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SIXTH

# ANNUAL REPORT

OF THE

SCHOOL MEDICAL OFFICER

TO

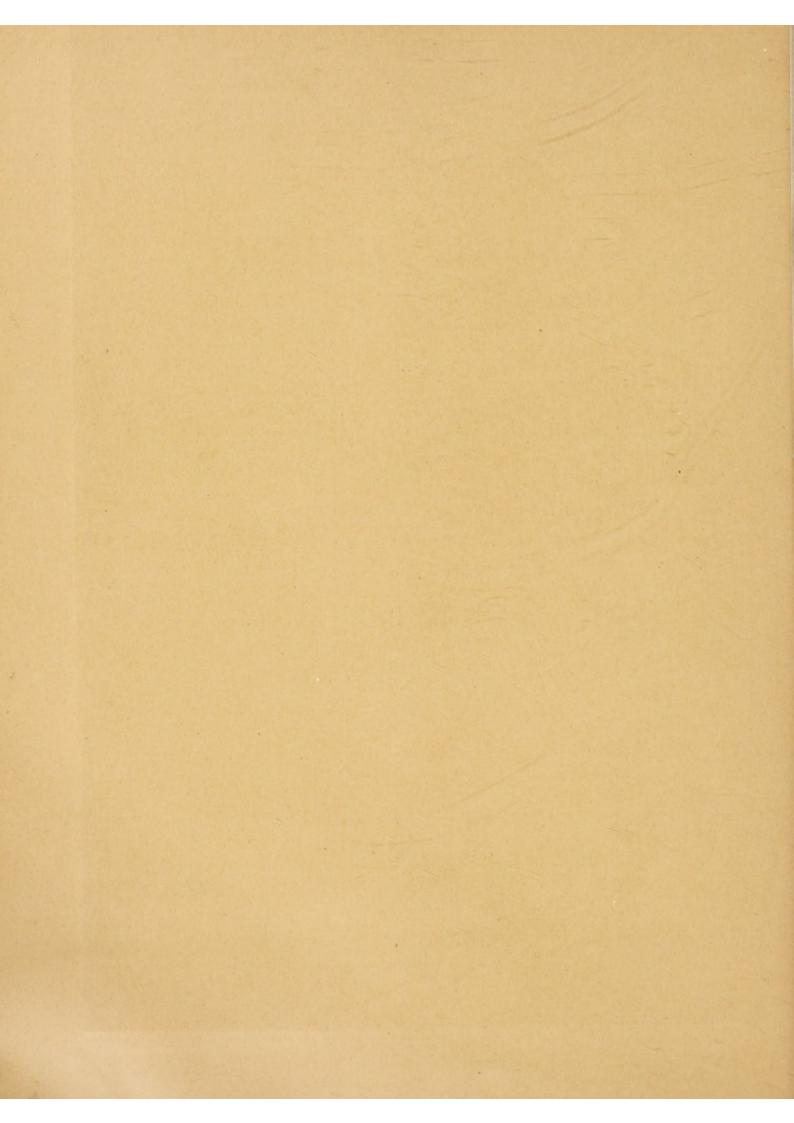
# The Education Committee

OF THE

SALOP COUNTY COUNCIL,

1913.

JAMES WHEATLEY, M.D., D.P.H.



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JAMES WHEATLEY, M.D., D.P.H.

# Medical Staff.

JAMES WHEATLEY, M.D., D.P.H.

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# To the Chairman and Members of the Salop Education Committee.

LADIES AND GENTLEMEN,

I beg to present my sixth Annual Report as Medical Officer to the Salop Local Education Authority in accordance with Circular 576 of the Board of Education, which sets out that "every School Medical Officer should make an annual report to the Local Education Authority on the schools and children under his superintendence, which should be printed for facility of reference and in order that a supply of copies may be available for distribution among the members of the Authority and other persons interested. The Authority should send two copies of the report to the Board of Education as soon as possible after the end of the year under review."

Six copies of this report have now to be sent to the Board of Education.

For the last three years the annual reports have been sent to the head teachers of each school and have in many instances been much appreciated. The fact that the report is widely read by school teachers throughout the County, adds considerably to its value, and justifies the inclusion of information that is particularly likely to be interesting and useful to them. For the same reason it is felt that many important matters relating to the health of the children may be repeated with advantage.

In my report for 1912, I said :—The principal matters that need attention in order to make the medical inspection more efficient are :—

(r) The necessity for some system of school nursing.

(2) Increased facilities for medical inspection and particularly for the inspection of the eyesight of children at the age of 7 to 8.

(3) Provision for the X-ray treatment of ringworm.

(4) The consideration of improved facilities for treatment—including dental treatment.

(5) The commencement of a definite effort, if possible, along with the Sanitary Authorities to reduce the amount of dental caries.

A scheme for school nursing has been adopted; a commencement has been made with number 5, and number 3 is under consideration. Nos. 2 and 4 should have consideration in the near future.

It cannot, however, be too clearly borne in mind that the greatest effort should be towards bringing the *ordinary child* up to the highest pitch of physical fitness possible, by removing what may broadly be spoken of as unphysiological modes of living.

This preventive work should consist of (I) improvement of school premises; (2) provision of proper playgrounds or playing fields; (3) the efficient carrying out of physical exercises; (4) the teaching and training of the children in matters pertaining to health; (5) co-operation with Sanitary Authorities so that the children's health shall not be irretrievably damaged before school age.

It has been found desirable to deal separately with the inspection of the children in the Borough of Wenlock and in the rest of the County, on account of the different method of inspection and the very different standard of defects that has evidently been adopted. The conditions found in the Borough of Wenlock are stated at the end of the report.

I take this opportunity of again expressing my opinion of the excellence of the work done by the Medical Inspectors, and also of thanking the teachers, the Voluntary Helpers, and many of the Clergy for their most cordial co-operation.

I am, Ladies and Gentlemen, Your obedient Servant, JAMES WHEATLEY,

County Medical Officer of Health

and School Medical Officer.

County Buildings, 1914.

# Area covered by the Salop Local Education Authority, Number of Schools, Departments, and Children on Register.

The area covered by the Salop Education Authority comprises 858,277 acres, and had a population at the 1911 census of 201,673. It is co-terminous with the Administrative County with the exception that the Borough of Shrewsbury is not included. The number of schools is 294, comprising 359 departments. The number of children on the registers necessarily varies from time to time to some extent. On November 21st, 1913, it was 35,755.

# Hygienic Condition of Schools.

In the report for 1910 a fairly complete analysis of the schools was made with respect to-

(1) ventilation,

(2) means of flushing with fresh air,

(3) methods of cleansing,(4) sanitary accommodation,

(5) lavatory accommodation, and

(6) cloak rooms.

Since then the Medical Inspectors have reported on the condition of the schools at each visit. The School Medical Officer reports all matters that require remedial action, and these reports are forwarded to the Managers of the Schools for their information and consideration.

The amount of work carried out to remedy the defects found cannot be considered altogether satisfactory. For example, the schools or departments with defective ventilation reported in 1910 or earlier, about 60 per cent., are still undealt with. The improvements made in the remainder were often of a very partial character and not such as could be considered a final solution.

Investigation into the spread of outbreaks of infectious disease proves conclusively that schools are the principal means of introduction of infectious disease into households. This applies more particularly to measles, whooping cough, and diphtheria, and it applies with greater force to country than to town schools. There is much reason to think that school infection is also one of the factors in the production of adenoids. The influence of insanitary school conditions in causing phthisis, not so much by direct infection, as by lowering the body resistance and by favouring predisposing infections should not be lost sight of.

When all these matters are borne in mind the importance of a strenuous effort to improve the condition of the schools and particularly of the ventilation and cleanliness is obvious. It is hoped that it will be found practicable to accelerate this work in the future.

In the Book of Regulations and Instructions, issued in January, 1912, a section is devoted to Hygienic conditions in Schools, directing the attention of Managers and Teachers to the salient points with regard to ventilation, cleanliness, heating and sanitary and lavatory accommodation.

# Arrangements made for Medical Inspection.

The general arrangements described in my report for 1909 have continued throughout the year.

EMPLOYMENT OF SCHOOL NURSES.—This has been the subject of a special report which has now been adopted by the County Council. The scheme provides that school nursing shall be carried out by the district nurses where they are available, and for the remainder of the County by whole time specially trained nurse-inspectors, who will also undertake the work under the scheme for the prevention and treatment of tuberculosis and under the Notification of Births Act, if adopted.

Voluntary Helpers.—In connection with most of the schools, helpers have been nominated by the Managers for the purpose of following up the children found defective and attempting to get the conditions remedied.

The practical working of the scheme is as follows:-

As soon as the School Medical Officer receives the report from the head teacher, two months after inspection (see page 9), he forwards particulars of the children needing medical or other treatment to the voluntary helpers in connection with the school. The forms are all usually sent to one helper who distributes them amongst the others according to local circumstances. The helper visits the children allotted to her and endeavours to bring about remedial treatment. In many instances a large amount of energy and tact is shown and the work is done extremely well. In other instances the work has not been so successful, possibly because there has not been a clear understanding as to what is required. The following may be taken as an indication of the lines on which the voluntary helpers should work:—

(I) The primary object should be to induce parents to obtain the necessary treatment for their children.

(2) In doing so they will often have opportunities of bringing about an improvement

in home conditions and thus remove the causes of defects.

(3) The deterring influence of physical defects upon the education and physical development of the child and the necessity for their prompt treatment can be pointed out in a practical and convincing manner. This is particularly important in regard to defects of the throat, eyesight, and hearing.

(4) There will always be cases that require some form of material help, and for these there may be some local charitable funds available. As examples might be mentioned the provision of letters of recommendation to hospitals, the provision of railway fares, spectacles,

etc.

(5) The Helpers will no doubt in many cases be able to utilise the district nursing

associations, and other charitable agencies in the carrying out of this work.

(6) In some instances they will have opportunities of seeing that the defective child has appropriate treatment in a convalescent home or a sanatorium for consumptives, or they will be able to refer consumptive cases to the Local Committee of the Association for Prevention of Consumption.

(7) In the last resort, it will be possible for them to call the attention of the Guardians

to any case needing their help.

(8) They may perhaps help to some extent in the matter of verminous heads by raising the tone of public opinion in the district on this question.

Most of this work is done by the helpers working individually, but some of it, for example where funds have to be raised, can best be undertaken by helpers forming themselves into Committees.

My thanks are due to the helpers for the large amount of trouble they have taken. In many instances they have shown a very clear appreciation of what should be attempted, and very successful results have been obtained. It has not, however, in all instances been recognised that the helpers should bring their superior knowledge and influence to bear upon the parents, so that they will see the importance of obtaining the best possible remedial treatment for their children's defects, and that for this purpose it is necessary for the helpers themselves to give some thought to the subject. To simply record the opinions or wishes of the parents, as is done in some instances, without any effort to modify them, is of little use.

Some of the helpers in the more populous districts are finding the work too laborious. It is noticed that where the services of a fully trained nurse are available the work of following up the cases is carried out with much greater effect.

The following schools are without helpers, although in a number of these the Vicar or Rector of the Parish has helped in many instances to get treatment:—

Alberbury. Asterley. Aston. Bettws-y-Crwyn.

Buildwas. Button Oak.

Chirk Bank. Church Preen. Cleeton. Clunbury.

Clunbury. Clunton. Crudgington. Deuxhill. Diddlebury.

Donnington Wood.

Ellerdine.

Eyton-on-the-Wildmoors.

Farlow. Frankton. Gobowen.

Great Wollaston. Hadley.

Hadley. Hadnall. Harley.

High Ercall.

Highley.
Hope.
Hopesay.
Ifton Heath.
Ketley Bank.
Kinlet.

Kinnersley.
Kinnersley.
Knowbury.
Langley.
Lawley.
Lea Cross.
Leighton.

Lilleshall.
Loppington.
Maesbury Undenominational.

Mainstone. Malins Lee.

Malins Lee Institute.

Minsterley. More. Moreton.

Neen Sollars. Newtown.

Pant. Pant Glas. Pool Hill. Pontesbury.

Preston-on-the-Wildmoors.

Priors Lee.

Richard's Castle.

Ryton. St. Martin's. Shelve. Shifnal. Smethcott.

Stanton-upon-Hine-Heath. Stiperstones (Worthen).

Stirchley.

Stoke St. Milborough.

Stottesdon. Tilstock.

Uffington, Sundorne.

Wellington, Constitution Hill. Wellington, Wrekin Road. Wem Undenominational. Wentnor (Stiperstones).

Westbury Forest. Weston Rhyn.

Whitchurch Wesleyan.

Woodcote. Woodseaves. Worfield Endou

Worfield Endowed. Wrockwardine.

Wrockwardine Wood C.E. Wrockwardine Wood Council.

Wroxeter.

It is most desirable that helpers should be obtained for these schools.

Teachers.—The teachers undoubtedly have a most important position in the work of medical inspection, and upon the energy and intelligence with which they carry out their work depends much of its success. Their part of the work consists of (1) weighing and measuring the

children before inspection; (2) making a preliminary examination of the eyesight of children between the ages of 7 and 8, and referring those apparently defective to the medical inspector; (3) entering on the cards various particulars with respect to the previous history and present condition of the children; (4) informing the parents of the date of inspection, getting information from them and persuading them to attend the inspection; (5) selection of special children for examination who appear to be more or less defective; (6) transmission of instructions to parents in certain instances; (7) inquiring into the cases of children found defective and forwarding to the School Medical Officer the reports as to the treatment of these children; (8) notification to the School Medical Officer of all cases of infectious disease in the school as they occur. Many of the teachers have taken a large amount of trouble to persuade parents to get efficient treatment for their children.

The work done by many of the teachers is by no means confined to these matters, but extends into many other details of personal hygiene.

Considering the important place that the teacher should occupy in this work, it is gratifying to be able to report that they have, with few exceptions, helped most loyally and enthusiastically.

ATTENDANCE OFFICERS.—The work of attendance officers in connection with medical inspection has been almost entirely up to the present confined to the investigation of cases excluded from school. In these cases and particularly in the infectious skin conditions (ringworm, scabies, and impetigo), the attendance officers visit and impress upon the parents the necessity for obtaining medical advice or for carrying out the routine treatment prescribed from this department. Such visits have proved to be of great and increasing use.

The full utilisation of attendance officers in connection with the discovery and treatment of infectious and defective children, and the utilisation of nurses in bringing about a better attendance, are matters that will well repay careful consideration.

It must be remembered that probably 90 per cent. of the absences from school are on medical grounds and therefore it is obvious, that it is a great advantage, if persons acting in the capacity of attendance officers have had some medical or nursing training. Probably the ideal scheme would be the employment of a number of trained nurse-inspectors who would carry out the whole work of the County Council of this character. The work would include inspection under the Tuberculosis Scheme, the Notification of Births Act and School Nursing, including the visiting of all absentees not properly accounted for. A small number of male attendance officers would be required for dealing with those cases of absence not depending on medical defects and in which entirely different methods would be necessary.

In such a scheme there would be no overlapping of work, the districts would be small, there would be comparatively little travelling, and the nurse-inspector would get a thorough knowledge of her district.

If at any time such a scheme is considered it could be adopted gradually and extended if successful.

Presence of Parents at Inspections and their Co-operation in the Treatment of Defects.—From the commencement of medical inspection in this County, it has been recognised that the presence of parents at the inspection is of paramount importance, and every effort has been made to obtain their attendance.

It is gratifying to find that their attendance is being well maintained.

In considering the advantage of medical inspection it should not be lost sight of, that some 4,000 parents are interviewed every year by the Medical Inspectors and advised so far as time permits with regard to the health of their children. With more time available this might be made an extremely valuable part of the work.

There is a disposition for the parents to think that it is unnecessary to attend at the inspection of the older children, and particularly at that of the older boys. It is most desirable that parents of the older children should attend and take the opportunity of asking advice on points that will arise on leaving school, and particularly as to the physical fitness of their children for the occupations they are intended for.

The percentages of parents present at the inspections in the various attendance districts are given in the summary tables.

With regard to individual schools the following may be taken as examples where the attendance of parents was poor:—

					37 1		
Nash				20.0			II.I
Aston				18.7	Worckwardine Boys		10.0
Deuxhill				17.6	Dorrington		8.3
Bridgnorth R.C.				15.4	Adderley		0.0
Church Pulverbate				14.3	N. D.C.		0.0
					WT 1.4		0.0
Neenton				12.5			
Cleeton St. Mary				12.5	*Hodnet Council Boys	• •	0.0
Knockin				II.I			
and the following	of schoo	ls who	ere the	attenda	ance was good :		
*Eaton-under-Heyw	rood			100.0	Whitchurch Wesleyan Infants.		83.3
*Preston-on-the-Wi				100.0	+51		83.3
				100.0	TO TO TO THE TOTAL OF THE TOTAL	 	82.9
Stiperstones				100.0	Wombridge Council Infants	 	82.4
Oxon				90.5	1	 	81.8
Oswestry Council	Girls			88.9	Pant	 	80.0
Astley Abbotts				88.2	Rhydycroesau	 	80.0
Sheinton				87.5	D i	 	80.0
Berrington				85.7	T C	 	80.0
					Maesbury Undenominational		80.0
Stanton Lacy	**			85.7		• •	
Wellington R.C.				84.6		 	80.0
Buildwas .				83.3		 	80.0
Harley				83.3	Clun C. of E. Infants	 	80.0
Trefonen				83.3			

Interference with Routine School Work by Medical Inspection.—In the case of small one-roomed schools the examination usually occupied half a day, and those children who were not due for examination were allowed to spend the morning or afternoon in the playground, or were sent home if the weather was wet.

In larger schools the extent of the interference depended greatly upon the teaching arrangements, as the head teacher, with few exceptions, was present at the inspections.

In some of the larger schools all the available accommodation was in constant use. In such cases, groups of children were in turn sent out to play or were sent home.

It cannot be said that the interference with school work was on the whole at all serious.

<sup>\*</sup> Numbers very small.

General Description of the Arrangements that have been made for the Correlation of the School Medical Service with the Public Health Service.—These arrangements were fully described in the report for 1909. The means for dealing with infectious disease, including the arrangements for notification of the disease to the School Medical Officer and the local Medical Officers of Health, school closure, etc., have worked satisfactorily during the year. Whenever there is reason to suppose that the home conditions of any school children are such as to need the attention of the Sanitary Authority, a communication is sent to the District Medical Officer of Health or, by arrangement, the Sanitary Inspector.

There is close co-operation between the Medical Officers of Health and the School Medical Officer in all matters relating to the prevention of infectious disease.

The establishment of a good system of school nursing would make this co-operation much more effective in the control of infectious disease in schools.

# EDUCATION COUNTY EXCLUSIVE OF BOROUGH OF WENLOCK.

# Extent and Scope of the Medical Inspection carried out in the year 1913.

Besides the two routine medical inspections carried out in accordance with the Education (Administrative Provisions) Act, 1907, section 13, and the instructions of the Board of Education, the Medical Inspectors have examined all children brought under their notice by the teachers or parents on account of supposed defects; they have also re-examined all those children found defective at previous inspections; they have reported on the sanitary condition of the school premises, and they have, when time has allowed, observed and reported on the methods of conducting physical exercises.

The two ages at which the children were examined were 5 and 12 or over, as representing practically new admissions and those who might leave school before the next inspection. Along with the children age 5, any older children who had been admitted to school for the first time during the year were examined.

In order to meet statutory requirements, it has also been necessary to examine more or less superficially a number of children under 5 years of age.

It is not possible with the present staff to examine children of an intermediate age in accordance with the prefatory memorandum of the 1909 Code; nor is it possible to examine the schools more than once a year.

The Board of Education have indicated that they do not regard the inspection of schools once a year as satisfactory.

The total number of visits to the schools was 464.

The number of children examined in the systematic inspection was :--

1613 boys, age 12 or over. 1679 girls, age 12 or over.

2043 boys, age 5 or new admissions over 5.

2027 girls, age 5 or new admissions over 5.

Besides these full systematic examinations, 765 children under 5 years of age were superficially examined and 788 were examined at the instance of the teacher on account of supposed defects.

A large amount of time, somewhat difficult to estimate, has been taken up with the most important work of re-examination of those children found defective at previous inspections. It is quite obvious that this work must increase in proportion to the length of time that medical inspection has been in force, until finally, practically all defective children, whose defects have not been satisfactorily remedied, or who for any reason require frequent supervision, are seen by the Medical Inspector at each visit to the school. Although systematic inspection of the children is necessary to discover defects and for other reasons, it is undoubtedly this frequent inspection of the defective children that leads to the most practical results. During the year 4,038 children were re-examined on account of defects previously discovered, and in estimating the amount of inspection done during the year this must be borne in mind. The corresponding number re-examined in 1912 was 3,750, and in 1911 was 2,835.

The total number of children inspected during the year was 12,953, made up as follows :-

7362 examined systematically.

765 children under 5 examined superficially. 788 examined at request of the teachers.

4038 re-examined on account of defects previously found.

The number of days in which the Inspectors were engaged in systematic inspection was 373.

The number of hours available for inspection is about 4½\*, of which roughly one-and-a-half hours are taken up with the extra cases, etc., leaving about three hours a day for routine inspection. Calculated on this basis the average time occupied by each routine examination was 9.1 minutes, or exactly the same as in 1912 and 1911.

The average number of children examined in the routine examination each day was 19.7, and including the extra cases and re-examinations, was 34.7.

## Condition of the Children.

The number of children examined, the condition of the children as regards nutrition, cleanliness, clothing, etc., and the defects found are stated in the tables at the end of the report. The results of the inspections are not given for each individual school, but for schools grouped in Attendance Districts. They are given separately for each sex and for each inspection age, but the final table refers to both sexes, and to both inspection ages.

Amongst the 7,362 children who were completely examined, 1,441 or 19.6 per cent., were found to be suffering from defects of a sufficiently serious nature to require medical attention. Some of these children were suffering from several defects, so that the total defects requiring attention were considerably in excess of this number.

Besides these, there were a large number of children with more or less slight deviations from the normal, which, although not sufficiently serious to call for medical attention, may, under unfavourable conditions, develop into grave defects.

Amongst 765 children under 5 years of age that were examined more or less superficially, 58 were found to require medical attention.

Amongst the children who were brought to the notice of the inspectors because the teacher thought they were in some respects abnormal, no less than 369 were found to be suffering from defects requiring medical attention. These cases will be spoken of in later parts of the report as extra cases.

In all the cases requiring medical attention, instructions were given to the parent and generally to the teacher. In minor defects, instructions were given where necessary.

These figures do not include defects of teeth. The teeth of the children were found, as at previous inspections, to be in a deplorable condition.

\* Although this is the time strictly available, it is usually exceeded.

Condition of children with regard to previous Infectious Disease: -Percentage of Children who have had the various diseases.

		Town	Town Schools.			Country Schools.	Schools.		- 02	Total.	al.	
	Males age 5.	Males Females Males Females age 5. Age 12 Age 12 and over and over	Males Age 12 and over	Males Females Age 12 and over and over	Males Age 5.	Females Age 5.	Females Males Females Age 5. Age 12. Age 12 and over	Males Females Age 12 and over and over	Males Age 5.	Females Age 5.	Males Age 12 and over	Males Females Age 12 Age 12 and over
Messles	0 44	× 0 × 0	83 T	80.3	35.8	38.7	73.2	75.5	30.7	43.5	75.7	77.5
Whooning	7: /+	2.00	1.0	· ·		0 90	0 000	77.0	32 4	37.0	30.I	46.4
Cough	33.3	41.5	40.0	45.0	32.0	13.2	16.2	20.4	14.1	15.7	18.3	22.0
Chicken-pox	15.7	21.0	24.6	25.8	13.2	7.	2.6	3.8	6.	0.	2.5	3.9
Diphtheria	I.I	6.	2.4	4.1	∞.	4.2	8.9	11.8	3.7	3.9	9.4	11.8
Scarlet Fever	2.6	3.1	10.8	11.7	4.3		,					
										-		-

This table is compiled from the replies obtained from the parents before the medical inspection. The figures are extremely interesting and of considerable importance, as they have a distinct bearing upon the problems connected with the spread of infectious disease in schools. They cannot of course be taken as strictly accurate, but probably there is no great error.

There is a fairly close correspondence between these figures and those of previous years, and this may be accepted as confirmatory evidence of their accuracy. The percentages with regard to measles were lower in 1913 as compared with 1912 at the age of 5 and higher at the age of 12. A comparison of the figures relating to measles, whooping cough, diphtheria and scarlet fever for the last five years is interesting.

			MEASLES.		
			Age 5.	Age	T2
		Males.	Females.	Males.	Females.
1909		48.2	49.8	78.2	81.9
1910		47.5	49.7	77.0	79.7
1911		50.4	50.6	77.I	79.8
1912		54.5	54.7	70.5	72.5
1913		39.7	43.5	75.7	77.5
			WHOOPING COUGH.		
				Amo	7.0
		Malas	Age 5. Females.	Age Males.	Females.
*****		Males.			
1909		36.6	41.2	39.5	45.I
1910		34.1	37.6	40.0 42.3	44·7 44·7
1911		34.0	34·5 36.9	40.0	43.1
1912	• •	35.0		39.1	46.4
1913		32.4	37.9	39.1	40.4
			DIPHTHERIA.		
			Age 5.		e 12.
		Males.	Females.	Males.	Females.
1909		I.O	1.7	2.4	2.7
1910		1.6	1.5	2.5	3.3
1911		1.7	1.6	2.7	2.9
1912		1.5	1.5	2.5	2.9
1913		9	.8	2.5	3.9
			SCARLET FEVER.		
			Age 5.	Age	2 12.
		Males.	Females.	Males.	Females.
1909		3.8	3.9	10.2	11.2
1910		5.2	4.2	10.7	9.5
1911		4.6	5.7	8.7	11.3
1912		5.7	5.3	8.4	9.5
1913		3.7	3.9	9.4	11.8
, ,			1500000		

In my report for last year I said :-

"The figures appear to show that roughly about 50 per cent. of the children have measles before the age of 5, and that 25 per cent. are affected between the ages of 5 and 12, which includes most of the school life. The great majority of the children found to have had measles at the age of 5 have no doubt been infected before school life. With regard to whooping cough, about 35 per cent. have suffered by the age of 5, and only an additional 6 per cent. are infected between the ages of 5 and 12. About 1.5 per cent. of the children at the age of 5 have had diphtheria, and another 1.3 per cent. are infected during school life (between 5 and 12). This does not take into account second attacks. About 5 per cent. of the children at the age of 5 have had scarlet fever, and about 5 per cent. are infected during school life.

"It must be borne in mind that much of the disease in children below school age has originated from older children infected in school.

"It is a curious feature of this table that the percentage of girls attacked with the various diseases at the age of 12 is almost in every instance higher than that of boys. The excess at the age of 5 is not so marked. It seems probable that this excess is due to a greater care in recording the history of girls by parents. It is hardly likely that the excess is due either to greater liability to disease or closer exposure to infection."

The figures for 1913 on the whole correspond closely with those of previous years. If the percentages for the five years, 1909—1913, be averaged, they show an excess at the age of 12 over those at the age of 5 for

Measles .. 28 per cent. or 4 per cent. for each year of life. Whooping Cough .. 6.4 ,, or .9 ,, ,, ,, ,, ,, ,, ,, ,, Scarlet Fever .. 5.4 ,, or .78 ,, ,, ,, ,, ,,

These percentages have been applied to the number of children on the registers, and the results are given in column (1) below, and are compared with the average of the annual number of notifications received from the schools durning the four years 1910—1913 (column 2).

The results are :-

		Col	umn (I)	Column (2)
Measles	 		1374	1003
Whooping Cough	 		308	661
Scarlet Fever	 		267	231
Diphtheria	 		68	69

Except with regard to whooping cough there is quite a close correspondence between the figures, considering that they do not refer exactly to the same period. They seem to indicate that the previous history of the child given by the parent is fairly accurate, and that the notification from the schools is fairly complete.

DEFECTIVE VISION AND EXTERNAL EYE DISEASES AND SQUINT.

	Condition.		Ir	spectio Age 5.	n		Insp Ag	ection e 12.		Т	otal.		Spec	cial Cases
6 6			Boys 64	Girls 56	Total 120	Boys 1613 1162	Girls 1679 1071	Total 3292 2233	Per cent.	Boys	Girls	Total		180 17
		6 R. L.	3	2	5	80.	75	155	4.7	83	77	160		8
	ten relevano	6 L.	2	3	5	53	40	93	2.8	55	43	98		6
		6 fR.	17	28	45	234	329	563	17.1	251	357	608	-	66
		9 L.	15	28	43	261	350	611	18.6	276	378	654		71
	1-	6 R. 2 L.	1	3	4	31	58	89	2.7	32	61	93		22
-	ī	2 L.	1	4	5	41	52	93	2.8	42	56	98		14
		6 fR.	5	4	9	44	60	104	3.1	49	64	113		20
	1	6 R. 18 L.	4	2	6	33	69	102	3.1	37	71	108		27
		6 fR.				21	33	54	1.6	21	33	54		13
	2	24 L.	1		1	20	38	58	1.8	21	38	59		10
	miles whereal	6 (R.	1		1	22	32	54	1.6	23	32	55		16
	3	36 L.	2		2	19	36	55	1.7	21	36	57		21
		6 (R.	2		2	7	9	16	.5	9	9	18	-	12
	ē	30 (L.	3 -		3	8	9	17	.5	11	9	20		8
						11	12	23	.7	11	12	23	100	6
		$\frac{6}{0}$ $\begin{cases} R. \\ L. \end{cases}$	1		1	17	14	31	.9	18	14	32		6
- 53	Children examined . No Squint	d Squint.	2043 1997 28 3	2027 1983 32 6 6	4070 3980 60 9 21	1613 1586 16 6 5	1679 1653 13 12 1	3292 3239 29 18 6		3656 3583 44 9 20	3706 3636 45 18 7	7362 7219 89 27 27		18 5 6
-	Total Squint		46	44	90	27	26	53		73	70	143		29
1 (6)	Blepharitis Conjunctivitis Corneal Opacities		9 4	1977 26 3 9 13	3967 53 12 13 27	1562 23 10 8 11	1631 29 10 4 6	3193 52 20 12 17		3552 50 19 12 25	3608 55 13 13 19	32 25		13 10 10 8

The results of inspection are stated with much greater details than in previous reports. It is only at the age of 12 that a systematic examination is made with regard to eyesight. At other ages, this examination is only made in exceptional instances. Out of 3,292 children at the age of 12 there were 600 found to have defective vision requiring treatment, and there were also no less than 459 slight deviations from the normal, not at present calling for treatment. Amongst children examined at other ages there were 157 with defective vision.

Of the 7,362 children systematically examined, 143 were suffering from squint and 206 from external eye disease.

Amongst the extra cases and children under 5 years of age there were 29 with squint and 41 with external eye disease.

Defective eyesight amongst children systematically examined, arranged in town and country schools:—

	То	own Schoo	ols.	Cou	intry Sch	ools.		Total.	
	Children exam- ined.	Children with defects	Per- centage of Children with defects	Children exam- ined.	Children with defects	Per- centage of Children with defects	Children exam- ined.	Children with defects	Per- centage of Children with defects
Age 12 or over Boys Girls Total	412 486 898	68 135 203	16.5 27.8 22.6	1201 1193 2394	170 227 397	14.2 19.0	1613 1679 3292	238 362 600	14.8 21.6

The percentages of children at the inspection age of 12 found with serious defects of vision are as follows:—

Year	 1908	1909	1910	IGII	1912	1913
Percentage defects	 15.5	14.7	13.3	11.8	14.5	18.2

The figures for 1912 and 1913 include all serious defects even if remedied by glasses; figures relating to previous years do not.

The excess of defects amongst girls again shows itself.

Year Excess of defects of eyesight in girls over boys	1908	1909	1910	1911	1912	1913
expressed as a per- centage	36	64	- 35	20	53	46

When a systematic examination is made of the eyesight of children at the age of 7, it will be most interesting to see if the same excess exists at that age or whether it is an excess that is being produced throughout school life.

The figures again show a greater percentage of defects amongst town schools than amongst country schools. The figures for the last six years for boys and girls age 12 are:—

Town Schools	1908	1909	1910	1911	1912	1913
	24.6	18.4	20.6	15.7	18.3	22.6
	12.5	13.4	10.6	10.5	13.1	16.6
Schools over Country Schools	98	37	94	34	40	36

The possibilities of error have been discussed in previous reports. The figures now cover a period of six years inspection, and there has been an excess each year varying roughly, between 30 and 100 per cent. It may be concluded, with some amount of certainty, that there is in this County a considerable excess of visual defects amongst the children of the town schools.

In former annual reports the importance of having the children's eyesight examined between the ages of 7 and 8 has been pointed out. Arrangements were made at the commencement of 1914 for all children of this age to be examined by the teachers, and those having defects to be referred to the medical inspector for complete examination.

The following memorandum was sent to each school:-

Instructions to Teachers for the Examination of the Eyesight of Children between 7 and 8 years of age.

Note.—The examination should be made on receipt of letter asking for particulars of children due for inspection.

Hang the test card in a good light on a plain background.

Place the child 20 feet away from the card, preferably with its back to the light.

Test each eye separately by placing an inspection card in front of the eye that is not being tested.

The child should read the letters from the top of the card downwards.

All children who cannot read the "30 feet" type with each eye separately must be brought under the notice of the Medical Inspector at the next visit.

The names of the children and the smallest type they can read should be recorded in an exercise book and preserved.

Children of any age suffering from pain in the eyes after reading, with squint, or other obvious eye defect (e.g., holding book close to the eyes) should be brought to the notice of the Medical Inspector.

The eyesight card should be kept safely locked away.

In my last year's report reference was made to the report of the British Association for the Advancement of Science, on the "Influence of School Books upon Eyesight," and I made the following recommendations:—

- (1) The total abolition of books for the teaching of reading amongst school children under 6 years of age, and the substitution of black-boards, wall charts, etc.
  - (2) The adoption of the standard of the British Association as regards all new books.
- (3) The substitution of books conforming to this standard for old ones as quickly as practicable.
- (4) The prevention of needlework or any work requiring eye-strain, under 8 years of age.
  - (5) The discouragement of very fine needlework in school

On these recommendations certain resolutions were passed, but there has not so far been much practical result.

Sir George Newman, in his report to the Board of Education, says :-

- "(I) That every desk and every part and corner of a school should be well and sufficiently lighted;
- "(2) that the light should be admitted from the left side of the scholars;
- "(3) that light should not come directly from the front in the scholars' eyes;
- "(4) that all kinds of glazing or obscuring which diminish the light should be avoided, and that there should be sufficient window area of clear glass;
- "(5) that the colouring of the walls, ceilings, and fittings should be carefully considered as affecting light;
- "(6) that this point and the size and position of the windows are especially important in their bearing upon the eyesight of the children."

Defects of Nose and Throat—The defects of the nose and throat were almost entirely obstructive conditions due to adenoids and enlarged tonsils. Of 7,362 children examined 207 or 2.8 per cent. were suffering from adenoids and 417 or 5.7 per cent. from enlarged tonsils, sufficiently bad to require medical treatment. Amongst the "extra cases" there were 19 cases of adenoids and 26 cases of enlarged tonsils requiring treatment. Amongst the children under 5 years of age there were 6 cases of adenoids and 24 of enlarged tonsils. In all, there were therefore 232 cases of adenoids and 467 cases of enlarged tonsils requiring treatment. In addition there were a large number of children who were suffering from these defects in a minor degree (see table), and to whom instructions were given particularly with regard to breathing exercises.

#### ADENOIDS.

- Steamby	TO	WN S	сно	OLS.		COUN	TRY	SCH	OOLS.			TO	CAL.		
	Children ex- amined.	Child wit Aden	h	Child wit Adend	age Iren	Children ex- amined.	Child wit Adence	h	Per centa of Child wit Adene	ren h	Children ex- amined.	Child wit Adend	h	Pe centa of Child wit Adeno	age Iren h
		Slight	Bad	Slight	Bad		Slight	Bad	Slight	Bad		Slight	Bad	Slight	Bad
Age 12 or over Boys Girls Age 5— Boys Girls	410 497 670 638	37 40 59 56	8 17 17 26	9.0 8.0 8.8 8.8	2.0 3.4 2.5 4.0	1182 1373	77 66 141 128	29 22 46 42	6.4 5.6 10.3 9.2	2.4 1.9 3.4 3.0	1679 2043	114 106 200 184	37 39 63 68	7.1 6.3 9.8 9.1	2.3 2.3 3.1 3.4
Both ages and Sexes	2215	192	68	8.7	3.1	5147	412	139	8.0	2.7	7362	604	207	8.2	2.8

## ENLARGED TONSILS.

	TOT	WN SC	LS.	COUNTRY SCHOOLS.					TOTAL.						
	Children ex. amined.	ex. with		Children		Children ex- with enlarged Tonsils.		h ged	Children with #		Children ex- amined.	Children with enlarged Tonsils.		Per- centage of Children with enlarged Tonsils.	
		Slight	Bad	Slight	Bad		Slight	Bad	Slight	Bad		Slight	Bad	Slight	Bad
Age 12 or over Boys Girls Age 5— Boys Girls	410 497 670 638	131 150 193 208	14 37 48 36	32.0 30.2 28.8 32.6	3.4 7.4 7.2 5.6	1182 1373	333 325 443 438	49 70 78 85	27.7 27.5 32.3 31.5	4.1 5.9 5.7 6.1	1679 2043	464 475 636 646	63 107 126 121	28.8 28.3 31.1 31.9	3.9 6.4 6.2 6.0
Both ages and Sexes	2215	682	135	30.8	6.1	5147	1539	282	29.9	5.5	7362	2221	417	30.2	5.7

The percentages of children suffering from adenoids sufficiently serious to require medical treatment amongst those coming up for medical examination during the last five years were :—

Year.	Age 5.	Age 12.
1909	6.1	5.5
1910	4.9	4.3
1911	5.2	4.1
1912	3.2	3.9
1913	3.2	2.3

The decrease of the cases of adenoids and enlarged tonsils noticed in previous years, has continued. Although it would be rash to assert positively that there has been a real decrease, the evidence each year becomes stronger.

In previous reports the possible causes of adenoids have been discussed at some length. There appears to be much doubt concerning its causation and consequently the proper methods of prevention. We are, however, probably on safe grounds in assuming that faulty habits of breathing with the mouth open predispose to adenoids and favour their continued growth. These faulty habits are no doubt brought about to some extent by failure to keep the nasal passages clear, by the proper use of the handkerchief. The almost constant exposure to infection in school is probably another factor.

The danger of infection from the various organisms responsible for common colds can only be lessened by efforts to obtain better ventilation, more air space; better separation of the children, and more adequate cleansing of the schoolrooms. In all probability too, the raising of the age of school attendance to six years, at least in country districts, would bring about an improvement in this and allied conditions.

A most important matter is the strict supervision at home and at school, with the object of seeing that the nasal passages are kept clear, that the child does not breathe through the mouth, and particularly that the child does not sleep with its mouth open.

Finally as a matter of prevention breathing exercises should be carried out at school with regard to all children, frequently and efficiently.

With the object of getting proper attention for all cases in the earliest stages the following leaflet has been drawn up:—

# Salop County Council. Elementary Education Department.

## MOUTH BREATHING AND ADENOIDS.

Habitual breathing through the mouth is very injurious, causing frequent colds, deafness and mental dulness. It may be a habit or be due to obstruction in the nose or throat (adenoids).

When it is simply a habit, it can be cured by breathing exercises and by constant correction. The child should be provided with a handkerchief, and should use it when necessary, and always before going to bed. Particular attention should be given to see that the child sleeps with its mouth shut.

In serious cases of adenoids, an operation is necessary. After operation breathing exercises should be practised until easy nose breathing is established, and for at least six months.

Slight cases of adenoids should be cured without operation, if sufficient care is taken with the breathing exercises and the other precautions.

## BREATHING EXERCISE.

Before commencing the exercise, the nose must be blown thoroughly. During the exercise the mouth must be closed, and all breathing done through the nose.



Reproduced from the Board of Education "Syllabus of Physical Exercises for Schools, 1909," by kind permission of the Controller of His Majesty's Stationery Office.

The child should stand upright with the hands resting lightly on the lower part of the front of the chest (as in figure), so that the movements of the chest can easily be felt.

The child should breathe in slowly and deeply and then breathe out quietly and slowly.

This should be done twelve times to the minute, and should be carried out for three minutes every night and morning.

The window of the room should be open and the clothing loose.

JAMES WHEATLEY, M.D.,

School Medical Officer.

If it is true as most observers think, that slight cases of adenoids can be cured by properly conducted breathing exercises, it seems reasonable to suppose that many cases can be absolutely prevented by similar exercises.

If one accepts this proposition as proved, the enormous importance of breathing exercises is at once evident.

In my last year's report I said :-

"Considering the great prevalence of adenoids amongst school children and the very harmful effects that are produced, and considering the uncertainty that exists with regard to the causation and prevention of this condition, it appears most desirable that the Board of Education or some other Government Department acting in co-operation with the Board should commence an investigation into this matter. Such investigators would have at their disposal all the School Medical Officers' Reports throughout the country, and would no doubt be able to direct local investigations along proper channels.

"It seems a great anomaly that this condition, which is probably preventable and which is employing thousands of operators throughout the country, should receive so little attention from the point of view of causation and prevention."

I would again urge the desirability of such an investigation. Possibly it might be undertaken by the new Medical Research Committee appointed under the Insurance Act.

The difficulty of obtaining treatment, particularly in the remote country districts still exists.

EAR DEFECTS.—One hundred and sixty-four or 2.3 per cent. of the children examined were found to be suffering from discharge from the ear, either present at the time of inspection or recurring at intervals. Twenty-eight cases were found amongst the extra cases and children under 5 years of age.

Deafness was noticed in 3.2 per cent. of the children examined.

The percentage of discharging ears in town schools was 3.1, compared with 1.8 in country schools.

Deafness.—The comparatively small number of children who were noticed as being deaf is due in a great measure to the fact that hitherto no routine testing of the children in this respect has been carried out. Commencing with 1914 the whisper test has been systematically applied, and already many cases of deafness that would have been overlooked have been detected.

TEETH.—As in the report for 1912, the statistics with regard to decay of teeth have been got out in three forms—

- (1) the children are classified in four groups according to the number of decayed teeth;
- (2) The average number of decayed teeth per child is given for each attendance district, the figures being further sub-divided for town and country schools and age and sex;
- (3) the children are classified in 20 groups, the number of the group indicating the number of decayed teeth of each child in the group; the figures in this table are further sub-divided for attendance districts and age periods.

	Town Schools.				COUNTRY SCHOOLS.				Total.			
	Percentage of children with sound teeth.	Percentage of children with r to 3 (inclusive) teeth decayed.	Percentage of children with 4 to 6 (inclusive) teeth decayed.	Percentage of children with 7 or more teeth decayed.	Percentage of children with sound teeth.	Percentage of children with r to 3 (inclusive) teeth decayed.	Percentage of children with 4 to 6 (inclusive) teeth decayed.	Percentage of children with 7 or more teeth decayed.	Percentage of children with sound teeth.	Percentage of children with r to 3 (inclusive) teeth decayed.	Percentage of children with 4 to 6 (inclusive) teeth decayed.	Percentage of children with 7 or more teeth decayed.
oys, 12 years of age and over irls, 12 years	2.4	31.7	37.6	28.2	3.2	34.5	39.7	22.5	3.0	33.8	39.2	23.9
of age and over oys, 5 years of	1.6	35.0	39.8	23.5	2.9	36.1	41.3	19.7	2.5	35.8	40.9	20.8
age irls, 5 years of	4.3	21.8	22.7	51.2	5.0	21.8	25.4	47.8	4.7	21.8	24.5	48.8
age	4.4	24.3	25.4	45.9	5.5	23.8	24.I	46.7	5.1	23.9	24.5	46.4
	3.4	27.3	30.1	39.2	4.2	28.6	32.1	35.1	4.0	28.2	31.5	36.3

Age 5. Age 12. Boys & Girls Boys & Girls 4.6 9.9 Girls 0.48.444704447044844 -8.507700149728148 4.5 Age 12 and over. Average number of decayed teeth per child in Attendance Districts:-Boys 4.7 TOTAL. Girls 6.5 20 Age Boys 6.7 6.1 5.6 5.6 5.6 Girls .4.3 6.4.0 6.6.0 4.7 Age 12 and over. TOWN SCHOOLS. Boys 5.5.4.6.5 4.6 4.9 Girls 8.7. 6.0 6.0 7.3 7.3 7.3 9.9 20 Age Boys 5.6 88.25.63 6.9 70 4 50 4 4 4 4 4 4 4 4 70 70 4 50 4 4 - 60 4 70 70 0 60 - 4 60 50 - 1 4 8 70 - 1 Girls 00 Age 12 and over. COUNTRY SCHOOLS. Boys 4.6 42800000000000077 400004044440000044 Girls 4 6. 10 Age Boys 6.7 86.5.6.7.7.6.6.4.6.6.8 Church Stretton ... Cleobury Mortimer Attendance Districts. Albrighton .. Bishop's Castle Ludlow ...
Newport ...
Oswestry ...
Pontesbury... Bridgnorth Whitchurch Shifnal . Wellington Drayton Total Condover

## Children classified in Groups according to number of Decayed Teeth.

AGE 5. nber of ayed Teeth ndance Districts. ighton op's Castle . . gnorth ... . . ch Stretton: . . . . bury Mortimer . . . . Hover i . . . . mere . . ow . . . . port estry . . . . . . . . esbury . . al .. . . ington . . . . . . . . . . church . . . . tal Children entage of Children 5.0 7.5 7.9 6.7 7.6 8.2 8.7 7.6 8.1 6.5 5.3 4.8 6.7 3.1 2.1 .3 each Group 1.6 .8 .6 . 4 .05 AGE 12 ghton p's Castle . . morth . . . . . . . . . . . . . . . . . . h Stretton . . . . . . . . . . . . ury Mortimer . . . . . . . . . . . . . . on .. . . . . . . . . . . . . . . mere . . . . . . . . . . W . . . . . . . . . . . . . . ort . . stry . . . . . . . . . . sbury . . . . . . . . . . al .. . . . . . . . . . . ngton . . . . . . . . . . . . . . hurch . . . . al Children . . ntage of Children 2.7 8.0 13.2 14.2 15.5 14.2 10.2 8.5 5.0 3.5 2.4 1.2 .3 .03 .03 .03 .8 . 1 ach Group

These tables correspond fairly closely with those of last year. There is a small improvement, which, if not due to accidental causes, may indicate the commencement of better things.

The striking points are :-

At the age of 12 only about 3 per cent., and at the age of 5, about 5 per cent. of the children have teeth free from decay.

The average number of decayed teeth per child at the age of 12 was 4.6, and at the age of 5 was 6.6.

Out of 4,061 children examined at the age of 5, 1,044 had 10 or more teeth decayed. Out of 3,283 children examined at the age of 12, 721 had 7 or more decayed teeth.

As the average age of the teeth at this age is only about 4 years, it is easy to imagine what a deplorable condition the teeth will have reached by the time these children have become full grown men and women.

Caries of Teeth and Artificial Feeding of Infants.—Investigation into this subject was commenced in October, 1910, and has been continued up to the present time.

The results for 1913 are given in the following tables :-

BOYS AND GIRLS AGE 5-6.

		nildren.		Bottle-fed Children.							
Months when breast feeding or bottle feed- ing ceased.	Up to 9	10—12		19 and upwards	All Breast- fed Children	Up to 9	10—12	13—18	19 and upwards	All Bottle- fed Children	
Number of Children examined	163	433	525	263	1384	70	272	245	111	698	
Number of decayed teeth per child	6.3	6.8	6.8	7.5	6.8	6.7	6.8	7.1	8.8	7.2	
AGE 12—13.											
Number of Children examined	84	287	303	168	842	26	158	148	71	403	
Number of decayed teeth per child	4.1	4.4	4.6	4.8	4.5	4.8	5.1	5.8	4.9	5.3	

Amount of dental caries amongst children who have been (I) breast-fed, and (2) bottle-fed, subdivided into town and country schools:—

- Acquit flags a 11 m		Town S	CHOOLS.		COUNTRY SCHOOLS.				
	Age 5.		Age 12.		Age 5.		Age 12.		
Number of decayed teeth per child	Breast- fed. 6.9	Bottle- fed. 7·4	Breast- fed. 4·7	Bottle- fed. 5·4	Breast- fed. 6.9	Bottle-fed.	Breast-fed.	Bottle-fed. 5.3	

The results of the investigation for the four years may be summarised thus:-BOYS AND GIRLS.

		Breast-fe	d Children.	Bottle-fed Children.			
Year.		Number of Children examined.	Number of decayed teeth per Child.	Number of Children examined.	Number of decayed teeth per Child.		
1 2 1 (2)			AGE 5-6.				
1910		352	6.2	243	7.0		
1911		1248	6.12	771	6.83		
1912		1403	7.0 6.8	. 814 698	7.2		
1913		1384	6.8	698	7.2		
Total		4387	6.6	2526	7.1		
			AGE 12—13.				
1910		128	4.5	72	4.9		
1911		736	4.65	382	4.82		
1912.		904	4.9	513	5.0		
1913		842	4.5	403	5.3		
Total		-2610	4.7	1370	5.0		

As in previous years the amount of dental caries in 1913 was greater amongst the 'bottle-fed' children than amongst the 'breast-fed' children, and the difference was somewhat more marked. Taking the four years together, the excess at the age of 5 was about 7 per cent., and at the age of 12 about 6 per cent.

The investigation appears to show that the causes at work in the production of caries are present in breast-fed children to an extent almost as great as in artificially-fed children.

There is a small balance in each year in favour of the breast-fed children. This may be due to the fact that in artificially-fed children, the noxious habit of feeding on soft starchy food is commenced earlier.

Eating of "Sweets" as a cause of Dental Caries.—The term "sweets" is used with the popular meaning, and does not include sugary foods taken at meal times. The classification adopted was :-

- Class I. Large quantities of sweets eaten—almost every day.
- Class 2. Considerable quantities eaten—several times a week. Class 3. Few sweets eaten—about once a week.
- Class 4. No sweets at all eaten.

The classification is necessarily somewhat vague and is not one that can be applied with exactness. Many individual errors will no doubt have occurred, but in the aggregate the classifications are probably sufficiently correct.

Inquiries were made with regard to 5,612 children in all, and included inquiries both from the children and from the parents when present.

The results are stated in tabular form. The number of children is given in each case, so that the value to be attached to the figures can be estimated.

	A		iber of C	-	eeth per Child.	0	,
		Class		1	2	3	4
Age				Large	Considerable	Few	None
Number of child				190	865	1337	10
Average number	of carious	teeth per c	hild	9.2	6.9	6.3	4.0
Age 12.	The second	No.					
Number of child	ren			139	1018	2029	24
Average number				5.0	4.8	4.5	3.1
Tiverage number	or currous	teeth per c		0.0	4.0	4.0	0.1
	Numbe	er and Per	centage o	f Childre	en free from Cari	es.	
			Class	1	2	3	4
Age 5.							
Number				3	23	_79	2
Percentage				1.6	<b>2</b> 3	5.7	20.0
Age 12.							
37 1				т.	22	-8	0
				.7	23 2.2	58 2.8	0.2
Percentage					2.2	2.8	8.3
Number and	Porcentag	e of Childr	on troo tr	om Cario	s or with less than	2 Decayee	Tooth
IV umoer tente	1 creening	e of Chiller	en free fr	om cure.	s or with iess than	5 Decayea	1 ccin.
Age 5.			Class	1	2	3	4
Number				16	133	287	5
Percentage				8.4	15.4	21.5	50.0
1 creentage				0.4	10.4	21.0	30.0
Age 12.							
				20	075	6	1000
Number				30	217	496	II
Percentage				21.6	21.3	24.4	45.8

These figures are very similar to those of the previous year.

This inquiry has been going on for three years, and the numbers are now sufficiently large to justify one in drawing conclusions.

The following conclusions have been arrived at after a study of the figures and individual cases:—

I. That eating of sweets is a potent factor in the production of caries.

 That there are other potent factors which on the one hand will cause caries of teeth in children who do not eat sweets, and on the other hand will render the eating of sweets comparatively harmless.

Causation and Prevention of Dental Caries.—In my Annual Report for 1910 I said:—
"The evils arising from carious teeth, septic conditions of the mouth, and insufficient mastication of food have been dwelt upon in previous reports. In my opinion more improvement in public health can be obtained by efforts to abolish these conditions than in any other line of action. It is a matter affecting not only Education Authorities but all bodies responsible in any way for the public health, and should be looked upon as such.

"The object we should strive after, is to arrest this development of caries in the present generation so far as possible, and to see that the children of the next generation are brought up in such a way that caries will only develop as an exceptional and abnormal condition."

A further three years' study of this question has convinced me that the above statement contains no exaggeration, but rather errs in not putting the matter sufficiently forcibly.

The importance of this work is due to the following facts:-

(I) That this condition is fearfully prevalent.

(2) That an enormous amount of suffering, of ill health, and of serious organic disease is due to dental caries, oral sepsis, and the errors of diet leading to these.

Sir George Newman, in his Annual Report for 1910, says:—"Indeed, it is probably true to say that there is no single ailment of school children which is responsible directly or indirectly for a larger proportion of the delicacy and disease (including constitutional disease) which is found

at every turn to handicap efficiency, both physical and mental."

(3) That the radical prevention of dental caries is a simple matter. It is simple in this respect, that any parents with the requisite knowledge can ensure with a fair amount of certainty that their children shall have regular and sound teeth free from caries. (This of course, is supposing that there is no constitutional disease causing malformation of the teeth).

In the prevention of dental caries sanitary authorities and education authorities have a unique opportunity of improving the public health, but it is difficult in the absence of health visitors to suggest any direct way in which sanitary authorities can help in this matter. It is obvious, however, that the damage is done before the children enter school and come under the supervision of the Education Authority.

This question was dealt with in the Annual Health Report of the County Medical Officer of Health for 1912, and the following report of the Public Health Committee was adopted by the County Council:—

"I.—That the enormous prevalence of dental caries amongst the people is a

grave danger to the public health.

"2.—That there is strong reason to think that this disease is due to conditions that are preventable.

"3.—That there is good hope that energetic measures properly directed towards

removing these conditions would in time have a marked beneficial result.

"4.—That the damage is done to a great extent before school life, and consequently that the preventive work must be carried out by teaching in the homes of the people. For this purpose health visitors are needed.

"5.—That education through schools should be made use of to as great an

extent as possible.

"6.—That, in addition, all other possible means should be taken to spread

this knowledge."

With the object of securing the co-operation of the Sanitary Authorities in the matter, re-prints from the Annual Report, together with copies of a pamphlet containing simple rules for preventing the disease, were sent to the Sanitary Authorities, and they were asked to give the matter their consideration.

It is absolutely essential in order to carry out this educational work with efficiency, that there should be a properly trained staff of health visitors, and much is hoped in this direction from the scheme now adopted.

In the meantime something is being done by education through schools, through midwives and nurses, and in other ways.

Lectures have now been given to almost all the school teachers in the County, and the following leaflet has been distributed to most households through the schools, the teachers taking the opportunity of explaining it to the children.

#### SALOP COUNTY COUNCIL.

#### ELEMENTARY EDUCATION DEPARTMENT.

## PREVENTION OF DECAY OF TEETH.

Food often sticks about the teeth after eating. It then decomposes and acts upon the teeth, causing them to decay. If food can be prevented from sticking to the teeth there will be no decay.

It is only the starchy and sugary foods (see below) that cause decay, when they stick to the teeth.

To prevent decay you should observe the following rules :-

- (I) As soon as an infant needs food other than milk (8—9 months) give it in a solid hard form requiring mastication, such as crusty bread, twice baked bread, or crisp toast. In this way good teeth are likely to grow and good habits of mastication will be formed. Never give bread soaked in milk, or flour added to milk, or other soft starchy foods (such as most patent foods).
- (2) As the child grows up you should still give most of the food in a hard form, compelling mastication. Food should rarely be taken in a liquid form, or soaked in liquid or minced. Bread should not be eaten new, and it should have plenty of good firm crust.
- (3) Drinking between each mouthful is very injurious. Liquids should be taken at the end of a meal, or between meals.
- (4) Sweets should never be taken between meals, nor the last food in a meal; but only along with food requiring mastication.
- (5) A meal should always be finished with a cleansing food (see below). It is very desirable that fresh fruit should be eaten freely, particularly at the end of a meal. This is most important with regard to the last meal of the day.
- (6) Mouth breathing in children should always be corrected, and if obstinate, medical advice should be obtained.

## EXAMPLES OF FOOD.

# Starchy Foods. Bread, Biscuits, etc.

\*Potatoes.
Rice, Tapioca, Sago, etc.
Oatmeal porridge, and
similar foods.

Patent foods.

# Sugary Foods.

All foods to which sugar is added.

Sweets of all kinds.

Honey. Milk.

Jams.

Marmalades.

Patent foods.

## Cleansing Foods.

Fresh fruits—particularly apple—

Raw vegetables—celery, radishes, lettuce, onions, carrots, etc.

‡ Crusts of bread, crisp toast, twice-baked bread,

Meat, fish, bacon.

\* Potatoes are a much better food if cooked and eaten with their skins.

‡ The coarse whole meal flours are better for this purpose.

JAMES WHEATLEY, M.D.,

County Medical Officer of Health and

School Medical Officer.

COUNTY BUILDINGS, SHREWSBURY, 1913. Conservative Dentistry.—Sir George Newman says in his report for 1912 :-

"So deeply rooted, however, are the habits of the people, and so difficult is it to obtain recognition of the importance of preventive measures—appropriate diet and cleansing of the teeth—that it is impossible at present to rely on these methods alone. Active measures must be taken to treat dental disease, particularly at its onset, and thus arrest it and prevent decay. It is now generally recognised that the situation can only be met by the appointment of a dentist or dentists, working for part or whole time, on the staff of the School Medical Officer."

The excellent results that can be obtained by conservative dentistry are too well understood to need explanation. All who can afford, avail themselves of this form of treatment.

On the other hand, prevention is so superior in every way, except as regards the slowness of its operation, that treatment must not be allowed to obscure the necessity for prosecuting preventive measures in every possible way. In any scheme of treatment, every opportunity should be taken of educating the public in preventive measures.

The Chief Medical Officer of the Board of Education in his Annual Report says that in a scheme for dental treatment (I) the arrangements should be under the control of the School Medical Officer, (2) the inspection should be carried out by the dentist undertaking the treatment, and (3) in the first instance children age 6—8 only should be dealt with.

Tuberculosis. Phthisis.—Out of 7362 children examined, only 7 or per .1 cent. were diagnosed as suffering from phthisis. In addition there were 162 or 2.2 per cent. who showed signs or symptoms pointing to phthisis in an early stage, but the symptoms were not sufficiently definite to allow of a diagnosis being made. Amongst the extra cases and the children under 5 years of age, there were 4 definitely diagnosed and 36 suspected.

In order to get confirmatory evidence 6 tins were sent out for specimens of sputum, and one was returned and examined, with a negative result.

In my report for last year I said:—"A tuberculosis scheme is now being started for the County. The work under the scheme will be closely co-ordinated with that of medical inspection of school children. The immediate steps that will be taken are:—

- That all cases of suspected tuberculosis amongst school children will be referred to the tuberculosis dispensaries for further examination.
- 2. The Medical Inspectors will be supplied with information showing them which children in a school come from houses where there is a case of phthisis. Such children will receive special attention.

The scheme provides for 12 beds at the Sanatorium exclusively for children. So far, the question of open-air schools and convalescent homes has not been considered."

The scheme for extension of the Sanatorium has been modified, so that there will be only 5 beds available for children. During the year 1913 seven school children were treated at the Shirlett Sanatorium. Tuberculosis dispensaries were not open during the year, but cases of tuberculosis or suspected tuberculosis amongst school children were referred to the Tuberculosis Medical Officer, and so far as possible were visited by him. Forty such cases were visited by him during the period June 10th—December 31st, 1913. Of these, 4 were definitely diagnosed as phthisis, in 10 there was a certain amount of suspicion, and in seven others there was tuberculous disease of bones or glands without any disease of the lungs.

The Medical Inspectors now pay special attention at their visits to the schools to children from phthisical houses. Three children only were examined on this account during the year.

Other Forms of Tuberculosis.—Only 16 cases were found amongst the children systematically examined and 6 amongst the extra cases. These numbers give little indication of the amount of tuberculous disease, as serious tuberculous disease of the bones and joints usually prevents the attendance of children at school.

Six children of school age belonging to this County, suffering from tuberculosis other than phthisis, were treated during the year in the Salop Convalescent and Surgical Home, Baschurch. This does not include cases from the Borough of Shrewsbury.

ANAEMIA.—One hundred and seventy-nine or 2.4 per cent. of the children were noted as suffering from anaemia sufficiently serious to call for medical attention and unexplained by some other definite condition.

DISEASES OF HEART.—Amongst the children systematically examined 107 were found to have organic disease of the heart, and 307 to be suffering from functional and probably temporary derangements. In 100 children there was evidence of rheumatism.

Amongst the extra cases and children under 5, there were 10 cases of organic disease and 11 with evidence of functional derangement. Sir George Newman, in his Annual Report for 1912, says:—"The treatment of heart disease should clearly be mainly preventive. Organic heart disease cannot be cured when once established, though steps may be taken to limit its extension and to enable the patient to live a useful life for a number of years. As rheumatism is the chief cause of organic lesions it is towards the prevention of this disease that efforts should mainly be directed. To this end it is important that persons in daily contact with children, parents and teachers, should be alive to the significance of the early symptoms of the disease. The dangers of neglecting "growing pains," sore throats, the early signs of chorea, &c., should be impressed upon them, steps should be taken to familiarise them with the symptoms which indicate the possible onset of rheumatism, and with the means which may be taken to guard the child from conditions likely to predispose to the disease."

So little is known with certainty with respect to the rheumatic poison, its mode of access to the body, the degree of its infectivity and the predisposing conditions of the individual that favour its entry and development, that one has to fall back upon a few well ascertained facts. Of these, the most important is that exposure to damp and cold is apt to bring on an attack in certain individuals. There is undoubtedly a predisposition in certain families, and an attack predisposes to further attacks. The symptoms of rheumatism may be of a very mild and vague character—growing pains, sore throats, movements indicating St. Vitus's dance, headaches, and general ill health.

The prevention of rheumatism, as regards school life, is concerned with-

- provision of satisfactory cloak-rooms where clothes and boots can be dried; and the provision of slippers;
  - (2) education of teachers to recognise the early symptoms;
  - (3) instruction of the mothers of children affected, by pamphlets and verbal advice;
  - (4) prompt treatment for sore throat and particularly enlarged tonsils.

The provision of cloak-rooms where clothes can be adequately dried, and the provision of slippers for use in wet weather, should be regarded as an essential for healthy school life, particularly in rural districts. It is not desirable that children should be coddled. They may be exposed with great benefit to the action of cold water and cold air under suitable conditions to a much greater extent than usually obtains, but to force children, a certain proportion of whom are delicate, to sit with short interruptions for a period of 2 to 3 hours with cold wet feet must have a deteriorating effect on the majority, and a disastrous effect with regard to some. The wearing of clogs would do much to lessen the evils of wet feet, and should be encouraged.

The amount and kind of exercise that can be safely taken by a person suffering from heart disease is a matter that requires careful consideration in each case. It has to be remembered that exercise, if it is doing no harm, is probably doing much good. The teacher receives directions from the Medical Inspectors in each case, and subject to these directions, probably the safest rule is that an exercise that produces marked breathlessness is harmful, whereas exercise which neither produces breathlessness nor interferes with the appetite is good, and should be encouraged.

A short pamphlet pointing out the symptoms of rheumatism in slight cases and indicating precautions is under consideration.

Goitre.—The cases of goitre are stated as in previous reports. The inferences that can be drawn are not obvious.

The attendance districts are here arranged according to the amount of goitre :-

Attendance Districts.	Perce	entage of	Cases.	Attendance Districts.	Percentage of Cases.			
Drayton	 Marked 1.9 1.8 3.5 1.3 0.0 1.6	Slight. 13.7 12.4 8.5 10.4 11.2 9.2 8.1	Total. 15.6 14.2 12.0 11.7 11.2 10.8 10.3	Oswestry Bridgnorth Ludlow Whitchurch Condover Cleobury Mortimer Wellington		Marked. 1.0 .9 3.2 .4 1.1 3.1 1.2	Slight. 9.1 7.6 4.1 6.8 5.3 3.1	Total 10.1 8.5 7.3 7.2 6.4 6.2 3.1
Shifnal	 0.0	10.2	10.2	Church Stretton		.7	2.2	2.9

This table shows that enlargement of the thyroid gland exists amongst school children to a greater or lesser degree all over the County.

The four districts with an excessive amount of well marked goitre were Ellesmere, Ludlow, Cleobury Mortimer, and Bishop's Castle.

	D'			T	OWN SCHOO	LS.	Coun	TRY SCHOOL	DLS.
Attendanc	e Dist	tricts.		Marked.	Slight.	Total.	Marked.	Slight.	Total.
Bridgnorth			T	.5	7.2	7.7	1.1	7.8	8.9
Drayton				1.8	12.2	14.0	2.0	15.4	17.4
Ellesmere				1.3	8.1	9.4	4.0	8.6	12.6
Ludlow				2.8	2.8	5.6	3.4	4.8	8.2
Newport				.I	5.9	6.0	1.8	10.3	12.1
Oswestry				.7	7.0	7.7	I.I	10.0	II.I
Shifnal				.0	8.2	8.2	.0	11.0	II.C
Wellington				.3	1.3	1.6	1.0	1.3	2.3
Wem				.7	10.6	11.3	3.0	14.3	17.3
Whitchurch				.0	2.8	2.8	.9	12.2	13.1
These 10 Di	stricts			.76	5.0	5.8	1.9	8.1	10.0

The amount of well marked goitre in the country schools was considerably more than twice that in the town schools..

DEFORMITIES. Rickets.—Amongst 7,362 children examined, only 14 were found with marked deformities due to rickets and 31 with slight deformities, or a total of 45 (.61 per cent.). This is an exceedingly small proportion, and indicates that rickets is not at all prevalent in this County.

Lateral Curvature of the Spine was present in 50 children, or .7 per cent. The importance of this condition is due to the nature of its causation and the possibility of prevention. It is frequently due to malpositions at school arising from badly constructed desks, unsuitable lighting of the rooms or bad habits going uncorrected. It is undoubtedly one of those conditions that can be cured or greatly lessened by suitable exercises. The teacher can do much to prevent this deformity by preventing the children assuming bad positions in school.

Cases of scoliosis are being dealt with by Abbott's method in considerable numbers at the Baschurch Home.

Deformities due to Infantile Paralysis.—The total number of these deformities noticed was 13. This is equal to a rate of 6.5 per annum, and might be considered as representing approximately the number attacked each year with poliomyelitis and recovering with deformities. It will be interesting to see how these figures compare as time goes on with the cases notified.

RINGWORM.—Of the children systematically examined 110 or 1.5 per cent. were found to be suffering from ringworm, and the percentages in ages and sexes were:—Boys age 5, 2.0; girls age 5, 2.4; boys age 12, .5; girls age 12,.7. On the assumption that this percentage is applicable to the children as a whole, there would be at any one time about 536 cases of ringworm in the County, including Wenlock.

Amongst the extra cases and those under 5 years there were 118 cases of ringworm.

In addition 356 cases have been notified by the teachers. These were not usually based on medical opinion.

No less than 744 examinations of hairs for ringworm spores have been made by the medical inspectors. Examinations referring to 432 different cases were positive, whilst with the exception of three doubtful cases, the remainder were negative.

To combat this condition, all that is possible with our present machinery, is to exclude all cases found by the Medical Inspectors at their periodic visits (frequently at intervals of 12 months) and to exclude all cases either suspected by the teachers or certified by a medical man. The parents are urged to get treatment and the attendance officers instructed to keep the cases under their observation. The cases are re-admitted on medical certificate, but notwithstanding the arrangements referred to below, usually without any microscopical examination of hairs. In consequence a considerable proportion of the children are re-admitted whilst still infectious.

It is obvious that such a procedure fails in certain most important particulars and can have comparatively little effect in controlling its spread.

Children are often in school for long periods suffering from ringworm without the disease being discovered; when excluded they frequently do not get medical treatment, and where nurses are not available the treatment prescribed is rarely properly carried out; and when re-admitted as cured they are frequently found to be still suffering.

For the more efficient control of ringworm three conditions are necessary :-

(I) More efficient means for discovering the cases. This would be met by the provision of school nurses.

(2) More efficient means of diagnosis. This has been met by an arrangement with the Birmingham University, by means of which medical practitioners can submit hairs for examination.

(3) The provision of X-ray treatment.

In order to give medical practitioners facilities for arriving at an accurate diagnosis in doubtful cases, and determining with certainty whether the cases are cured or not, arrangements were made during the year with Birmingham University by which any practitioner can submit hairs for examination. Hairs were submitted in 210 cases, with 88 positive results and 122 negative results.

The temporary arrangement with the Salop Infirmary for the treatment of ringworm by X-rays has come to an end, and the Infirmary Authorities do not see their way to continue the treatment.

The provision of facilities for X-ray treatment should have early consideration. My reasons for saying so are—

(1) Ringworm interferes disastrously with the education of individual children (see list

of children quoted below).

(2) Ringworm can be cured with certainty and in a comparatively short time by skilled application of X-rays.

On this matter Sir George Newman says :-

"There can be no doubt that given an apparatus mechanically perfect, and an intelligent and experienced operator, there is no difficulty in curing practically every case of ringworm selected for treatment within, say, about five weeks."

He also says:—"There is now a large body of evidence, both in this country and abroad, which goes to show that the X-ray method, if properly carried out, is expeditious, effective, and safe. The method was introduced into the Metropolitan Asylums Board Ringworm School in 1905. Before that year, the average time during which the child stayed from school was 19 months; when the X-rays were first employed this period was reduced to five months, in 1909, it fell to 3½ months, and in 1912 to 3 months.

"Many thousands of cases have now been treated without any ill-effect being produced. These results should go far to allay the widespread prejudice against the use of X-rays, due in part to the publication in the newspapers of reports of injurious effects to operators constantly exposed to the rays in the earlier days of the work. There can, I think, be no doubt that in skilful and experienced hands the risks of this form of treatment are negligible."

In Bradford the average time of cure with X-rays in 1912 was 29 days, and in Sheffield 27 days. Of 217 cases treated in Bradford, only 8 required a second application.

The safety, and the efficiency, of this method of treatment may be considered as firmly established. As a second application is rarely necessary, it is quite practicable to deal with the whole County from one centre.

If this treatment is undertaken, children under school age as well as those of school age, must be dealt with, otherwise one would be continually getting re-infectious at home after cure.

The interference with the education of individual children that is caused by ringworm of an obstinate character is most serious. Below is given a list of children who have suffered from ringworm for more than two years and who were still suffering, when last inspected. It will be noticed that in two of the cases the disease has lasted five years.

		RINGV	VORM CASES.		
		Dates of First and	Last Examination.	Dura	tion.
Initials of C	hild.	First.	Last.	Years.	Months.
G.B.		20th February, 1909.	15th May, 1914.	5	3
J.M.M.		14th April, 1909	15th May, 1914	5 5	I
B.H.		3rd September, 1909	23rd May, 1914.	4	3 1 8 8
W.G.T.		13th February, 1909.	18th October, 1913.	4	
E.B.		15th May, 1909.	10th November, 1913.	4	6
G.W.		15th January, 1910	6th April, 1914.	4	3
G.C.		15th January, 1910.	6th April, 1914.	4	3 3
G.O.B.		30th December, 1909.	6th December, 1913.	3	II
C.M.		5th July, 1910.	2nd May, 1914.	3	10
M.H.		18th June, 1910.	19th November, 1913.	3	5
W.E.		9th July, 1910.	1st November, 1913.	3	4
M.I.P.		26th November, 1910.	2nd March, 1914.	3 3 3 3	4 3 2
A.E.		11th March, 1911.	2nd May, 1914.	3	2
W.G.		25th February, 1911.	4th April, 1914.	3	I
N.D.		30th March, 1911.	2nd May, 1914.	3	I
L.W.		12th April, 1911.	6th April, 1914.	3 3 3 3	0
B.S.		13th May, 1911.	23rd May, 1914.	3	0
W.R.J.		28th May, 1910.	31st May, 1913.	3	0
D.P.		25th March, 1911.	28th February, 1914.	2	II
C.J.		17th December, 1910.	15th November, 1913.	2	II
G.B.		19th November, 1910.	25th October, 1913.	2	II
C.J.		2nd June, 1910.	3rd May, 1913.	2	II
M.J.		2nd June, 1910.	3rd May, 1913.	2	II
C.H.D.		4th June, 1910.	3rd May, 1913.	2	II
M.J.		10th September, 1910.	14th June, 1913.	2	9
H.B.		18th July, 1911.	9th April, 1914.	2	
F.D.		29th October, 1910.	7th June, 1913.	2	7
C.D.		29th October, 1910.	7th June, 1913.	2	9 7 7 3
J.H.		28th December, 1911.	4th March, 1914.	2	3
D.T.		18th March, 1912.	23rd May, 1914.	2	2

	Dates of First and	Last Examination.	Dur	ation.
Initials of child.	First.	Last.	Years.	Months.
K.M.B	IIth March, 1912.	23rd May, 1914.	2	2
M.B	gtil March, 1912.	23rd May, 1914.	2	2
D.E	28th December, 1911.	21st February, 1914	2	2
K.A	23rd March, 1912.	25th April, 1914.	2	I
M.E.R	20th April, 1912.		2	I
F.F	3rd April, 1912.	23rd May, 1914.	2	I
E.B	9th March, 1912.	4th April, 1914.	2	I
E.G	9th March, 1912.	4th April, 1914.	2	I
A.M	23rd February, 1912.		2	I
A.E	9th October, 1911.		2	I
K.G.W	15th June, 1911.	19th July, 1913,	2	1
C.W.J.	28th May, 1912.	23rd May, 1914.	2	0
M.L	27th April, 1912.	15th May, 1914.	2	0
M.M	9th May, 1912.	15th May, 1914.	2	0
E.S	4th May, 1912.		2	0
M.M	4th May, 1912.	2nd May, 1914.	. 2	0
L.D	4th May, 1912.	2nd May, 1914.	2	0
J.P	27th April, 1912.	2nd May, 1914.	2	0
F.D	4th May, 1912.	2nd May, 1914.	2	0
M.D	4th May, 1912.	2nd May, 1914.	2	0
S.P.E	16th March, 1912.	14th March, 1914.	2	0
E.B	16th March, 1912.	14th March, 1914.	2	0
F.H	18th December, 1911.	20th December, 1913.	2	0
M.E.E	18th December, 1911.	20th December, 1913.	2	0
L.B	9th December, 1911.	6th December, 1913.	2	0
H.S	30th September, 1911.	13th September, 1913.		0
A.P	1st July, 1911.	5th July, 1913.	2	0
H.J	23rd May, 1911.	14th June, 1913.	2	0
J.P	23rd May, 1911.	14th June, 1913.	2	0

IMPETIGO.—Sixty-five cases of impetigo were found amongst the children systematically examined; 9 were found amongst the children under 5 years of age and 49 were brought under the notice of the Inspectors by the teachers. Besides these, 256 have been notified to me by the teachers. In these cases the diagnosis is usually on the authority of the teacher.

This condition is very amenable to treatment, and with suitable measures an outbreak should rarely last more than two or three weeks. On the other hand, if neglected, a school may be seriously affected over a long period.

In all cases that come to our knowledge full instructions are given to both parents and teachers.

Scables.—Fifteen cases of scables were found in the routine examinations; I was found amongst the children examined under 5 years of age, and 14 were brought under the notice of the Medical Inspectors by the teachers.

It has been found difficult or almost impossible to induce parents to get medical treatment for this condition, and consequently many children were imperfectly treated or went untreated. On this account definite printed instructions are now issued for treatment. It was possible to do so, as the treatment is of a routine character, needing little or no variation. In order to get the full benefit of the treatment, there should be some power enabling Sanitary Authorities to enforce treatment on other affected members of the family.

Verminous Heads.—The following table shows the percentages of verminous heads amongst boys and girls at the two inspection ages in the town and country schools:—

### PERCENTAGE OF CHILDREN WITH VERMINOUS HEADS.

				Town Schools.	Country Schools.	Total.
Age 12			 	 3.9	2.7	3.0
,,	,,,	 Girls	 	 33.4	30.1	31.1
Age 5		 Boys	 	 7.6	4.3	5.4
"		 Girls	 	 30.3	28.6	29.1
То	tal	 	 	 19.2	16.4	17.3

These figures do not show any improvement on the previous year, although there is considerable evidence to show that the standard of cleanliness is much higher and that the very bad verminous conditions are much rarer.

It will be noticed that the percentage of verminous heads was much higher amongst girls than boys, and somewhat higher amongst the older than the younger girls.

One can only repeat what has been said in previous reports, that it is quite impossible to deal effectively with this condition without the help of nurses.

At the same time, it seems to me that the teacher has a very grave responsibility in this matter. In the first place he should do all he can to raise the tone of the children in this respect. He should make them feel that it is a disgrace to have lice in their heads, and that when present every means should be taken to get rid of them. There is no doubt that much can be done in this way. In the second place he should, when he discovers that any child's head contains lice, call the attention of the parents and give printed instructions. (These instructions are sent to every school and can always be obtained on application). Again, when children have been excluded on account of this condition, he should see that they are free from lice when re-admitted.

The Chief Medical Officer of the Board of Education in his Annual Report for 1912 says :-

"The conscience of the parent has still to be aroused in regard to this filthy and unwholesome condition. Its depressive effects on health, temperament, capacity for work, and employment are matters upon which the parent requires to be educated, though the task seems
often hopeless with the present generation of parents. It may be hoped that children now
emerging from school will carry with them into life a new body of ideas on personal hygiene
from which they will no doubt learn to regard uncleanly conditions with abhorrence. Education
cannot be said to have achieved any result worthy of the name so long as the child leaves school
with the lesson of cleanliness unlearned."

MENTALLY DEFECTIVE CHILDREN.—In the routine inspection 17 or .2 per cent. of the children were found to be mentally defective, and the attention of the inspectors was called to 8 other mentally defective children by the teachers.

#### NUTRITION.

		Town Schools.				Со	UNT	RY Sc	HOOL	s.	TOTAL.				
etorileli mase ni elekt i etorileli mase ni	Children examined.	Excellent.	Normal.	Below Normal.	Bad.	Children examined.	Excellent.	Normal.	Below Normal.	Bad.	Children examined.	Excellent.	Normal.	Below Normal.	Bad.
Boys 12 years of age and over	410	10	352			1203		1085	96		1613		1437	144	I
Boys 5 years of age	670	10 4	419 594	71	I	1182	28	1025 1232	113	0	1679 2043	32		184	I
Girls 5 years of age	638	20	500	58	0	1389	47	1222	119	Ι	2027	67	1782	177	I
Total	2215	44	1925	245	I	5147	144	4564	437	2	7362	188	6489	682	3

NUTRITION.—This table has been altered to conform to suggestions of the Board of Education, by the inclusion of a column for excellent nutrition.

The most important factor to note is that in 682 children, or 9.3 per cent., the nutrition was below normal. In a large proportion of these cases the parents were communicated with and advice given. Where necessary the attention of the Voluntary Helpers was called to them, and if there was evidence of culpable negligence on the part of the parents, information was sent to the Inspectors of the National Society for the Prevention of Cruelty to Children.

It is obviously impossible, without other machinery, to make any adequate inquiry into home conditions with the object of determining the cause of the malnutrition and providing a remedy.

With a proper nursing staff these cases could be further inquired into, so as to determine to what extent the nutrition was due to insufficient food, and to what extent it was due to improper food or other unsatisfactory home conditions. The former is principally an economic question, whereas the latter arises mostly from ignorance, carelessness or wilful neglect, and must be dealt with in an entirely different manner.

In my report for 1912 I said :-

Of all children, probably those suffer the most who have long distances to walk to school, and bring with them a very insufficient midday meal. One cannot help thinking that much good could be done for these children. The first essential and the most important matter is that a teacher should always be present at these meals. The teacher would soon get accurate knowledge as to which children were insufficiently or improperly fed. He could point out judiciously to the parents

where food appeared to be insufficient or unsuitable, and he could supply to the School Medical Officer definite information of great value. Moreover, he could supervise and improve the habits and manners of the children whilst taking their food. He could see that the children did not bolt their food or wash it down their throats with liquid, and so far as the character of the food allowed, he could see that it was eaten so as to leave the mouth and teeth clean. He could discourage the habit of drinking tea with the principal meal; and he could also soon get rid of the habit of drinking beer and cider, which the Medical Inspectors say exists in some districts.

With the help of the Education Authority or of some local body, provision could easily be made for supplying cocoa or soup at cost price; and where necessary the midday meal could be supplemented.

This, of course, would necessitate further work for the teacher, and would encroach on his dinner hour. It, however, does not admit of doubt that children of ages varying from 5 to 13 should not be permitted to have their principal meal without any supervision. It is also perfectly certain that proper supervision by an intelligent teacher, who has given this matter some thought, if followed up in the manner above described, would have a very beneficial effect.

It would add much to the interest of teachers in this work and would be a guide to them and the medical inspectors if the teachers weighed and registered the weight of each child annually. A definite recommendation on this matter would be an important step forward.

### Heights and Weights.

The heights of the children of the County correspond fairly closely with the measurements of the British Association for the Advancement of Science; the weights of the children were distinctly below these measurements, particularly at the higher age periods. Boys age 5 were 4.2 per cent. less; boys age 12, 5.1 per cent. less; girls age 5, 2.6 per cent. less and girls age 12, 4.2 per cent. less. These figures correspond closely with those for previous years.

At the important ages of 5 and 12 in both sexes, the country children were heavier than the town children. The difference with regard to height was very slight, but this also was in favour of country schools.

The children were weighed and measured by the school teachers without boots, but otherwise in ordinary dress.

The following table shows the heights and weights of the children inspected, and a comparison with the measurements made by the British Association for Advancement of Science in 1883:—

BOYS.

AGE.	Total number of Children measured at the various ages.			HEIG	HTS.			WEIGHTS.						Measure- ments mad by British Association for Advance ment of Science in 1883.		
		Tov Scho		Cour	NTRY DOLS.	To	TAL.	Точ Scho			NTRY DOLS.	То	TAL.	Hts.	Wts.	
5 6 7 8 9 10 11 12 13	1443 449 98 25 17 7 2 1453 91	Ins. 41.0 42.4 43.9 46.6 51.2 50.2 54.5 55.3	Cms. 104 108 112 118 130 128  138 140	Ins. 41.4 43.0 45.3 47.4 49.3 53.5 59.2 54.9 56.2 57.7	Cms. 105 109 115 120 125 136 150 139 143 147	Ins. 41.3 42.9 45.0 47.2 49.6 52.6 59.2 54.8 55.9	Cms. 105 109 114 120 126 134 150 139 142	Lbs. 39.1 41.1 44.1 52.7 57.4 54.2 71.4 73.1	Kilos 17.7 18.6 20.0 23.9 26.0 24.6 	Lbs. 39.8 42.6 46.3 53.1 55.4 67.7 87.7 73.2 77.5 85.1	Kilos.  18.1  19.3  21.0  24.1  25.1  30.7  39.8  33.2  35.2  38.6	Lbs. 39.5 42.1 45.7 53.0 55.7 63.9 87.7 72.8 76.3 85.1	Kilos. 17.9 19.1 20.7 24.0 25.3 29.0 39.8 33.0 34.6 38.6	Ins. 41.0 44.0 46.0 47.1 49.7 51.8 53.5 55.0 56.9 59.3	Lbs. 39.9 44.4 49.7 54.9 60.4 67.5 72.0 76.7 82.6 92.0	
							GIR	LS.								
AGE.	Total number of Children measured at the various ages.			HEIG	HTS.					WEIG	GHTS.			ment Bri Assoc for Ad men Scien		
		То		Cour	NTRY OOLS.	To	FAL.	То Scho		Cou: Scho		То	TAL.	Hts.	Wts.	
5 6 7 8 9 10 11 12 13 14	1373 491 111 25 10 4 1 1547 118	Ins. 40.1 42.4 45.0 45.6 45.3 55.1 56.1	Cms. 102 108 114 116 115 140 142	Ins. 40.8 42.8 44.8 46.6 48.1 49.0 54.5 55.1 57.1	Cms. 104 109 114 118 122 124 138 140 145	Ins. 40.5 42.7 44.9 46.4 47.3 49.0 54.5 55.1 56.8 55.0	Cms. 103 108 114 118 120 124 138 140 144 140		Kilos. 17.1 18.2 21.3 21.6 22.3  32.7 34.8	Lbs. 38.4 41.2 45.8 50.4 50.1 54.8 63.7 73.6 82.6 70.1	Kilos. 17.4 18.7 20.8 22.9 22.7 24.9 28.9 33.4 37.5 31.8	Lbs. 38.2 40.9 46.1 49.9 49.8 54.8 63.7 73.2 81.0 70.1	Kilos. 17.3 18.6 20.9 22.6 22.6 24.9 28.9 33.2 36.7 31.8	Ins. 40.6 42.9 44.5 46.6 48.7 51.1 53.1 55.7 57.8	Lbs. 39.2 41.7 47.5 52.1 55.5 62.0 68.1 76.4 87.2 96.7	

The important figures are in black type; the others refer to comparatively small numbers and are consequently of little value.

### Treatment.

The County Council subscribed last year to the Eye, Ear and Throat Hospital for Shropshire and North Wales, for 133 letters of recommendation, the sum of £30 5s. od., and 18 recommendations were placed at the disposal of the County Council by a private donor.

The Council also authorised an arrangement with the Salop Infirmary for the treatment of ringworm by X-rays, at a cost of 25s. per case. The arrangement was looked upon in the nature of an experiment, and the number of cases to be treated was not to exceed 30.

With these exceptions, the Education Authority did not help financially in the treatment of school children.

The cost of medical treatment including railway fares, spectacles, etc., has been defrayed-

(1) by the parents,

(2) by local charitable persons or out of local funds available, or

(3) by Boards of Guardians.

In cases where the parents are unable to afford treatment and cannot get charitable help, one is compelled to suggest application to the Guardians. It cannot be considered that this is satisfactory from any point of view. Parents who have never had Poor-law relief, do not care to apply for the treatment of defects in their children which to them often appear trivial. The result in many cases is, that the parents deny that any defect exists and refuse to do anything. Nor have the Boards of Guardians any special facilities for the provision of treatment for the defects of eye, ear and throat, which form the large majority of the defects amongst school children requiring treatment. The provision of further facilities for treatment is dealt with later.

The system of following up cases in order to obtain treatment is now as follows :-

The parents of defective children, if present, are informed of the defect at the time of inspection, and they are given instructions with regard to obtaining medical treatment and other matters. If they are not present they receive written instructions within a few days.

A list of all defective children is left with the head teacher, who endeavours to obtain treatment, and reports the result within two months to the School Medical Officer.

The names of those children who have not obtained treatment are then forwarded to the Voluntary Helpers in connection with the school. The Voluntary Helpers endeavour to obtain treatment, and in many cases give very material assistance. In due course they report to the School Medical Officer.

These particulars are entered on special treatment cards, and given to the Medical Inspectors when they next visit the school. The cards are not 'closed' until the children have received adequate medical treatment or have recovered so as not to require treatment or have left school. Until this stage is arrived at, the children are seen at every visit of the Medical Inspectors.

In the schools where there are no Voluntary Helpers, the cases are followed up to some extent by correspondence, and this is also done in certain special cases.

In a few schools, nurses attend at the inspections so as to help the medical inspectors and obtain the necessary information for seeing that proper treatment is provided.

Infectious skin conditions such as impetigo, scabies, and ringworm are reported to the Attendance Officers so that they may insist upon proper treatment. In the case of impetigo and scabies, printed instructions are given for the treatment.

AMOUNT OF TREATMENT.—In order to make a satisfactory statement with regard to the treatment obtained, it is necessary to deal separately with the children examined in each year. It is particularly so where the children are only examined at long intervals, mostly once a year, and in consequence accurate information is frequently not obtained for any given year until long after the close of that year.

45 STATEMENT WITH REGARD TO TREATMENT.

5111	LIJUILI	17 117	III KE	United	10 11	CISTAL	HISIVI.			
			I	Defects	of			Health Diseases nd Heart.	efects.	
	Eyes	Throat		and	Throat and Ears	Ears	Nose	General Health including Diseases of Lungs and Heart	Other Defects.	Total
I. Known to have received		Childr	en ins	pected	in I	908.				
medical advice and treat- ment	220	318	60	4	15	23	3	43	61	747
2. Improved without medical treatment . 3. Treated by other than	32	87	7	-	2	6	I	26	4	165
medical men 4. Not had treatment	30 79	95	I 22	· · ·	· · ·	6		2		3I 2II
5. Information incomplete, having left school		68	18		2	2	3	9	2	166
*Percentage of children who are known to have had medical treatment	60.9	66.1	60.0	80.0	83.3	74.2	50.0	79.6	89.7	66.5
I. Known to have received				In	1909.					1141
medical advice and treat- ment	530	692	77	4	31	46	6	137	175	1698
cal treatment	102	247	II		8	9	2	81	27	487
<ul><li>3. Treated by other than medical men</li><li>4. Not had treatment</li><li>5. Information incomplete,</li></ul>	55 281	3 316	1 83	2	5	7	2	18	11 16	70 730
having left school	102	114	30		5	3	I	39	26	320
*Percentage of children who are known to have										
had medical treatment	58.1	61.7	40.5	66.6	75.6	82.1	66.6	70.6	80.6	61.8
I. Known to have received medical advice and treat-				In	1910.					
ment	320	341	34	4	8	43	3	63	273	1089
2. Improved without medical treatment	73	136	5		2	10	I	18	24	269
3. Treated by other than medical men 4. Not had treatment	43 190	147	19	2	 I	2 8		7	14 31	59 405
5. Information incomplete, having left school	50	48	6	I	I	6		8	44	164
*Percentage of children who are known to have								0 0	*	-
had medical treatment	57.1	63.6	57.6	57.1	80.0	75.4	100.0	80.8	78.4	65.7

			Ι		d Health g Diseases and Heart.	efects.				
	Eyes	Throat	Eyes and Throat	and	Throat and Ears	Ears	Nose	General including of Lungs ar	Other Defects	Total
Known to have received     medical advice and treat-				In	1911.			n out		
ment 2. Improved without medi-	310	411	28	4	14	33	5	85	260	1150
cal treatment	31	87	2		2	10	I	12	17	162
<ul><li>3. Treated by other than medical men</li><li>4. Not had treatment</li><li>5. Information incomplete,</li></ul>	45 156	170	19	 I	- I 5	9	2	7	11 14	58 383
having left school	30	29				3		9	18	89
* Percentage of children who are known to have had medical treatment	62.5	67.4	59.6	80.0	73.7	73.3	71.4	84.1	89.0	70.9

			I	Defects	of		Cife eld	Health Diseases nd Heart	efects.	
	Eyes	Throat	Eyes and Throat	and	Throat and Ears	Ears	Nose	General Health including Diseases of Lungs and Hear	Other Defects	Total
I. Known to have received medical advice and treat-				In	1912.					
ment 2. Known to have had	335	233	15	2	4	35	2	72	310	1008
medical advice	59	IOI	3		I	3		3	II	181
3. Improved without medical treatment	13	47				6	I	2	13	82
<ul><li>4. Treated by other than medical men</li><li>5. Not had treatment</li><li>6. Information incomplete,</li></ul>	33 183	1 180	19	 I	 I	9	·	I	8 23	44 428
having left school	42	40	3		I	8		10	23	127
* Percentage of children who are known to have had medical advice Percentage of Children who are known to have had medical advice and treat-		60.3	45.0	66.6		69.1	66.6	78.1	87.5	68.2
ment	54.1	42.I	37.5	66.6	57.1	63.6	66.6	75.0	84.5	57.8
I. Known to have received medical advice and treat-				In	1913.					
ment 2. Known to have had	187	71	7		4	30	I	53	205	558
medical advice	39	72	4			2		2	13	132
cal treatment 4. Treated by other than		9			I	7		4	10	31
medical men 5. Not had treatment 6. Information incomplete	25 191 78	 161 52	 2I 6	2 I	3	12 7	2	2 14 5	14 27 32	4I 433 182
*Percentage of children who are known to have had medical advice  Percentage of children who are known to have had medical advice and treat-	45.7	40.2	28.9	0.0	50.0	62.7	33.3	74.3	78.7	52.9
	37.8	19.9	18.4	0.0	50.0	58.8	33.3	71.6	74.0	42.8

<sup>\*</sup> For the calculation of these percentages those children who have improved without treatment and those who have been treated by other than medical men are omitted.

The following table shows where the treatment has been obtained :-

	1908		1910	1911		1913	Total
General Practitioners Eye, Ear and Throat Hospital f	· 434	858	560	649	486	305	3292
C1 1: 1 117 1	209	68I	420	359	384	184	2237
	13	43	29	32	43	34	194
Bridgnorth and South Shroy	pshire						
Infirmary	41	12	17	31	12	3	116
Whitchurch Cottage Hospital	2	4	2	5	6	I	20
Ludlow Cottage Hospital	2	6		5	I		14
Market Drayton Cottage Hospita	d	9	8	3	7		27
Ellesmere Cottage Hospital					3	I	4
Shifnal Cottage Hospital		3		5	3		II
Wenlock Hospital		3	I	I	* 5		10
Broseley Hospital					I		I
Baschurch Convalescent Home	2	I	3	I	- 4	3	14
Oswestry Cottage Hospital			I	I			2
Institutions outside the County	44	78	48	57	50	15	292
Shropshire Sanatorium				I			· I
Not stated					3	12	15
	747	1698	1089	1150	1008	. 558	6250

An analysis of the cases in 1912 and 1913 that have not had treatment has been made, in order to show the various reasons for such omission. The analysis is necessarily very incomplete, as no information has yet been received with regard to many of the cases. The reasons for treatment not being obtained are given below:—

							1912	1913
Poverty							 67	34
Indifference of							 96	75
Lack of medic	al facili	ties					 13	II
Not known							 280	345
Differences of	opinion	as to	necessi	ity of	treatme	ent	 72	32
Other causes							 36	41
								-
							564	538
								-

Amongst those in which we have no definite information, there are no doubt a very large proportion that have not obtained medical treatment on account either of poverty or lack of facilities.

The figures in these tables will repay careful study.

In the first place they show that a very considerable proportion of the children found defective eventually get medical treatment. This proportion has usually been about 60 to 70 per cent. A comparison of the tables with those in previous reports shows that some of the children found defective in the first and second years of medical inspection only received medical treatment during the year 1913.

The tables for 1912 and 1913 differ somewhat from those of previous years. In the early years all cases that had consulted a doctor were entered under column (1) "known to have had medical advice and treatment." In the last two years these cases are divided into (1) those that are known to have had medical advice and treatment, and (2) those that are known to have had medical advice, but of whom no further information was available.

It appears that at least 30 to 40 per cent. of the children found defective are untreated, and that a much larger number remain untreated for one or two years after the defects are found. It is also a fact, although one is not in a position to state the matter statistically, that the treatment is often of an incomplete character.

The scheme for nursing now approved of should do much to increase the amount of treatment obtained and increase the efficiency of it in many directions.

There will still remain under present arrangements the difficulty of getting treatment for eyes, ears and throats, in children living a considerable distance from Shrewsbury.

The majority of these cases are dealt with at the Eye, Ear and Throat Hospital, Shrewsbury. For those living within a reasonable distance of Shrewsbury this is quite a good arrangement. For those living at a considerable distance, and particularly those living in inaccessible places, the arrangement is expensive, inconvenient and leads to many children going untreated.

The alternative is the establishment of treatment centres in different parts of the County, where the cases could be dealt with periodically in accordance with requirements. Such an arrangement would have several very material advantages—

- it would save the expense and loss of time of a journey to Shrewsbury—in most cases a double journey—of the patient and person in charge;
- (2) in those cases where several attendances are desirable, it would make this possible without the present prohibitive expense;
- one of the parents could attend personally in almost every instance and receive direct instructions;
- (4) the nurse responsible for following up the case could attend, note exactly the conditions found and the further treatment necessary. It would be part of her duty to see that this was satisfactorily carried out.
- (5) it would be possible with this arrangement to get a very much larger proportion of the defective children dealt with, and dealt with in a much more satisfactory manner.

There can be no doubt about the greater efficiency of such an arrangement and that it would save the parents much time and expense.

The cost to the County Council would depend, to a considerable extent, upon whether the local cottage hospitals would be available, and also the kind of arrangements made for treatment. As an alternative arrangement, although not so satisfactory, the payment of the expenses of bringing the children of poor parents to Shrewsbury might be considered.

TREATMENT OF DEFECTS OF TEETH.—As with very few exceptions all the children inspected required treatment for their teeth, and as there is at present no provision for such treatment, it was only practicable to suggest treatment in a few of the more urgent cases. In 81 cases treatment was advised. It was obtained in 33; it was not obtained in 52, and of 16 we have as yet no information.

Treatment received at the Eye, Ear, and Throat Hospital for Shropshire and Wales, Shrewsbury, during the year 1913, on Recommendations supplied by the County Council.—One hundred and fifty-one letters of recommendation were supplied. Before a recommendation was supplied, the School Medical Officer certified that the case was a suitable one for treatment at the hospital, and the Managers of the School, that the patients were unable to afford treatment.

One hundred and forty-six of the 151 letters of recommendation were used.

The results of treatment, so far as re-inspection has gone, are very satisfactory.

Of the 146 children applying for treatment, 98 were for eye defects, 40 for throat defects, 7 for ear defects, and 1 for defects of eyes and throat.

Eye Defects.—Twenty-eight of the 98 children have been re-inspected:—

22 have obtained glasses with satisfactory results.

I has had glasses prescribed but not yet obtained them.

5 had treatment-glasses not required.

Seventy have not yet been re-inspected, but information shows that :-

42 have obtained glasses.

17 have had glasses prescribed but we have no further information.

8 other treatment than glasses prescribed.

Throat Defects.—Fourteen of the 40 children have been re-inspected. All of these have been operated on with satisfactory results. Of the 26 not yet re-inspected, information from other sources shows that 25 have been operated on.

The child with defects of eyes and throat has been operated on and glasses obtained.

The seven children with ear defects have all received treatment, in four cases with improvement.

Ringworm Cases treated at the Salop Infirmary under arrangement with the County Council.— Twelve cases were treated during the months of June and July, 1913. No definite statement can be made as to the length of time of cure, as no thorough examination was made until the next visit of the Medical Inspector.

The operator certified ten of the cases as cured, although in some of these, all the hairs had not dropped out at the time the case was certified. The average length of time between the application of X-rays and the issue of a certificate was 31 days. Since then all the cases have been examined by the Medical Inspectors, and 10 of them have been found to be free from ringworm spores. In two cases, however, ringworm spores were found.

# Action taken to detect and prevent Infectious Diseases including Reference to Action under Articles 45 (b), 53 (b), and 57 of the Code of 1909.

The revised scheme for the notification of infectious disease by the Head Teachers to the District Medical Officers of Health and the School Medical Officer has been in operation throughout the year, and has worked most satisfactorily.

Arrangements have been made so that all Sanitary Authorities now notify the schools on the outbreak of any notifiable infectious disease, and also notify when the house has been disinfected.

Where it appears that infectious disease, particularly scarlet fever and diphtheria, is spread by means of school agency, and where arrangements will allow, an investigation is made with the object of discovering the cause, and limiting the infection. Several investigations of this kind were made with regard to diphtheria, and numerous swabs taken.

In the case of diphtheria the children are not re-admitted to school until their throats have been declared free from diphtheria bacilli.

With an adequate system of school nursing it will be possible to take more efficient measures with regard to the prevention of the spread of infectious disease in schools. Particularly in respect of diphtheria, investigation can be made and precautions taken with a completeness that is quite impossible at the present time.

It appears probable that the greatest means in the prevention of the spread of the ordinary infectious diseases, will in the future be by immediate treatment of every sore throat by means of disinfecting applications without waiting for the characteristic symptoms of the disease to develop, and by a similar treatment applied to contacts in certain instances. Such a means of prevention of spread of disease could only be carried out where there is a good staff of nurses and when it is recognised that such a course comes within the legitimate scope of preventive medicine.

Its success would depend upon the correctness of certain suppositions (I) that most of the common infectious diseases commence in the throat and in the initial stages are localised there; (2) that most of these diseases are infectious in the early stages before an absolute diagnosis can be made; (3) that by treatment at this stage not only can the danger of infection be lessened but probably the gravity of the case also; (4) that at the time of infection and for a varying period afterwards, the infective organism can be completely destroyed and the disease prevented. The practicability of such a scheme would depend upon the ease or otherwise with which infective matter deposited on the throat could be rendered innocuous. The presumption is that such matter is usually deposited in an exposed position, where it could be easily reached by a disinfecting solution, and not deep in a recess.

Under Article 53 (b) 765 children have been excluded from school for infectious disease :-

143 on account of impetigo. ringworm of scalp. ringworm of body. 22 ,, scabies. 31 verminous conditions. 46 pulmonary tuberculosis. II 2 measles. 25 chicken-pox. mumps. IO 2 anaemia. tonsillitis. 3 various causes. 47 --

The following is a summary of the cases of infectious disease notified by the head teachers during the years 1910, 1911, 1912, and 1913:—

		-								
	191	0 1911	1912	1913			1910	1911	1912	1913
Measles	. 102	5 1331	583	1075	Mumps		 477	710	188	1070
Whooping Cough	h 45	0 782	899	515	Ringworm		 549	449	349	356
Scarlet Fever .	. 27	6 214	186		Impetigo				255	256
Diphtheria .	. 9	6 82	44	57	Scabies		 79	29	71	61
Chicken-pox .	. 37	4 358	603	433	Other disea	ases	 333	152	402	699

School closure has been effected almost entirely under Article 45 by the School Medical Officer, either on information obtained direct from the school, or on the advice of the District Medical Officer of Health. Under this Article 110 schools were closed for the following reasons:—31 for measles, 14 for whooping cough, 10 for scarlet fever, 3 for diphtheria, 6 for chicken-pox, 28 for mumps, 8 for influenza, 4 for sore throat, 4 for colds and coughs, and 2 for other causes.

## Review of the Methods adopted and the Adequacy of such Methods for dealing with Blind, Deaf, Mentally or Physically Defective and Epileptic Children under the Acts of 1893 and 1899.

MENTALLY DEFECTIVE CHILDREN.—During the year 12 mentally defective children have been specially examined by the School Medical Officer, with the result that 4 were found capable of receiving benefit from a special school; and 5 were found to be defective and incapable of being trained in a special school. None of the cases have been admitted to a special school.

EPILEPTIC CHILDREN.—Five cases were reported and three of them were admitted to special schools. In the other cases the parents were not willing to allow the children to go to a special school.

BLIND CHILDREN.—Two cases were reported; one child has been admitted to a special school and the other is awaiting a vacancy.

DEAF AND DUMB CHILDREN.—Three cases were admitted to special schools, and in two cases the parents were unwilling for the children to be removed.

CRIPPLED CHILDREN.—One case was reported and has since been admitted to the Baschurch Home for treatment. The child reported last year has been admitted to a special school.

## Teaching of Hygiene, Physical Exercises, Open-Air Schools.

Instruction in Personal Hygiene.—The Methods and Results of Instruction in Personal Hygiene and Temperance.—Inquiry by the Medical Inspectors shows that lessons on hygiene and temperance or in the general laws of health, are given in most of the schools to the older scholars, and also practical talks with regard to the prevention of dental caries.

The special difficulty is the lack of training in this matter of many of the teachers, and in consequence the teaching is often apt to develop into formal lessons without any practical bearing upon everyday life. It is hoped that this may be remedied to some extent by means of "health talks" in the schools given by the health visitors, when appointed, and by lectures to the teachers by the Medical Inspectors when the size of the staff allows.

Although occasional talks on health matters by outside persons are of some value, the real practical training of the children must depend upon the teacher. It will well repay teachers therefore if they give the question of methods of health teaching careful consideration.

Cleanliness.—Cleanliness can best be inculcated by a daily inspection of the children—noting the condition of hands, nails, faces, clothing and boots. A few judicious remarks on these matters will often bring about a spirit of emulation with marked improvement. The head should receive careful attention, and a feeling of pride in personal appearance and cleanliness should be created and worked upon. A teacher, by persistent and judicious management, can get the hair of girls tied back in almost every instance.

Fresh Air.—The ordinary routine of school life affords ample opportunity for training the children in methods of ventilation, and impressing upon them the importance of fresh air. The teaching should be made to apply to home life, and in particular the children should be impressed with the importance of sleeping with open windows. By frequent questioning on this point and counting the number so sleeping, much good would result.

Food.—Where the teachers understand the values of food and what is necessary for a growing child, much good would result from supervision of the mid-day meal.

House Management—Cookery—Care of the Infant—are matters that should be taught in every school to the older girls.

Schools for Mothers.—It is hoped that these schools will be started in various parts of the County as soon as the nursing scheme is in order.

Physical Exercises.—The Education Committee has made a recommendation that, in all new time tables, fifteen to twenty minutes of each day be set apart for physical exercises.

This recommendation has been sent to the managers of every school.

This is a distinct advance and, given intelligent teaching, it should be productive of much good.

The difficulty is with regard to the training of the teachers themselves.

In the summer of 1911, six men teachers were sent to the Summer Vacation Course of the Educational Handwork Association, held at Scarborough.

In the summer of 1912, six women teachers were sent to this Course.

These teachers were sent on the understanding that they would hold classes in physical exercises for the teachers of the County.

In the session 1911—1912, a course of 20 lectures was held in six different centres with very good results.

In the session 1912—1913, no lectures were given.

Arrangements are now being made for classes in Shrewsbury, Ironbridge, Shifnal, Clun and Bishop's Castle.

It is most desirable that a number of teachers should be sent for training this year, and that the teachers who have been trained be utilised to the utmost.

The importance of physical training properly carried out can hardly be overestimated, and the improvement of it throughout the County would well repay careful consideration.

Sir George Newman in his Annual Report for 1912, says:—" Physical exercises can never be well taught until those teachers responsible for the subject have been through a course of special training on modern lines; and, although students entering the profession by way of the Training College, and teachers who have attended evening classes will by degrees effect a re-organisation of the methods of teaching, there will remain for many years a number of teachers who, for various reasons, have never had an opportunity of specially studying physical exercises."

It is most important that every elementary school should have a playing field available at no great distance.

OPEN AIR Schools.—Sir George Newman says that the forms which open-air education takes are as follows:—

- r. Country holidays.
- 2. Country schools.
- 3. Classes in the open-air—playground classes.
- 4. The open-air school.
- 5. The day open-air school.
- 6. The residential open-air school.
- 7. The sanatorium school.

(I) Country holidays and (2) temporary camp schools are particularly suited to children in

large towns, where access to the country is difficult.

(3) Classes in the open-air and playground classes should be a part of the ordinary school routine wherever the premises allow of such classes. Some of the covered playgrounds are very well suited for this purpose. In other playgrounds the shade of a tree makes admirable provision for an open-air class. These classes should receive every encouragement.

(4) The open-air class-room.—There can be no doubt that the proper policy is to construct every class-room so that it can be used, when the weather permits, as an open-air class-room. As an alternative, although by no means so satisfactory a one, one or more rooms of every new

school might be so constructed that they may be used as open-air class-rooms.

It cannot be too clearly recognised that the health of school children can only be satisfactorily raised by applying healthy conditions throughout, and that any attempt to produce a general improvement by applying remedial measures to those showing signs of failure must be to a great extent disappointing. If open-air schools or classes are necessary for curing the weakly and diseased, they are equally necessary for preventing these conditions. For these reasons, I am of opinion that it is worth a great effort to bring about open-air conditions in our schools.

(5) The day open-air school is an institution that can only be worked with advantage in

connection with towns of a considerable size.

(6) Residential open-air schools of recovery.—These schools are intended for children who require care and open-air treatment for considerable periods, but are not actually suffering from tuberculosis. There can be no doubt that such schools would often be of the greatest use in restoring weakly children to a good state of health, and in preventing the development of tuberculosis. At present we have to rely upon convalescent homes, where, unfortunately, the length of stay is usually inadequate.

(7) Sanatorium schools (a) for pulmonary tuberculosis, and (b) for surgical tuberculosis.

There are no schools of this description in the County, but the possibility of establishing an open-air school at Baschurch in connection with the Surgical Home was discussed in last year's report. The matter is still under consideration.

The Government Maintenance Grants for Sanatorium Schools are as follows:-

"(a) A grant for education under the Regulations of the Board of Education for Special Schools. This grant is at the rate of £4 4s. per child, and will be paid by the Board of Education to the Authorities of the School, provided that the Institution is certified under the Elementary Education (Defective and Epileptic Children) Act, 1899;

"(b) a grant for medical treatment and care under Part II. of the Medical Grant Regulations of the Board of Education. This grant will normally amount to £8 per child, and will be paid by the Board of Education to the Authorities of the School:

"(c) the "Hobhouse" grant amounting to one-half of the amount paid by the Local Authority sending the child to the School. This grant will be paid by the Local Government Board on the recommendation of the Board of Education to the Local Authority responsible for the child.

"Grant (a) will be payable for all the children in the School, by whomsoever they are sent, provided that the requirements of the Special Schools Regulations are satisfied.

"Grant (b) will be payable only in respect of those children for whom grant (c) is not paid.

"Grant (c) will be paid only for children sent by Local Authorities (i.e., Councils of Counties and County Boroughs). The amount paid by the Local Authority on which this grant is calculated will be the average cost of maintenance after the amount of the Education grant (grant (a)) has been deducted."

# Remarks with regard to Provision for future inspection.

In Circular 823 dealing with grants for the year ending 31st March, 1914, the Board of Education says:—

"In conclusion, I am to say that the Board consider that the time has now come when the work of medical inspection should be consolidated by provision for the routine inspection of an intermediate age-group. They are aware that in a large number of areas provision is already made for the inspection of one or more age-groups other than those specified in Article 58 (b) of the Code. They desire, however, to give ample notice of this extension of the work of medical inspection, in order that as little inconvenience as possible may be caused to Authorities whose provision for medical inspection is at present limited to the two age-groups hitherto prescribed by the Code. Accordingly, they have decided to make no change as regards the year ending on the 31st March, 1915, but for the year beginning on the 1st April, 1915 and subsequent years it will be required that provision shall be made for the medical inspection of all children between eight and nine years of age, as well as for the group of "entrants" and the group of children between 12 and 13 years of age."

In the previous Circular 792, it is stated . . . . . "it is important that arrangements should be made for the Medical Officer to visit the schools as frequently as practicable. The Board are not prepared to take the view that one visit a year is sufficient."

The inclusion of an intermediate age inspection will add about 3,500 to 4,000 to the number of children to be systematically examined. Reference to page 12 shows that this is full work for one inspector in addition to the other duties there mentioned. It is quite obvious, therefore, that an additional inspector's time will be taken up almost entirely with the inspection of the intermediate age group, and it may not be possible to have the schools visited with the frequency that the Board of Education have indicated is necessary.

The disadvantages of having the medical staff fully occupied with routine work is very great, and cannot fail in the long run to lessen the value of medical inspection. The Medical Inspectors should have time for making investigations into problems of school hygiene and for investigating outbreaks of disease amongst school children. They should be able to give up more time to conferring with the teachers on various problems of school hygiene and in instructing the parents as to the care of their children. It is most desirable too, that the Medical Inspectors should take every opportunity of seeing how physical instruction is carried out in the schools, and of discussing this matter with the teachers.

The provision of an X-ray apparatus for the treatment of ringworm to be used by one of the Medical Inspectors, who would receive special training for this work, appears most desirable.

The further examination of eyes, so that spectacles could be prescribed, might with great advantage be undertaken, particularly in out of the way districts, if a sufficient staff were available.

Taking all these matters into consideration I am of opinion that the question of the appointment of two additional medical inspectors should receive early consideration.

## BOROUGH OF WENLOCK.

General Arrangements for Medical Inspection.—No alteration of importance has been made in the mode of inspection since the Borough was included in the area of the Salop Education Authority.

The inspection is carried out by three local practitioners.

Efficient and cordial assistance has again been given by the teachers in the duties of weighing and measuring the children, also in entering on the cards information as to age, records of attacks of infectious disease, sufficiency and cleanliness of clothing, etc. The inspections have been worked smoothly and with the minimum possible disturbance of school arrangements. Great assistance is also given by the District Nurses of the Lady Forester Trust, whose services continue to be available by the kind sanction of the Trustees. One or other of the Nurses attends at each inspection, assists in the preparation of the children for examination, and in the clerical work of the cards and summary sheets; also takes note of children in whom defects are found, with a view to following up the cases at their homes.

The parents receive a printed invitation to be present at the inspection. The attendance was again remarkably good, being:—

86.7 per cent. of the parents of boys—entrants.
88.0 , girls ,,
58.5 ,, boys age 12.
72.4 ,, girls age 12.

EXTENT AND SCOPE OF MEDICAL INSPECTION DURING THE YEAR.—With the exception of three schools, each school was visited twice during the year for the purpose of systematic inspection of the children.

The following groups of children are inspected:—(I) entrants; (2) children I2 years old; (3) children suspected of defects by the teachers.

The number of children examined in the systematic inspections was :-

135 boys age 12. 152 girls age 12. 203 boys on entry. 184 girls on entry.

In addition, 99 children were examined at the request of the teachers.

Condition of the Children.—The number of children examined, the condition of the children as regards nutrition, cleanliness, clothing, etc., and the defects found are stated in the tables at the end of the report. The results of the inspections are not given for each individual school, but for the groups of schools inspected by each individual practitioner. They are given separately for each sex and for each inspection age, but the final table refers to the inspections of both sexes, and at both inspection ages.

Amongst the 674 children, 130 or 19.3 per cent., were suffering from defects requiring medical treatment. Of the 99 cases referred by the teachers for examination, 43 required medical treatment.

57
Defective Vision, External Eye Diseases and Squint.

Condition.		Entrants			Special Cases.			
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	
	inspected				135	152	287	
6 each eye (normal v	vision)				104	104	208	
*6 R.					9	10	19	3
6 L.			I	I	4	8	12	3
6 R.			I	I	13	22	35	10
9 L.					18	24	42	8
6 R.					2	3	5	I
12 L					3	8	II	2
6 R.		40			2	7	9	
18 L.					2	7	9	6
6 R.		١			I	4	5	7
24 L.						I	I	I
6 R.					I		1	I
36 L.					I		I	I
6 R.					I	I	2	
60 L.					I		I	3
6 R.						I	I	2
o L.		• • •	••					4
External Eye Disea	ises and							
Squint. Children examined		203	184	387	135	152	287	
No Squint		201	184	385	134	151	285	
Convergent Squint Divergent Squint		2	1	2	I	I	2	2
Alternating Squint								
Total Squint		2		2	I	I	2	2
External Eye Disea	ises.							
No disease		202	183	385	134	152	286	
Blepharitis								
Conjunctivitis					I		I	I
Corneal opacities Other diseases		· · ·	I	2				
Oulei diseases		1	1	4				1

<sup>\*</sup> In two cases of defective vision the particulars are not given.

Amongst the 287 children systematically examined at the age of twelve, 26, or 9 per cent., were found to have defective vision requiring treatment, and amongst the extra cases there were 14 with defective vision.

Amongst the 674 children systematically examined at both age periods there were 4 cases of squint and 3 of external eye disease requiring treatment.

Amongst the extra cases there were 2 cases of squint and 2 of external eye disease.

Defects of Nose and Throat.—Forty-six or 6.8 per cent. of the children were found to have enlarged tonsils, and only 16 or 2.4 per cent. to have adenoids requiring treatment.

There were also 3 cases of enlarged tonsils and 6 of adenoids requiring treatment amongst the extra cases.

Ear Defects.—Seven or 1.0 per cent. were suffering from discharge from the ear, and in 10 or 1.4 per cent., deafness was noticed. Seven cases of discharge and 8 of deafness occurred amongst the extra cases.

Teeth.

	Percentage of Children with									
	Sound Teeth.	I to 3 (inclusive) teeth decayed.	4 to 6 (inclusive) teeth decayed.	7 or more teeth decayed.						
Boys, 12 years of age and over	20.7	55.6	17.0	6.7						
Girls, 12 years of age and over	24.3	52.6	18.4	4.6						
Boys, 5 years of age or entrants	40.4	33.5	18.7	7.4						
Girls, 5 years of age or entrants	32.6	40.8	20.1	6.5						
	30.7	44.2	18.7	6.4						

There is a very great difference in the amount of dental decay as shown in this table and in the one on page 25 dealing with the remainder of the County. This difference is clearly shown in the following figures:—

		7 or more decayed teeth.
Borough of Wenlock	 30.7	6.4
Remainder of Education County	 4.0	36.3

Tuberculosis.—No case was definitely diagnosed as pulmonary tuberculosis, but in two cases there was some suspicion. There were two children suffering from other forms of tuberculosis.

Diseases of Heart and Circulation.—Nine children, or 1.3 per cent. were found to be suffering from organic heart disease. All of these were amongst the children examined by one inspector (Dr. Edwards); in addition 8 children were found to be suffering from functional disturbance of the heart. Six of these were amongst the children examined by the same inspector.

Rickets.—Twenty-one children or 3.1 per cent. were suffering from the effects of rickets (6 bad, 15 slight). Twenty of these were amongst the children examined by one inspector (Dr. Edwards).

Infective Skin Conditions.—Five cases of ringworm, six of impetigo, and none of scabies were discovered at the inspections.

Verminous Heads.—The percentage of verminous heads was 17.2. This percentage closely approximates to that for the remainder of the County.

Routine visits are paid by the Trust's Nurses to the schools, and the children's heads and clothing examined. From details supplied by Mr. Shingler it appears that during the year 394 visits to schools were paid by the Nurses, and 1,521 examinations made, principally for verminous conditions. There can be no doubt that already a marked improvement has been effected.

Clothing and Footgear.—In 14.5 per cent. of the children, the clothing and footgear were reported as unsatisfactory.

Heights and Weights.

BOYS.						GIRLS.							
Total number of Children examined	Heights.			Weights.		Total number of Children examined	Heights.		Weights.				
1180.	at the various ages.	Ins.	Cms.	Lbs.	Kilos.	at the	Ins.	Cms.	Lbs.	Kilos.			
3	23	36.9	94	31.2	14.2	3	26	36.6	93	32.4	14.7		
4	88	39.1	99	35.7	16.2	4	71	38.5	98	35.0	15.9		
5	64	41.3	105	39.2	17.8	5	57	41.2	105	38.8	17.6		
6	20	44.0	112	44.0	20.0	6	21	42.8	109	40.8	18.5		
6 7 8 9	20	46.0	117	52.3	23.7	7	0						
8	2	47.0	119	49.8	22.6	8	3	46.5	118	50.5	22.9		
9	1	46.0	117	47.6	21.6	9	2	46.2	117	44.6	20.2		
10	1	58.5	149	74.0	33.6	10	3 2 3	50.0	127	59.3	26.9		
11	3	54.3	138	68.0	30.8	11	2	51.7	131	72.9	33.1		
12	127	54.4	138	69.8	31.7	12	144	55.3	140	73.0	33.1		
13	2	54.0	137	66.5	30.2	13	2	51.7	131	82.3	37.8		

Treatment.—The facilities for treatment are much greater in the Borough of Wenlock than in the rest of the County. This is due to the help very generously given by the Lady Forester Charity Trust, who not only allow their nurses to undertake school nursing but provide for the treatment of defects of eyes, ears, throat and teeth.

The general arrangements have been described in previous reports.

The Broseley Hospital has been fitted up with rooms for this work. Defects of eyes, ears, throat and nose are treated by Mr. Russ Wood. The dental work is undertaken by Mr. Mugford, who visits the hospital as required.

Glasses are obtained by the Trust in all cases where prescribed, and supplied to the parents, who are expected to pay a part or the whole of the cost where they can afford it.

Mr. T. C. Shingler, the Secretary to the Trust, has taken a very active interest in supervising and following up the treatment of the cases, and the Matrons of the Broseley and Wenlock Hospitals and the Nurses have co-operated heartily in this work.

The scheme for dental treatment referred to in my last report has not so far been adopted owing to objections on the part of the Charity Commissioners.

bee the descending with the same and the sam	Eyes.	Throat.	Eyes and Throat.	Eyes and Ears.	Throat and Ears.	Ears.	Nose.	General Health including Diseases of Lungs and Reart.	Other Defects.	TOTAL.
Known to have received medical advice and treat-	S'ins	amblid	1913	m						unic.
ment	38	II			I	7		6	8	71
Known to have received medical advice	2	I						I	I	5
Not had treatment	7	17	I			2		I	I	29
Improved without treat- ment									I	I
Information incomplete	4	2	I			I		2	3	13
No information		40								54

Of the 71 children who are known to have received medical treatment, six were treated at the Broseley Hospital, 9 at the Wenlock Hospital, 5 by medical practitioners, 1 at Shirlett Sanatorium, and in 50 cases the information is not given.

Failure to get medical treatment was due to indifference of the parents in 30 cases, and in 3 cases on account of difference of opinion as regards the necessity for treatment.

In addition to those found defective at the medical inspection, II children were treated for eyes, 5 for throat, I for nose, 40 for teeth and I5 for other conditions.

Teeth.—One hundred and two or 15.1 per cent. of the children examined were recommended for treatment of their teeth. I have records of 49 children being treated, of 48 refusals, and in 5 cases the information is incomplete.

