious diseases, and in connection with the recent scheme for the provision of milk to school children.

The good record regarding cleanliness and other similar matters in this County has been largely secured through the patient, knowledgeable, and kindly advice and services of these School Nurses, and it is a pleasure for me to report to you on the efficient and thorough way in which they carry out their work.

In 1935, the School Nurses made an average of 3.7 routine visits to each school for the purpose of cleanliness inspections, and they made a total number of examinations of 28,145.

#### CO-OPERATION OF PARENTS AND HEAD TEACHERS.

Greater interest in the Service is growing steadily among the parents of this County, and with it there grows a greater trust in the facilities which the Service has to offer.

Year by year the knowledge of the general population on the aims and objects of School Medical Inspection is becoming greater, but there still remains a good deal to be done in this respect. As I have said before, it is rare nowadays to encounter any opposition to the work, but I would be more pleased still if many more parents attended the medical inspection of their children and took a more active part in the working of the Service. I can only repeat that the attendance of parents at medical inspections is a happening which is welcomed and which contributes materially to the success of the scheme.

Once again I point out that the School Service, and particularly its Dental Department, makes little headway unless it possesses the goodwill and ready assistance of Head and other teachers. It is my privilege to acknowledge again gratefully and sincerely all the help which has been given to my Department by the members of the County teaching staffs. I am well aware that the School Medical Service imposes additional work on the teachers, although I endeavour to limit this burden in every way that is possible; more than this, I am well aware that apart from the routine work which the teachers do for the service there is a mass of entirely voluntary work done by them in the interest of their children. Best of all, I know that the teachers of this County do all these things for their children cheerfully and willingly and without a thought of defined duties.

#### CO-OPERATION OF VOLUNTARY BODIES AND AGENCIES.

It is my privilege and pleasure to report that during the year the Department has worked in complete co-operation with the various public and private sections of medical practice in West Suffolk.

I offer my thanks to the administrative and clinical staff of the Voluntary Hospitals within and without the County and to the medical practitioners throughout the area.

In particular, I wish to thank once again the Management Committee and all members of the Staff of the West Suffolk General Hospital for all their valuable assistance and courtesy during the year.

I also call your attention to the continued good services rendered in this County by the Society for the Prevention of Cruelty to Children. The work of this Society is still greatly required, and, in this area, I can testify that the Society, through its local Committee and Inspector, carries out its difficult duties in an admirable way, and that to the work there is brought patience and sound judgment and unfailing tact. My Department continues to avail itself freely of the services of the Inspector, and I have every confidence in his work.

To those who may think that no cruelty can exist in this fine County of Suffolk, I would give the assurance that the protective work of this Society is sorely needed in this area and I would remind these people that were it not for this Society many little children would suffer cruelly from the neglect, the ignorance and the callous conduct of men and women, who, though they may be parents, are utterly unfitted to have the care of children. It is my hope that every support will be given to the activities of this Society so that it can carry on adequately its fine work in the interests of little children.

To the other organisations and societies having charge of child life in this area I offer my gratitude for their help and goodwill so freely given in support of the County School Service.

#### SECONDARY SCHOOLS.

The County Secondary Schools are five in number; the West Suffolk County School, the Newmarket Secondary School, the Sudbury Grammar School, the Sudbury High School for Girls, and the Haverhill Secondary School; all these schools are provided by the Authority.



**(A) GENERAL OBSERVATIONS.**

Routine medical inspection has been carried out in each of these schools during the year. The children have been examined firstly at the age of 10-11, secondly at the age of 13, and thirdly at the age of 16. This scheme allows for the examination of secondary school children (a) as entrants, (b) at a later period when the child's reaction and response to Secondary School work can be judged, and (c) at a time just prior to the child leaving school, and (d) the scheme also provides for the yearly re-examination of all children presenting special defects which require supervision or observation. I believe that this procedure is entirely adequate and as a result of it the children are given the full supervision that is required at these difficult periods when childhood gives place to the adult phase of life.

**(B) DETAILED FACTS OF MEDICAL INSPECTION.**

In 1935, 501 secondary school children were routinely medically examined by the Medical Officers.

In the West Suffolk County School, 104 girls and 85 boys were examined; 45 children had slightly subnormal nutrition; 14 children suffered from defective vision and these were recommended for treatment, while one case was kept under observation; 11 children had dental caries referred for treatment; four children were recommended for treatment for enlarged tonsils and adenoids; while a number of children were maintained under observation for various conditions of a minor nature.

In the Newmarket Secondary School, 43 girls and 31 boys were examined; 17 children had slightly subnormal nutrition, 7 children were recommended for treatment for defective vision; two children were recommended for treatment for dental caries; while a small number of other children were maintained under observation for various conditions.

In the Haverhill Secondary School, 21 girls and 40 boys were examined; 9 children had slightly subnormal nutrition; six children were recommended for treatment for defective vision; three children were noted for treatment for enlarged tonsils and adenoids; two children were referred for dental treatment; while a small number of children were kept under observation for various conditions.

In the Sudbury High School, 83 girls were examined; 24 girls showed slightly subnormal nutrition; four girls were recommended for treatment for defective vision; one girl was referred for treatment for tuberculosis and several other girls were maintained under observation for various conditions.

In the Sudbury Grammar School, 94 boys were examined; 35 boys showed slightly subnormal nutrition; 5 boys were referred for treatment for defective vision; and a number of boys were kept under observation for various conditions.

**GENERAL CONCLUSIONS.**

During the year special regard was given to the nutrition of the children under examination, and the Board's Table was followed for all cases of abnormal nutrition.

The results of the special investigation are somewhat striking, and they provide evidence that this question must be most carefully watched in the future. Although the degree of sub-normal nutrition was only slight, it is a matter of concern to find the following percentages of the children examined showing sub-normal nutrition: West Suffolk County School 24 per cent., Newmarket Secondary School 23 per cent., Haverhill Secondary School 15 per cent., Sudbury High School 29 per cent., and Sudbury Grammar School 37 per cent.

There is no need at this stage for any alarm, but there is need for a full investigation and a careful observation of this matter in the future; this measure I have already authorised and a further report will be made in due course.

Turning from this matter of concern it is pleasant to note that in both the Sudbury Secondary Schools no cases of Dental caries were reported, while only two cases were reported in Haverhill School and two cases in Newmarket School. The West Suffolk County School showed 11 cases of dental disease requiring treatment.

Cases of Defective Vision were recommended for treatment in all five schools, but there is nothing unusual in this occurrence.

No other feature of any seriousness was found as a result of the inspections.



TABLE I.—MEDICAL INSPECTIONS OF CHILDREN ATTENDING PUBLIC ELEMENTARY SCHOOLS.

## A. ROUTINE MEDICAL INSPECTIONS.

Number of Inspections in the prescribed Groups						
Entrants ...	...	...	...	...	...	1190
Second Age Group ...	...	...	...	...	...	1068
Third Age Group ...	...	...	...	...	...	1198
Total ...	...	...	...	...	...	3456
Number of other Routine Inspections						354
Grand Total ...						3810

## B. OTHER INSPECTIONS.

Number of Special Inspections	...	...	...	...	...	39
Number of Re-inspections	...	...	...	...	...	5060
Total ...	...	...	...	...	...	5099

## C. CHILDREN FOUND TO REQUIRE TREATMENT.

Number of *Individual Children* found at *Routine Medical Inspection* to Require Treatment  
(excluding Uncleanliness and Dental Diseases).

Prescribed Groups:						
Entrants ...	...	...	...	...	...	60
Second Age Group ...	...	...	...	...	...	93
Third Age Group ...	...	...	...	...	...	74
Total (Prescribed Groups)	...	...	...	...	...	227
Other Routine Inspections	...	...	...	...	...	21
Grand Total ...						248

TABLE II.

## A. RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31st DECEMBER, 1935.

Defect or Disease.						Routine Inspections.		Special Inspections.	
						No. of Defects.		No. of Defects.	
						Requiring treatment.	Requiring to be kept under observation, but <i>not</i> requiring treatment.	Requiring treatment.	Requiring to be kept under observation, but <i>not</i> requiring treatment.
(1)						(2)	(3)	(4)	(5)
Skin	Ringworm—					—	1	—	—
	Scalp ... ..					—	—	—	—
	Body ... ..					—	—	—	—
	Scabies ... ..					6	1	—	—
	Impetigo ... ..					1	2	—	—
Other Diseases (Non-Tuberculous)					7	4	—	—	
Total (Heads 1 to 5)					7	4	—	—	

TABLE II.—(continued).

Eye	Blepharitis ... ..	2	2	—	1
	Conjunctivitis ... ..	—	—	—	—
	Keratitis ... ..	—	—	—	—
	Corneal Opacities ... ..	—	—	—	—
	Other Conditions (excluding Defective Vision and Squint) ... ..	—	11	—	—
	Total (6 to 10) ... ..	2	13	—	1
Ear	Defective Hearing ... ..	1	2	1	—
	Otitis Media ... ..	—	1	—	—
	Other Ear Diseases ... ..	—	—	1	—
Nose and Throat	Chronic Tonsillitis only ... ..	36	379	—	1
	Adenoids only ... ..	—	16	—	—
	Chronic Tonsillitis and Adenoids ... ..	65	26	—	—
	Other Conditions ... ..	—	10	—	—
Enlarged Cervical Glands (Non-Tuberculous) ... ..		13	230	—	2
Defective Speech ... ..		—	2	—	—
Heart and Circulation	Heart Disease—				
	Organic ... ..	—	—	—	—
	Functional ... ..	—	152	—	1
Anæmia ... ..		1	111	—	1
Lungs	Bronchitis ... ..	—	12	—	—
	Other Non-Tuberculous Diseases ... ..	—	195	—	—
Tuberculosis	Pulmonary—				
	Definite ... ..	—	—	—	—
	Suspected ... ..	—	2	—	—
	Non-pulmonary—				
	Glands ... ..	—	5	—	—
	Bones and Joints ... ..	—	—	—	—
Nervous System	Skin ... ..	—	1	—	—
	Other Forms ... ..	—	4	—	—
	Total (Heads 29 to 32) ... ..	—	10	—	—
	Epilepsy ... ..	—	2	—	—
Deformities.	Chorea ... ..	—	1	—	—
	Other Conditions ... ..	—	1	—	—
Other Defects and Diseases (excluding Uncleanliness and Dental Diseases)	Rickets ... ..	—	4	—	—
	Spinal Curvature ... ..	—	7	—	—
	Other Forms ... ..	6	19	1	—
Total ... ..		284	1352	4	8



TABLE II.—(continued).

## B. CLASSIFICATION OF THE NUTRITION OF CHILDREN INSPECTED DURING THE YEAR IN THE ROUTINE AGE GROUPS.

Age Groups.	Number of Children Inspected.	A (Excellent).		B (Normal).		C (Slightly subnormal).		D (Bad).	
		No.	%	No.	%	No.	%	No.	%
Entrants ... ..	1190	138	11.6	707	59.4	319	26.8	26	2.18
Second Age-group ...	1068	73	6.8	584	54.7	364	34.1	47	4.4
Third Age-group ...	1198	162	13.5	664	55.4	341	28.5	31	2.6
Other Routine Inspections ...	354	42	11.9	212	59.9	87	24.5	13	3.7
Total ...	3810	415	10.9	2167	56.9	1111	29.1	117	3.1

TABLE III.

## RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

## BLIND CHILDREN.

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

## PARTIALLY SIGHTED CHILDREN.

At Certified Schools for the Blind.	At Certified Schools for the Partially Sighted.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
—	—	6	—	—	6

## DEAF CHILDREN.

At Certified Schools for the Deaf.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
3	—	—	—	3

TABLE III.—(continued).  
PARTIALLY DEAF CHILDREN.

At Certified Schools for the Deaf.	At Certified Schools for the Partially Deaf.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
3	—	—	—	—	3

MENTALLY DEFECTIVE CHILDREN.

FEEBLE-MINDED CHILDREN.

At Certified Schools for Mentally Defective Children.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
6	8	—	2	16

EPILEPTIC CHILDREN.

CHILDREN SUFFERING FROM SEVERE EPILEPSY.

At Certified Special Schools.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total.
—	—	—	2	2

PHYSICALLY DEFECTIVE CHILDREN.

A. TUBERCULOUS CHILDREN.

I.—CHILDREN SUFFERING FROM PULMONARY TUBERCULOSIS.

(Including pleura and intra-thoracic glands).

At Certified Special Schools.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total.
—	1	2	3	6

II.—CHILDREN SUFFERING FROM NON-PULMONARY TUBERCULOSIS.

(This category should include tuberculosis of all sites other than those shown in (I.) above).

At Certified Special Schools.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total.
3	8	—	1	12



TABLE III.—(continued).

## B. DELICATE CHILDREN.

At Certified Special Schools.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total.
—	119	4	5	128

## C. CRIPPLED CHILDREN.

At Certified Special Schools.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total.
1	54	1	7	63

## D. CHILDREN WITH HEART DISEASE.

At Certified Special Schools.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total.
—	8	—	1	9

## CHILDREN SUFFERING FROM MULTIPLE DEFECTS.

Combination of Defect.	At Certified Special Schools.	At Public Elementary Schools.	At Other Institutions	At no School or Institution.	Total.
Mental Defect and Blind ...	1	—	1	—	2
Crippling and Mental Defect ...	—	—	1	9	10
Mental Defect and Epileptic ...	—	—	1	—	1

TABLE IV.—(TREATMENT TABLE).

## GROUP I.—MINOR AILMENTS (excluding Uncleanliness, for which see Table VI.)

Disease or Defect.  (1)	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme.  (2)	Otherwise.  (3)	Total.  (4)
<i>Skin—</i>			
Ringworm-Scalp—			
(i.) X-Ray Treatment. If none, indicate by dash ...	—	—	—
(ii.) Other " ... ..	8	1	9
Ringworm-Body ... ..	5	2	7
Scabies ... ..	4	—	4
Impetigo ... ..	35	18	53
Other skin disease ... ..	27	13	40
<i>Minor Eye Defects</i> ... ..	30	26	56
(External and other, but excluding cases falling in Group II.).			
<i>Minor Ear Defects</i> ... ..	8	7	15
<i>Miscellaneous</i> ... ..	39	9	48
(e.g., minor injuries, bruises, sores, chilblains, etc.).			
Total ... ..	156	76	232

## GROUP II.—DEFECTIVE VISION AND SQUINT (excluding Minor Eye Defects treated as Minor Ailments—Group I.)

Defect or Disease.  (1)	Number of Defects dealt with.		
	Under the Authority's Scheme  (2)	Otherwise.  (3)	Total.  (4)
Errors of Refraction (including Squint) ...	362	40	402
Other Defect or Disease of the Eyes (excluding those recorded in Group I.) ... ..	—	6	6
Total ... ..	362	46	408
No. of Children for whom spectacles were			
(a) Prescribed ... ..	352	39	391
(b) Obtained ... ..	242	39	381



TABLE IV.—(continued).

## GROUP III.—TREATMENT OF DEFECTS OF NOSE AND THROAT.

Number of Defects.				
Received Operative Treatment.			Received other forms of Treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
(1)	(2)	(3)	(4)	(5)
—	127	127	12	139

## GROUP IV.—ORTHOPÆDIC AND POSTURAL DEFECTS.

	Under the Authority's Scheme (1)			Otherwise (2)			Total number treated.
	Residential treatment with education. (i.)	Residential treatment without education. (ii.)	Non-residential treatment at an orthopædic clinic. (iii.)	Residential treatment with education. (i.)	Residential treatment without education. (ii.)	Non-residential treatment at an orthopædic clinic. (iii.)	
Number of Children treated ...	5	5	56	—	—	2	68

TABLE V.—DENTAL INSPECTION AND TREATMENT.

(1) Number of children inspected by the Dentist :—

(a) Routine Age Groups	Under 5	...	258
	5	...	777
	6	...	1122
	7	...	1181
	8	...	1255
	9	...	1357
	10	...	1245
	11	...	1359
	12	...	1352
	13	...	1365
	14	...	992
	Total	...	12263
(b) Specials	...	...	Nil
(c) TOTAL (Routine and Specials)	...	...	12263
(2) Number found to require treatment	...	...	9013
(3) Number actually treated	...	...	4443
(4) Attendances made by children for treatment	...	...	4674

TABLE V.—(continued).

(5) Half-days devoted to	{ Inspection ... 236 Treatment ... 640 }	Total...	...	876
(6) Fillings ...	{ Permanent Teeth 1430 Temporary Teeth 418 }	Total...	...	1848
(7) Extractions ...	{ Permanent Teeth 821 Temporary Teeth 4429 }	Total...	...	5250
(8) Administrations of general anaesthetics for extractions	...	...	...	120
(9) Other Operations ...	{ Permanent Teeth 143 Temporary Teeth 43 }	Total...	...	186

The following treatments were carried out at clinics and are not included in the above figures :—

Treated ...	...	...	...	...	161
Attendances ...	...	...	...	...	161
Fillings, Temporary	...	3	Permanent	...	32
Extractions, Temporary	...	164	Permanent	...	69
General Anaesthetics	...	...	...	...	2

TABLE VI.—UNCLEANLINESS AND VERMINOUS CONDITIONS.

- (i.) Average number of visits per school made during the year by the School Nurses, 3.7
- (ii.) Total number of examinations of children in the Schools by School Nurses, 28,145.
- (iii.) Number of individual children found unclean, 344.
- (iv.) Number of children cleansed under arrangements made by the Local Education Authority, Nil.
- (v.) Number of cases in which legal proceedings were taken :—
  - (a) Under the Education Act, 1921 ... Nil
  - (b) Under School Attendance Byelaws ... Nil



# TABLE I

No.	Name	Location		Date	Remarks
		Latitude	Longitude		
1	...	...	...	...	...
2	...	...	...	...	...
3	...	...	...	...	...
4	...	...	...	...	...
5	...	...	...	...	...
6	...	...	...	...	...
7	...	...	...	...	...
8	...	...	...	...	...
9	...	...	...	...	...
10	...	...	...	...	...
11	...	...	...	...	...
12	...	...	...	...	...
13	...	...	...	...	...
14	...	...	...	...	...
15	...	...	...	...	...
16	...	...	...	...	...
17	...	...	...	...	...
18	...	...	...	...	...
19	...	...	...	...	...
20	...	...	...	...	...
21	...	...	...	...	...
22	...	...	...	...	...
23	...	...	...	...	...
24	...	...	...	...	...
25	...	...	...	...	...
26	...	...	...	...	...
27	...	...	...	...	...
28	...	...	...	...	...
29	...	...	...	...	...
30	...	...	...	...	...
31	...	...	...	...	...
32	...	...	...	...	...
33	...	...	...	...	...
34	...	...	...	...	...
35	...	...	...	...	...
36	...	...	...	...	...
37	...	...	...	...	...
38	...	...	...	...	...
39	...	...	...	...	...
40	...	...	...	...	...
41	...	...	...	...	...
42	...	...	...	...	...
43	...	...	...	...	...
44	...	...	...	...	...
45	...	...	...	...	...
46	...	...	...	...	...
47	...	...	...	...	...
48	...	...	...	...	...
49	...	...	...	...	...
50	...	...	...	...	...
51	...	...	...	...	...
52	...	...	...	...	...
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87	...	...	...	...	...
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89	...	...	...	...	...
90	...	...	...	...	...
91	...	...	...	...	...
92	...	...	...	...	...
93	...	...	...	...	...
94	...	...	...	...	...
95	...	...	...	...	...
96	...	...	...	...	...
97	...	...	...	...	...
98	...	...	...	...	...
99	...	...	...	...	...
100	...	...	...	...	...

The following table gives a summary of the results of the observations made during the voyage of the U.S.S. Albatross, under the command of Lieutenant-Commodore J. D. Sigsbee, U.S.N., during the years 1876-77, 1878-79, and 1880-81. The observations were made at various stations in the Pacific Ocean, and the results are given in the following table.

The observations were made at various stations in the Pacific Ocean, and the results are given in the following table. The observations were made at various stations in the Pacific Ocean, and the results are given in the following table. The observations were made at various stations in the Pacific Ocean, and the results are given in the following table.

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