**[Report 1925] / School Medical Officer of Health, Cumberland County Council.**




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CUMBERLAND COUNTY COUNCIL.

EDUCATION COMMITTEE.

# REPORT

OF THE

## SCHOOL MEDICAL OFFICER

F. H. MORISON, M.D., D.P.H., &c.

ON THE

# Medical Inspection of School Children.

FOR THE YEAR ENDED
*DECEMBER* 31*st*, 1925.

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## *CUMBERLAND COUNTY COUNCIL.*

*To the Chairman and Members of the Education Committee.*

Mr. CHAIRMAN, LADIES AND GENTLEMEN,

I have pleasure in presenting my Eighteenth Annual Report on the Medical Inspection of School Children, that for the year ended 31st December, 1925.

### I.—STAFF.

There have been no alterations in the staff of the School Medical Service during the past three years.

In no case is the full time of any member, either medical or nursing, of the staff given to the School Medical Service.

The time is apportioned, as may be necessary, between school work, tuberculosis, maternity and child welfare, and general public health.

There are obvious and distinct advantages in arranging the work on such a basis, not the least of which is the enormous saving in travelling expenses which would be incurred by any other method.

### II.—CO-ORDINATION.

In order that co-ordination may be full and complete, the County is divided into six Medical Areas, with one Medical Officer in charge of each. He is responsible to the School Medical Officer, who is also the County Medical Officer, for the whole of the work in his area, whatever head it may come under (with the exception of venereal diseases), and so the completest co-ordination is secured, and any case is easily transferred from one branch to another.

The closest possible co-ordination ought to exist between the School Medical Service and the work of maternity and child welfare, for unless there is an efficient and thorough infant and child welfare scheme in operation, an unnecessary burden is thrown on to the School Medical Service in the way

of treating disease, disease moreover, a large amount of which could and should have been prevented, had it been possible to examine and treat all children falling in the age period prior to their admission to school.

Dr Haydock reports that —"Both at Egremont and Maryport, and to a lesser extent at Wigton, there is a close co-operation between the School Clinic work and the Maternity and Child Welfare Clinic. A similar type of record card is used for each Clinic, and these are transferred from the Child Welfare section to the School section when the child starts attending school."

In this way it is possible to have many defects attended to early—defects which would, as a general rule, remain untreated till the age of the first routine inspection at school."

Later on I will show that, of the number of children examined for the first time on their admission to school, 18 per cent. require some form of treatment for a definite physical defect.

*In other words, nearly one in every five children begins its school life and its education handicapped by ill-health more or less marked.*

If we remember that, in addition, there must be double this number who, without showing any definite defect, have departed from normal, sufficiently to warrant their being kept under careful observation, we must recognise how serious the problem is, and we must determine to do all in our power to prevent such a serious state of affairs.

To what cause or causes can this bad start in life be attributed?

1. I think, undoubtedly, the first and main cause is bad and improper feeding during infancy and early childhood, and

2. The bad home conditions in which many of the children are reared.

There are, of course, other contributory causes, such as the want of medical attention to the earliest manifestations of departure from health, but I am convinced that the remedy for much of the ill-health of the child prior to school age, and of the school child itself, can only be remedied by education of the parents. And in this connection I venture to say that no more satisfactory work, and no work that would give a higher reward, could be undertaken by the Women's Institutes throughout the County than the education of parents, and young people who in a few years will be parents, in snch matters as the care and management of infants and young children, as well as sound practical instruction in the principles of diet in general.

The care of debilitated children under school age is a matter of vital importance to the health of the school child.

Early manifestations of on-coming diseases are not always easy to recognise, but the sooner they are recognised the easier are they to remedy, and the more economical it becomes in the end. Prevention is *cheaper* than cure.

## III.—SCHOOL HYGIENE.

The hygienic condition of many of the schools in the area leave much to be desired, especially as regards ventilation, lighting, warming, the sanitary conveniences and lavatories, water supply, cleanliness of schoolrooms and cloakrooms, &c.

Owing to pressure of other work it has not been possible during recent years to have regular and systematic reports on these matters sent in on each school, but arrangements are now made for a full report on each school during the current year.

This report will also contain full information relating to the existing arrangements for drying children's boots and clothes when they come to school wet, as well as the arrangements (if any) made for children who cannot get home, having a mid-day meal in school.

Dr. Mason reports as follows :—" One more school, viz., Crosby, has been added to the list of those whose midden or pail privies have been converted to water closets.

The heating and lighting of several schools cannot be considered as satisfactory, but I would particularly draw attention to the unsatisfactory warming of Gilcrux school. At present this school is heated by means of three stoves, one in each of the three classrooms, the Teachers and children suffer a great deal from "colds," the former having complained to me on frequent occasions. The temperature in the large classroom is very unevenly distributed, and readings of a thermometer at the end of the room furthest from the stove have invariably been much lower than they should be during the cold months. I have had temperatures taken, and these show that in one period of seven consecutive school days the average temperature at 9-15 a.m. and 12-15 p.m. were respectively 44·5° Fahr. and 48·1°—the minimum temperature at 9-15 a.m. being 35° and at 12-15 p.m. 42°, while the maximum at 9-15 a.m. was 49° and at 12-15 p.m. 50°.

## IV.—MEDICAL INSPECTION.

For administrative purposes the County is divided into six areas, each in charge of one Medical Officer.

Beyond slight changes in administration no alteration has taken place in our methods during the year.

### Age Groups of Children Inspected.

The children inspected come into the same groups as in previous years, viz.: Code groups, including Entrants, Intermediates (8 years of age), and Leavers (12 years of age and over).

"Specials," *i.e.*, children of any age not being Code or routine cases; and Re-examinations, *i.e.*, children who for any reason it is considered advisable to examine more than once in the year.

The number coming under each group will be found in Table I at the end of this report.

Again this year I have to record a considerable increase in the number of children examined under each group, *e.g.*, 357 more Code group children were examined than in the previous year, 879 Specials and 3,143 more Re-examinations took place.

The Board's schedule has been adhered to, with the slight exception noted in the report for 1921.

## V.—FINDINGS OF MEDICAL INSPECTION.

In Table II will be found, set out in detail, the number and class of defects which were found.

In considering this, however, it must be remembered that in a great many instances more than one defect is found in one child, and whilst each defect is counted in the total number found (see Table II A), the number only of children examined is given (Table II B), irrespective of the number of defects from which any child may be suffering.

Thus, of the 8,269 children examined in the Code groups, 1,515 required treatment.

The percentage of "Specials" requiring treatment is, of course, much higher than this. They are selected for examination because they are suspected of having some defect.

In the Code groups it will be noted that while 18% of Entrants required treatment, 21% of Intermediates and 16% of Leavers also required treatment.

In considering these figures it must be remembered that the eyesight of Entrants is not tested, as it is considered that no reliable results can be got by the examination of such young children. In the Intermediate group eye cases supply a considerable proportion of the whole; this, I consider, accounts for the difference between the two groups.

The figures in these three groups show an increase over the corresponding figures for the previous year, and, I am afraid, must be a reflection of the industrial depression through which we are passing.

But surely we cannot complacently sit down and fee contented if we realise the fact that 18% of the children onl admission to school are handicapped at the outset of their

career by some physical defect. Moreover, we must remember that even this figure would be much increased were we to include in the total the number of children suffering from the ill-effects of dental decay.

The remedy for this state of affairs I believe to be in more efficient infant and child welfare schemes, and education of parents, more especially with reference to the diet of their children.

(A) Uncleanliness.

During the year 457 cases of uncleanliness were reported by the Medical Staff, equivalent to 2 per cent. of the total number of children examined. It is gratifying to record that the improvement noted in former years is still maintained.

731 visits to the schools were paid by the nurses, who made 50,828 examinations and detected and had remedied 730 dirty and verminous conditions in the children.

(B) Minor Ailments.

The total number of minor defects noted is 338 in excess of that noted the previous year, viz., 2,185 against 1,847. This is accounted for by the large increase in the number of cases of minor injuries, bruises, sores, chilblains, &c.

In the other conditions included in this group minor ailments of the skin, eyes, and ears, there is a reduction of 200.

(C) Tonsils and Adenoids.

The incidence of these conditions of the nose and throat shows little variation from year to year.

I think it is undoubtedly the case that not so many serious cases are seen as in former years, but still the fact remains that a little over 11% of all children examined show signs, more or less marked, of these conditions.

During the year 532 cases were referred for treatment and 1,314 to be kept under observation.

The very unsatisfactory condition of many of the children's teeth, even at the early age of five, is one of the main contributory causes of these conditions; the unsatisfactory home conditions of many of the children is another cause. This being so, it is evident that the main preventive factor is with the parents themselves.

By judicious and careful feeding of infants and children a very large proportion of the decay of the first set of teeth can be prevented, and even though the housing conditions in many areas leaves much to be desired, much more could be done than is done to keep the existing houses clean and in much better sanitary conditions.

(D) TUBERCULOSIS.

(a) *Pulmonary* :—66 definite cases were found, 52 requiring treatment (10 Routines and 42 Specials), and 14 to be kept under observation (5 Routine and 9 Specials), whilst 166 suspected cases were noted. 145 were referred for treatment and 21 to be kept under observation (45 Routines and 121 Specials).

A large percentage, in fact practically all, of these cases, both definite and suspected, are "contacts" of cases of tuberculosis already known.

During the year 454 school children were examined specially with a view to discover whether they had tuberculosis or not, because they were "contacts" of known cases.

Nineteen, or 4% were found to be suffering from Pulmonary Tuberculosis, and 67, or 12·5 % were suspicious, and will be examined again from time to time.

(b) *Non-Pulmonary* :—

81 cases of tuberculosis, affecting glands, bones and joints, spine, and other parts of the body, were also noted.

(E) SKIN DISEASES :—

Of these there were 959 referred for treatment, whilst 39 were to be kept under observation.

The cases referred for treatment consisted of :—

| | |
|---|---|
| Ringworm of the Head ... ... | 84 |
| „ „ Body ... ... | 74 |
| Scabies ... ... ... ... | 55 |
| Impetigo ... ... ... ... | 508 |
| Small Septic Sores, &c. ... ... | 238 |

Ringworm of the head was not so prevalent as in the previous year, but that of the body has slightly increased. Scabies was not so prevalent, but the number of cases of Impetigo remained practically the same.

(F) External Eye Diseases :—

Of these there were 786 cases, 394 requiring treatment and 392 to be kept under observation.

(G) Vision :—

1,475 cases of defective vision were noted, 640 in the Routines. 395 were referred for treatment, whilst 245 are to be kept under observation. Among the "Specials" there were 835, 415 requiring treatment and 420 to be kept under observation.

I am greatly indebted to Dr. Ross, Ophthalmic Surgeon of Carlisle, for the following notes on Defective Vision.

"Twenty years ago a scholar wearing glasses was almost a curiosity. To-day there are hundreds. Many parents, remembering their own school days, say, "why is it that so many children need glasses nowadays?" and go on to lament the bad sight of the present generation.

But the eyesight of this generation of children is no worse than the last.

The answer to the question of the parents is simple. To-day the Teacher and the School Doctor are on the alert, and look for and find the children whose eyes are imperfect.

Faults discovered are corrected by glasses. Twenty years ago they were not.

## The Value of Glasses in Cases of Defective Vision.

The normally shaped eye of a school child can see very distinctly everything at any distance and up to three or four inches from his eyes.

*If the eye is not perfectly shaped, the result is imperfect vision.*

*If the eye is too long*, then the child cannot see well at a distance, and the blackboard is a blur to him. But he can read perfectly, and see extremely well near at hand.

*If the eye is too short*, he may be able to see quite clearly at a distance and for reading, but he has some difficulty in continuing to see clearly for reading. All the time it needs an effort on his part.

His eyes tire, his attention wanders, and he cannot concentrate and learn so easily or so continuously as if he had normal eyes.

*The eye may be not quite spherical, but slightly egg-shaped.* In this case he cannot see clearly, either at a distance or for reading. He also tires, and often suffers from headaches. Now all the trouble lies in the fact that any difference from the perfect shape, even 1/20th part of an inch, means a difficulty in focussing the eye.

*If the eye is too long*, no effort on the part of the child is of any use.

*If too short*, an effort does help to focus.

*If egg-shaped*, an effort may or may not help.

The wearing of proper glasses, exactly to neutralise the defect of focussing, puts the child almost—in many cases exactly—in the position of having a perfectly shaped eye.

What are the results of neglecting to wear glasses where focussing is not perfect? These are many, and one or more, or all of the following disabilities follow :—poor sight ; the effort to correct the faulty focussing results in headache,

irritability, inability to concentrate, difficulty in learning; increase in the fault and corresponding increase in the degree of these disabilities ; squint.

*Squint, or cast in the eye,* is the most easily recognised result of a defect in the shape of the eye or eyes, and results in most cases from the strain of trying to focus.

Not all squints are due to this cause ; some are due to disease of the eye or injury, or faults in the muscles or nerves of the eye.

*Popular Fallacies.* How often a squint is neglected because of such untrue yet commnnly current ideas !

"It is due to teething or measles."

"The child is too young to have the squint seen to."

"The child will grow out of it."

And so on.

The answer to these is this :—A squinting eye may go blind *in a month* from the onset of the squint, and it will be useless for ever for reading with, and useless for earning a livlihood.

No child is too young to have attention.

Every squint should be seen to within a fortnight of its first appearance.

*Squint Dangers of Postponing Treatment.*

The first is, that of untreated squints ; every third squinting eye losses useful vision *for ever.*

The tragedy of this is painfully brought home when the "good" eye is lost through injury. Many cases have occurred in Cumberland.

(2) After eight years of age treatment (for saving the sight of the squinting eye) is almost always useless.

(3) Every week lost in having proper glasses fitted, and training of the squinting eye carried out, means less and less chance of retaining or improving the sight of the squinting eye.

*The Deformity.* The squint is of no importance. The eye can be put straight by operation later. It is the loss of *seeing power of value* that matters, and squinting eyes, unless trained day in day out up to the age of eight, invariably lose this power, in some cases all trace of it disappears.

The treatment of squint is :—

(1) Complete correction of the defect in focussing by glasses.

(2) Training the weak eye every day, without a break of a single day, up to eight years of age.

(3) Constant attention to the glasses, which must be clean and rigid and straight.

(H) Ear Disease and Hearing :—

Of ear diseases there were 222 referred for treatment, whilst 39 were to be kept under observation.

Of defective hearing, 91 cases were referred for treatment and 44 for observation.

(I) Dental Defects :—

376 cases were noted at the medical inspection as requiring treatment.

It must, of course, be understood that this figure represents only the very worst cases, with abscesses and serious septic conditions of the mouth, ordinary cases of dental caries, are not included in the figures relating to medical inspection.

(J) Crippling Defects :—

In my Annual Report for 1919 I published a report by Dr. Kenneth Fraser of his work as School Medical Officer in charge of the Penrith area. In that report he drew attention to the fact that in that area, which comprises about one-sixth

of the Elementary School population of the County, 70 cases had been classified as more or less crippled, owing to some deformity.

Dr. Fraser estimated from this that there must be some 420 deformed children to deal with.

From this beginning the present highly efficient "Cripple Scheme" has arisen.

Before any real work for ameliorating the pitiful lot of the crippled could be undertaken, it was necessary to ascertain the name, address, age, and so on of each case, and to ascertain as accurately as possible the number of cases that would have to be dealt with.

All this information was obtained from every conceivable source, some from members of the Education Committee, from members of the Medical and Nursing Staffs of the County, from private Practitioners, from District Nurses and Mid-wives, and a considerable number were obtained from the Organisers of Physical Training.

By the end of 1922 we had a "Register of Cripples," containing 257 names, all classified under the different causes which gave rise to the crippling.

In Sir George Newman's Annual Report for 1925, it is stated that "a complete scheme of orthopædic treatment for a given area involves a number of agencies."

1. It is necessary to ascertain the number of cripples in the area, and the nature of the defects from which they are suffering.

2. It is essential that an Orthopædic Hospital should be available.

3. The provision of one or more Orthopædic Clinics.

4. The scheme will not be complete unless it includes arrangements for the supply of surgica appliances.

5. What can be done to *prevent* crippling.

In 1919, the ascertainment was commenced in one area in the County, and every effort has been made since then to keep the register absolutely up to date.

At the end of December, 1924, there were 471 names on the register, and during 1925, 166 new cases came under notice.

In 1919, arrangements were made with the Shropshire Orthopædic Hospital (Baschurch, now at Oswestry), and with the Ethel Hedley Hospital, Windermere, for the admission of our cases.

The first batch of cases was sent early in 1920.

Very early in the scheme it was realised that efficient after-care was an essential part of treatment, and in February, 1921, the appointment of an after-care Nurse was sanctioned.

In March, 1921, Dr. Kenneth Fraser was granted a month's leave of absence to study after-care at Manchester and Oswestry.

From that time, thanks to the untiring energy of Dr. Fraser and Dr. MacMurtrie, as well as Miss Marsh and all her Nursing Staff, the scheme has made rapid and highly satisfactory progress.

In June, 1921, four After-care Clinics at Carlisle, Penrith, Maryport, and Whitehaven were established and equipped, and monthly Clinics have been held in these centres since that date.

Surgical appliances are provided when required.

In addition to these monthly Clinics, special Clinics have been arranged twice each year, at which we have had the advantage of a specialist Orthopædic Surgeon's advice and guidance in the matter of classifying cases and advising treatment.

In my last Annual Report (p. 26) I said :—"Owing to difficulties of transport, or the great distance to be covered, it has been found impossible for some children to attend the Clinics regularly. This we hope will be compensated for to some extent in the future by the recent appointment of an Orthopædic Nurse, who will visit and direct the treatment of these cases at their own homes. The dual effect of this will be that all cases will now receive after-care, and many parents who have hitherto, in spite of all difficulties, brought their children to the Clinics, will be spared the anxiety and toil of these visits."

Sanction to this arrangement was given by the Board for one year, which expires on the 31st March, 1926.

Has the experiment justified itself ?

Thanks to the indefatigable energy and enthusiasm of Miss Nelson, I think there can be no question that the experiment has more than justified itself.

Miss Nelson reports that the number of visits paid to cripples in their own homes during the nine months that she has been at work, was 300.

At these visits, splints were fitted, plasters renewed, &c.

In March, when Miss Nelson commenced work, there were a considerable number of cases which, for one reason or another, had refused treatment of any kind, but it is gratifying to know that 90% of these cases have responded to her visits, and are now getting treatment, some of them actually being in hospital at the time of writing.

One of the chief difficulties of after-care work in such a County as Cumberland is, of course, the scattered area in which cases have to be visited.

During the past nine months Miss Nelson has travelled in her car on this work, nearly 7,000 miles, and in addition has done a considerable amount by train and bus.

## VI.—INFECTIOUS DISEASES.

The procedure for dealing with infectious diseases in schools, is that agreed upon in 1909. It is found satisfactory in working, and has not been varied.

## VII.—FOLLOWING-UP.

The procedure known as "following-up" is of vital importance to the efficiency of the School Medical Service.

To most of us it seems almost incredible that parents who are told that one or more of their children has some physical defect, do not take immediate steps to have that defect remedied.

It is true that a large percentage of parents when told of such defect, are willing and anxious to have it remedied.

On the other hand there are parents who owing to carelessness, apathy, or indifference, will put off having any treatment, but who, when the position is explained to them, will willingly co-operate with the School Medical Service, and have the necessary treatment.

Again there is the small minority of parents who will have nothing done in the form of treatment unless absolutely compelled to do so.

In circumscribed areas the process of following-up, is simple, and when, as in larger urban centres, you have all facilities for treatment, such as School Clinics, Infirmaries, Specialists of all kinds, as it were at your finger tips, it is easy to obtain treatment for any and every case.

In large sparsely populated rural areas where there are no such facilities within 20, 30, or even 40 miles, where the nearest medical man is possibly ten miles away, where there are no Specialists and not even a School Clinic, the matter is far different, and it speaks well for the average parent in Cumberland that, in spite of all difficulties, so many cases obtain treatment.

The only solution of a difficult problem that I can suggest for efficiently carrying out treatment in rural areas, is that suggested in my last year's report, the provision of a motor van, fitted up as a complete travelling Clinic, and I hope that when the present financial stress is over, this will be one of the first directions in which our work will be expanded.

Now that the Clinics are firmly established, and have become so popular, the work of following up in urban areas where Clinics are available has become considerably easier. The Clinics, however, do not affect the rural areas, and the amount of work to be done by the School and District Nurses is reflected in the following table, which shows the conditions for which the homes were visited as well as the number of visits paid :—

| *Condition.* | *No. of Cases.* | *No of visits paid.* |
|---|---|---|
| Malnutrition ... | 11 | 34 |
| Uncleanliness ... | 167 | 337 |
| Skin Diseases ... | 82 | 253 |
| Eye conditions ... | 406 | 794 |
| Ear ,, ... | 166 | 336 |
| Nose and Throat ... | 146 | 339 |
| Heart and Circulation | 174 | 472 |
| Lungs (Non-tubercular) | 84 | 232 |
| Lungs (Tubercular) ... | 8 | 25 |
| Pretubercular ... | 55 | 207 |
| Other Tubercular conditions | 9 | 28 |
| Deformities ... ... | 13 | 23 |
| Glands ... ... | 57 | 170 |
| General Cases ... ... | 112 | 297 |
| | 1490 | 3547 |

In addition to these, 903 visits were paid by District Nurses to 325 cases requiring dental treatment.

## VIII.—MEDICAL TREATMENT.

The arrangements for treatment have been dealt with in previous reports, and are summarised in that for the year 1923, pp. 16-18.

The following tables give some indication of the amount and scope of the work undertaken at the School Clinics :—

| *Clinic.* | *New Cases.* | *All cases. Visits.* |
|---|---|---|
| Cleator Moor. ... | 507 ... | 2460 |
| Cockermouth ... | 558 ... | 2572 |
| Egremont ... | 337 ... | 1216 |
| Maryport ... | 539 ... | 2805 |
| Millom ... | 394 ... | 4366 |
| Penrith ... | 231 ... | 1132 |
| Wigton ... | 340 ... | 1297 |
| | 2906 | 15848 |

The following is a summary of the work done at the Cilnics during the year :—

| *Condition for which Child attended.* | *New Cases.* | *No. of Visits. All Cases.* | *Individual Children.* |
|---|---|---|---|
| Malnutrition ... ... | 20 ... | 118 ... | 23 |
| Uncleanliness ... ... | 83 ... | 1246 ... | 103 |
| Skin Diseases ... ... | 770 ... | 4434 ... | 804 |
| Ear Diseases ... ... | 144 ... | 1195 ... | 161 |
| Eye Diseases ... ... | 233 ... | 1460 ... | 265 |
| Nose and Throat ... | 155 ... | 475 ... | 165 |
| Enlarged Glands (Non-tubercular) ... ... | 50 ... | 312 ... | 52 |
| Heart and Circulation ... | 80 ... | 496 ... | 111 |
| Lungs (Non-tubercular) | 193 ... | 882 ... | 234 |
| Lungs (Tubercular or Suspected) ... ... | 101 ... | 835 ... | 130 |
| Tuberculosis (Non-pulmonary) ... ... | 36 ... | 278 ... | 38 |
| Nervous System ... | 21 ... | 114 ... | 23 |
| Deformities ... .. | 50 ... | 216 ... | 58 |
| Other Defects & Diseases | 919 ... | 3663 ... | 871 |
| Goitre ... ... | 8 ... | 52 ... | 8 |
| Dental ... ... ... | 43 ... | 71 ... | 43 |
| Defective Speech ... | — ... | 1 ... | 1 |
| | 2906 | 15848 | 3090 |

The following is a short summary of all the treatment carried out during the year :—

(*a*) *Minor Ailments.*

| Referred for treatment. | Treated. |
|---|---|
| 2185 | 2096 |

(*b*) *Tonsils and Adenoids.*

| Referred for treatment. | Treated. |
|---|---|
| 532 | 230 |

(*c*) *Tuberculosis Pulmonary.*

| Referred for treatment. | Treated. |
|---|---|
| Definite ... 52 | 43 |
| Suspected ... 145 | 118 |

*Non-Pulmonary.*

| | |
|---|---|
| 55 | 41 |

On the 1st January, 1925, 14 children (5 boys and 9 girls) were under treatment for Pulmonary Tuberculosis in the Sanatorium.

Twenty-five children (12 boys and 13 girls) were admitted during the year.

Twenty-nine (14 boys and 15 girls) were discharged during the year, and there were at the end of the year 10 children (3 boys and 7 girls) still in the Sanatorium.

On discharge, 27 were "very much improved," and in 2 there was "no material improvement."

| Referred for treatment. | Treated. |
|---|---|
| (*d*) *Skin Diseases.* | |
| 959 | 864 |
| (*e*) *External Eye Diseases.* | |
| 394 | 383 |
| (*f*) *Vision.* | |
| 810 | 522 |
| (*g*) *Ear Disease and Hearing.* | |
| 313 | 227 |

Included in groups (*b*) and (*g*), 81 cases were referred to Dr. Syme for his opinion, 32 were operated upon by him, 18 operations were performed in local Hospitals, and 6 cases were operated on privately.

In addition to those operated on by Dr. Syme, 91 cases of Tonsils and Adenoids were operated on in local Infirmaries.

(*h*) *Dental Defects.*

The report of the Dental Officer will be found in Appendix C.

The Dental statistics are given in Table IV, Group IV.

That the services of the Dental Officer are successful and much appreciated is evident from the numerous requests received for him to visit schools in all parts of the County.

The Dental Van continues to be the unqualified success which was prophesied it would be, this is evident from the following two letters, taken from many which I have received after the visit of the Dental Van.

Dear Sir,

I desire to place on record my sincere thanks and high appreciation of the excellent Dental treatment which you have given us by your Dental Officer (Mr. F. E. Gillieron) and assistant, Nurse Postlethwaite, at our school during their recent visits.

This feeling is reciprocated by the parents and guardians of the children concerned, who very much appreciate the kindness and sympathy shown to them during treatment.

Again thanking you, and with every good wish for the continued success of the Health Department.

Yours faithfully,

(Head Teacher).

Dear Sir,

On behalf of the Managers and Staff of the above school, I am asked to express their very high appreciation of the services of the Dental Officer and Nurse in connection with the visit of the van.

Parents and scholars have entered into the spirit of the enterprise, every child has asked for treatment, and there is not now a bad tooth in the school.

By way of following up the treatment, the Managers have laid in a stock of tooth brushes, and by means of a "subsidy" they are enabling the Staff to retail them to scholars at 4d. apiece.

Yours faithfully,

(Chairman and Correspondent).

(*i*) *Crippling Defects and Orthopaedics* :—

The treatment of cripples has continued on similar lines to that of previous years, and has done a very great deal to alleviate, and in many cases to cure the distressing disabilities from which these children suffered.

The present condition of the cripple scheme is indicated in the following tabular statements :—

## FIGURES FOR 1925 CRIPPLE REPORT.

### TABLE A.

| | |
|---|---|
| New Cases ... ... ... ... | 166 |
| Number on Register 21/12/24 ... ... | 471 |
| Number on After-care List ... ... | 429 |
| Attendances at After-care Clinics ... ... | 950 |
| Seen by Consulting Surgeon (extra to A.C. Clinic) ... | 130 |
| Appliances provided and renewed ... ... | 180 |
| Plasters (applied at Clinics) 41, Casts for Boots 14 ... | 55 |
| Surgical Clogs supplied ... ... ... | 30 |
| No. of Attendances at Intermediate Clinics (Remedial) (of which there were 4 during past 9 months) | 590 |

| | |
|---|---|
| Plasters at Home ... ... ... | 10 |
| No. of visits paid to the Homes (for After-care Work) | 300 |
| Cases in Hospital 31/12/24 and Admissions during 1925:— | |
| Windermere ... ... ... | 62 |
| Oswestry ... ... ... | 11 |
| Stannington ... ... ... | 1 |
| Royal Liverpool Hospital ... ... | 1 |
| Discharged from Hospital:— | |
| Windermere ... ... ... | 45 |
| Oswestry ... ... ... | 6 |
| Stannington ... ... ... | 1 |
| Awaiting Admission to Hospital 31/12/25 ... | 30 |
| X-rayed ... ... ... ... | 27 |
| Awaiting X-ray ... ... ... ... | 5 |

---

TABLE B.

| | |
|---|---|
| Poliomyelitis ... ... ... ... | 95 |
| T.B. Joints ... ... ... ... | 42 |
| Rickets ... ... ... ... | 64 |
| Congenital Defects ... ... ... | 27 |
| Birth Palsies ... ... ... ... | 16 |
| Injuries (including Fractures) ... ... | 21 |
| Osteomyelitis ... ... ... ... | 10 |
| Torticollis ... ... ... ... | 8 |
| Spinal Curvature (other than T.B.) ... ... | 23 |
| Spastic Paralysis ... ... ... ... | 14 |
| Flat Foot ... ... ... ... | 12 |
| Pseudo Coxalgia ... ... ... | 7 |
| Pseudo Hypertrophic Muscular Paralysis ... | 2 |
| Other forms of Paralysis ... ... ... | 26 |
| Other Conditions ... ... ... | 35 |
| Talipes ... ... ... ... | 29 |

From the above brief statement of the treatment of defects noted in school children, it will be observed that of the 5,445 defects referred for treatment, 4,524, or 83 per cent. actually received treatment.

With reference to the treatment of cripples, there is, however, one disappointing feature.

By means of remedial exercises many children with slight deformities could be cured, or prevented from becoming worse, but owing to the fact that we now only have one worker, coupled with the long distance of many of the children's homes from a station or bus, it is impossible to hold remedial clinics as frequently as it is desirable to do so.

At least three sessions ought to be held each week at each remedial clinic to get the best results.

In order to try and meet this difficulty, tables of exercises are prepared, and the exercises shown to the mothers, *a few* of whom seem to get good results, but the majority of results from this method of compromise are disappointing.

The hopeful aspect of the orthopædic work is that when approached most of the parents now realise the possibilities for good in the treatment offered to their children, and that the pains so often complained of in a hip and knee or elsewhere, may be more serious than "growing pains," which is the term applied by many people to aches and pains of bones and joints in children.

I am indebted to Miss Nelson, our orthopædic worker, for the following notes on an interesting innovation in the treatment of cripples introduced by her, on the conversion of clogs for surgical purposes.

The success of this experiment has been so marked in Cumberland that, I understand the adoption of these "surgical" clogs by other Counties is under consideration.

### Notes on the Conversion of Clogs for Surgical Purposes in County of Cumberland, 1925.

This year an experiment has been made in the adapting of clogs (instead of boots) to the use of surgical appliances. A clogger has been found and taught to make the clogs according to instructions. The result so far being quite satisfactory.

They are able to be adapted for—1 wedges, 2 calipers, 3 irons, and also 4 high clogs.

In nearly every case the clogs are of more service than boots, for three reasons.

1. If the parents keep the caulkers up (they can be supplied at 6d. per set), the clogs last twice as long as boots, and do not allow the children to get wet feet and chills, as the sole cannot wear through.

2. The cost of the clogs being less than half that of boots the mothers can often meet the cost of these clogs themselves, and they can afford a *pair* of these, where as before only the surgical boot was supplied.

3. They do not distort in shape as boots do, and are lighter in weight.

The type of cases for which clogs have been found very efficient are :—

1. Flat-Foot, and
2. Congenital Club Foot.
3. Infantile Paralysis.
4. Shortening of the Leg.

*For Flat-Foot.*

In the first case the wedges are cut into the sole while being made, and if the caulkers are kept up these should not wear down, and should not need repairing, as the leather ones do on boots.

*For Congenital Club Foot.*

2. In the second case (C.C.F.) the clogs have been found to be of the greatest use. The sole being solid, it cannot give, and therefore acts more or less as a splint, and the uppers can not distort in shape, and so allow of the foot getting into a bad position. For this disability, the usual hard clog upper has been used, because of the tendency of a softer leather to become distorted.

*For Infantile Parlysis.*

3. For I.P. the usual clog had to be altered a little. The hard top was found to be irritating for children with trophic conditions, and the uppers had to be altered. For this purpose special soft uppers of box-calf were ordered, and the eyeholes carried well down to the toe of the clog to allow of a dropped foot getting in and out in the correct way. The greatest difficulty in this case was when stops came to be used (as the heel of the clog is in one piece), but this difficulty is in the process of being overcome by a slight alteration in the tube and stop (casting in one piece).

*The High Clog.*

4. The difficulty here was to avoid weight, and this has at last been (or it is hoped so) overcome by only using one kind of wood for the sole, and *soft* uppers.

In some cases the mothers complain of the noise the caulkers make. This difficulty has been overcome by rubber soles and heels, which add very little to the weight of the clogs. Though for the hard wear the clogs get in the County, caulkers are recommended.

The adoption of clogs for surgical purposes, especially in the Northern Counties, where they are daily worn amongst the miners' children, would be of great value, not only for the reasons stated above, but also because the parents will allow their children to wear them *regularly ;* whereas it has been found by the after-care worker, on her visits to the homes, to see if the appliances are in good condition, that the boots have been put away for Sunday wear, and hence the child has for six days out of the seven been going about with an uncorrected deformity.

## IX—OPEN-AIR EDUCATION.

In view of the fact that Englethwaite Industrial Colony would cease to exist as such, it was suggested that this property should be converted to an Open-air School for delicate children. The suggestion, however, did not meet with approval, and the matter was dropped.

Beyond the fact that a few classes are held in the playgrounds in fine weather, there is no special accommodation for Open-air Education.

## X—PHYSICAL TRAINING.

The reports of Miss Fraser and Mr. Gray, the Chief Organisers, will be found in Appendices D and E.

## XI—PROVISIOM OF MEALS.

Meals have only been provided in the Frizington area this year.

Altogether 28,680 meals were provided at a cost of 2¼d. per meal.

## XII—CO-OPERATION OF PARENTS.

Dr. Mason reports that :—"Speaking generally, it is considered that parents are becoming more and more inclined to co-operate for the health and well-being of their children."

Dr. Towers reports that :—"The interest displayed by parents in School Medical Inspection has been considerable. Between 800 and 900 attended during the year, which is a great advance on previous years. In some districts, any advice given or recommendation made, has been most carefully followed, in others the results have been disappointing. An outstanding example of the former class is Harrington. Here it is quite exceptional to find any defect pointed out unremedied the following year.

A few years ago it used to be a very common thing indeed to be handed a sheaf of notes received by the Head Teacher, intimating that parents did not wish their children examined, and who definitely objected to the Medical Inspection. For all practical purposes such notes have now ceased, very occasionally one comes to hand to remind one of what used to be so common. Notes are still received from parents, it is true, but the tenor of these notes is very different, being usually to request that so-and-so may be seen by the doctor for such and such a suspected defect, and would the doctor kindly let them know what he thinks of the child, at the same time regretting they are unable to be present personally.

I have received as many as 12 such notes in one school, not one of the children in question would otherwise have been seen, not being either routine or special cases. At one school I found 81 parents waiting in the porches, and at another 63. These figures speak for themselves."

Dr. Haydock reports that :—" Parents appear to attend in increasing numbers at the School Inspections and Clinics."

### Co-operation of Teachers.

Dr. Towers reports :—" I cannot record one single instance where Head Teachers have failed to co-operate in the most whole-hearted manner, often in the face of great difficulties as regards accommodation. In many cases a great deal of valuable influence has been brought to bear on parents to persuade them to carry out the treatment recommended."

Dr. Haydock reports :—" In many cases considerable help is given by Teachers.

In one particular instance, however, more assistance could be given. I refer to defective vision.

I suggest there should be more co-operation between the Education Authorities, the Teachers, and the School Medical Service on this point.

The School Medical Officer may only go to a school once during the year, and as warning has been given, the child who has got glasses will probably wear them on this particular day, and may do without them for the remainder of the year."

### Co-operation of School Attendance Officers.

Close co-operation exists between the Attendance and the Health Departments.

Conferences between the Superintendent Attendance Officer are of very frequent occurence, certainly never less than two or three times a week.

Dr. Towers says: — "These officers have helped materially by being present on the days of Medical Inspection, and going through the lists of children constantly absent, and in rounding such cases up, and getting them in for inspection."

Dr. Haydock says: — "The Attendance Officers come to see me frequently at the Clinics, or at the schools during inspections. They are helpful in drawing attention to cases who attend badly on account of ill-health. I think too I have been able to help them from time to time in giving opinions about doubtful cases."

### Co-operation of Voluntary Bodies.

The help again given to us by the National Society for the Prevention of Cruelty to Children has been of the utmost value in many directions: Firstly, they have kept under supervision for us some eight or ten families, the children from which were habitually verminous, with very material advantage to the children.

Secondly, in many cases where the parents consistently refused to have medical treatment for their children, the necessary treatment has been obtained after one or two visits from one or other of the Inspectors.

143 visits have been paid to the homes of children by the Inspectors during the year.

### Blind, Deaf, Defective, and Epileptic Children.

During the year 21 deaf and dumb children, 6 blind children, and 1 epileptic were in institutions outside the County, at the charge, either in whole or part, of the Education Authority.

Some years ago a card index of all defective children so far as could be ascertained was compiled through the Attendance Officers, that list has been kept up to date so far as possible, by revision from time to time.

At the present time an enquiry is being undertaken by the Association for Mental Welfare, and two workers are for the time being employed, principally in the process of Ascertainment.

Up to the present there has been practically no supervision of mentally defective children not in Special Schools.

There are no Special Schools in the County.

There are no Nursery Schools.

## Secondary Schools.

There is nothing of great importance calling for comment in the inspection in Secondary Schools.

As in previous years all entrants and children with uncorrected defects have been examined, but in addition this year, all children of 15 years of age and over were examined as "leavers."

Altogether 831 children were examined, and of this number 441, equivalent to 53% showed no defect.

In 1920, when the whole of the children in the Secondary Schools were examined, 25% of them had no defect, and this called forth the remark: "A surprisingly high number of children had no defect of any kind."

In 1924, I reported that 43·6% had no defect, and this year I have to record the above figure of 53%.

I think it is a fair inference to draw, in fact the only one, that the result of treatment now carried out in the Elementary Schools, is reflected in the marked improvement of the children in the Secondary Schools.

Is it too much to hope that the precepts learned in Elementary and Secondary Schools will be carried out in practice throughout life, and that the ultimate aim of medical inspection will be achieved, viz., a marked improvement in the health of the nation?

The usual tables relating to Secondary Schools follow, these do not, however, include the Whitehaven Secondary School figures which will be found in Dr. Muriel's report (see Appendix F).

## TABLE I.

A general statement of the numbers examined, of the defects found, and of treatment obtained :—

| | *Referred from* 1924. | 1925 *New Cases.* |
|---|---|---|
| Number of children examined ... | 330 | 831 |
| Number of re-examinations ... | 14 | 39 |
| Children with no defects ... | 30 | 441 |
| Number of Children with defects referred for treatment ... ... | 225 | 295 |
| Left or absent at the re-visit ... | 30 | 2 |
| Children with all defects remedied | 89 | 40 |
| Children with some defects remedied or treated ... ... ... | 56 | 7 |
| Promised to obtain treatment ... | 86 | 240 |
| Entirely Untreated ... ... ... | 71 | 13 |
| Refused ... ... ... ... | — | 2 |
| Total number of defects referred for treatment ... ... ... ... | 256 | 329 |
| Total number of defects treated or partially treated ... ... ... | 160 | 60 |

## TABLE B.

| | *Referred for Treatment.* | | *Referred for Observation.* | | *Treated.* | | *Partly Treated.* | | *Promised to obtain treatment.* | | *Refused.* | | *Untreated.* | | *Left or at re-* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *From* 1924 | *Routines* 1925 | *From* 1924 | *Routines* 1925 | *From* 1924 | *Routines* 1925 | *From* 1924 | *Routines* 1925 | *From* 1924 | *Routines* 1925 | *From* 1924 | *Routines* 1925 | *From* 1924 | *Routines* 1925 | *From* 1924 | *Ro* |
| Defective Teeth .. | 145 | 166 | — | 1 | 50 | 6 | 32 | — | 50 | 152 | — | — | 56 | 44 | 9 | |
| Very Defective Teeth .. | 5 | 16 | — | — | 1 | 1 | 3 | 1 | 11 | 10 | — | — | 11 | 14 | — | |
| Uncleanliness ... .. | — | — | 3 | — | — | — | — | — | — | — | — | — | — | — | — | |
| Malnutrition .. .. | 1 | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | |
| Pulmonary Tuberculosis | 1 | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | |
| Pretubercular .. .. | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Bronchitis & Weak Chest | 4 | 4 | 33 | 31 | 3 | 3 | 1 | — | — | 1 | — | — | — | 2 | 1 | |
| Organic Heart Disease .. | 2 | 1 | 15 | 2 | 2 | — | — | — | — | — | — | — | — | — | 1 | |
| Functional Heart Disease | 1 | 1 | 21 | 51 | — | 1 | — | — | 1 | — | — | — | — | 1 | 2 | |
| Anæmia .. .. | — | 2 | 1 | — | — | 1 | — | 1 | — | — | — | — | — | — | — | |
| Defective Vision .. | 47 | 85 | 20 | 37 | 33 | 20 | 1 | 1 | 7 | 51 | — | — | 4 | 14 | 8 | |
| External Eye Disease .. | 1 | 4 | — | 2 | 1 | — | — | — | — | 4 | — | — | — | 1 | — | |
| Otorrhœa .. .. | 2 | — | 1 | 5 | 2 | — | — | — | — | — | — | — | — | — | — | |
| Defective Hearing .. | 5 | — | 2 | 2 | 4 | — | — | — | — | — | — | — | 1 | — | — | |
| Tonsils .. .. | 4 | 2 | 9 | 12 | 1 | — | — | — | 2 | 1 | — | — | 1 | 2 | 3 | |
| Adenoids .. .. | 5 | 4 | 9 | 6 | — | — | — | — | 3 | 2 | — | — | 2 | 2 | 1 | |
| Tonsils and Adenoids .. | 3 | 3 | 6 | 4 | 1 | 1 | — | — | — | 1 | — | — | 2 | — | 1 | |
| Nasal Obstruction .. | — | 2 | — | — | — | — | — | — | — | 1 | — | — | — | — | — | |
| Non-Pulmonary Tuber. | 1 | — | — | 1 | 1 | — | — | — | — | — | — | — | — | — | — | |
| Spinal & other Deformities | 11 | 18 | 5 | 4 | 11 | 11 | 1 | — | — | 3 | — | — | — | 2 | — | |
| Nervous Diseases .. | — | — | 2 | — | — | — | — | — | — | — | — | — | — | — | — | |
| Impetigo .. .. | — | 1 | — | — | — | 1 | — | — | — | — | — | — | — | — | — | |
| Scabies .. .. | — | 1 | — | — | 1 | 1 | — | — | — | — | — | — | — | — | — | |
| Other Defects .. .. | 9 | 21 | 12 | 23 | 9 | 14 | — | — | — | 5 | — | — | — | 1 | 3 | |

## Special Inquiries.

In the course of an inquiry into the effects of various preparations of Iodine in the treatment of Goitre, Dr. Kenneth Fraser was impressed with the astonishing improvement in the general health of those children who were taking Iodine with the one specific purpose of improving the Goitre.

This led him to investigate and experiment further, and the results of his observations are published in Appendix B to this report.

Apart from the benefits to be derived in certain abnormal conditions, from the administration of Iodine, I believe we have in this product of nature, a substance which will prove to be of the utmost value in the prevention of disease, by supplying an essential metabolic element which specifically increases the body's powers of resistance.

We know that many departures from health are due to some deficiency of certain ingredients which ought to be supplied in our diet, but which owing to one cause or another are absent or greatly diminished in the average diet of the present day, more particularly from the diet of children.

Can it be that the absence of Iodine is the main deficiency?

The report written by Dr. Fraser does not claim to do more than suggest a new line of investigation, but it is certainly a commencement in the right direction, and moreover the results so far obtained have been so encouraging that it is worthy of further consideration and experiment, and I hope to extend the use of Iodine to all our Clinics.

## Miscellaneous.

(*a*) Exclusion of children from school on medical grounds :—

50 children were excluded by the School Medical Officer for periods of one month and over, in addition 9 were excluded permanently.

(*b*) Examination of Teachers (on appointment), Pupil Teachers, and Bursars :—

| *New Cases.* | 1925. |
|---|---|
| No. Examined ... ... ... ... | 173 |
| No. without Defects ... ... ... | 114 |
| No. with Defects ... ... ... | 59 |
| Defective Teeth ... ... ... | 29 |
| ,, Eyes ... ... ... | 17 |
| Other Defects ... ... ... | 13 |
| *Of the above.* | |
| No. Re-examined ... ... ... | 3 |
| Defects Remedied ... ... ... | 3 |
| Defects still Unremedied ... ... ... | — |
| *Cases referred from* 1924. | |
| No. of Cases ... ... ... ... | 6 |
| No. Re-examined ... ... ... .. | 3 |
| No. found fit on Re-examination ... ... | 2 |
| No. with Defects still Unremedied ... ... | 1 |
| No. given up Teaching ... ... ... | — |

F. H. MORISON, M.D., D.P.H.,
*School Medical Officer.*

*March*, 1926.

APPENDIX A.

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# XXVIII.—*STATISTICAL TABLES*

*For the Year 1925.*

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Table I.—Number of Children inspected.

Table II.—Return of Defects found.

Table III.—Numerical Return of all exceptional Children.

Table IV.—Treatment of Defects of Children.

# TABLE I.

## RETURN OF MEDICAL INSPECTIONS.

### A.—Routine Medical Inspections.

Number of Code Group Inspections :—

| Entrants | Intermediates | Leavers | Total |
|---|---|---|---|
| 3284 | 2275 | 2710 | 8269 |

Number of other Routine Inspections :—

Nil.

### B.—Other Inspections.

| | |
|---|---|
| Number of Special Inspections ... ... ... | 8331 |
| Number of Re-inspections ... ... ... ... | 7416 |
| Total number of other Inspections ... ... ... | 15747 |

TABLE II.

A—RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31st DECEMBER, 1925.

| Defect or Disease. | Routine Inspections. Number of Defects | | Special Inspections. Number of Defects | |
|---|---|---|---|---|
| | Requiring Treatment | Requiring to be kept under observation, but not requiring Treatment. | Requiring Treatment | Requiring to be kept under observation, but not requiring Treatment. |
| 1 | (2) | (3) | (4) | (5) |
| Malnutrition .. .. | 9 | 3 | 26 | 6 |
| Uncleanliness .. .. | 152 | 14 | 277 | 14 |
| Ringworm: Head .. .. | 15 | 2 | 69 | 2 |
| Ringworm: Body .. .. | 10 | 1 | 64 | 2 |
| Scabies .. .. .. | 14 | 1 | 41 | 1 |
| Impetigo .. .. .. | 62 | 1 | 446 | ... |
| Other Diseases (non-Tubercular) .. | 17 | 14 | 221 | 15 |
| Eye — Blepharitis .. .. | 45 | 2 | 128 | 2 |
| Eye — Conjunctivitis .. .. | 6 | 2 | 38 | 3 |
| Eye — Keratitis .. .. .. | ... | 1 | 3 | ... |
| Eye — Corneal Ulcer .. .. | ... | ... | ... | ... |
| Eye — Corneal Opacities .. | ... | 2 | 7 | 4 |
| Eye — Defective Vision .. .. | 395 | 245 | 415 | 420 |
| Eye — Squint .. .. .. | 20 | 30 | 36 | 24 |
| Eye — Other Conditions .. .. | 42 | 80 | 69 | 132 |
| Ear — Defective Hearing .. | 34 | 11 | 57 | 33 |
| Ear — Otitis Media .. .. | 50 | 16 | 149 | 20 |
| Ear — Other Ear Diseases .. | 10 | 2 | 13 | 1 |
| Nose and Throat — Enlarged Tonsils .. .. | 58 | 446 | 104 | 426 |
| Nose and Throat — Adenoids .. .. | 69 | 119 | 104 | 118 |
| Nose and Throat — Enlarged Tonsils & Adenoids | 63 | 105 | 97 | 85 |
| Nose and Throat — Other Conditions .. .. | 11 | 5 | 26 | 10 |
| Enlarged Cervical Glands (non-Tubercular) | 6 | 71 | 40 | 79 |
| Defective Speech .. .. | ... | 32 | ... | 25 |
| Teeth—Dental Diseases .. .. | 187 | 9 | 189 | 14 |
| Heart and Circulation — Heart Disease: Organic .. .. | 20 | 36 | 17 | 40 |
| Heart and Circulation — Heart Disease: Functional .. .. | 5 | 413 | 8 | 334 |
| Heart and Circulation — Anæmia .. .. | 106 | 6 | 130 | 13 |
| Lungs — Bronchitis .. ... | 73 | 70 | 119 | 29 |
| Lungs — Other (Non-Tubercular) Diseases .. | 10 | 430 | 51 | 421 |
| Tuberculosis — Pulmonary: Definite .. .. | 10 | 5 | 42 | 9 |
| Tuberculosis — Pulmonary: Suspected .. .. | 37 | 8 | 108 | 13 |
| Tuberculosis — Non-pulmonary: Glands .. .. | 7 | 3 | 20 | 5 |
| Tuberculosis — Spine .. .. | ... | ... | 1 | 3 |
| Tuberculosis — Hip .. .. | 2 | ... | 6 | 2 |
| Tuberculosis — Other Bones and Joints | 2 | 2 | 7 | 1 |
| Tuberculosis — Skin .. .. | 1 | ... | 1 | ... |
| Tuberculosis — Other Forms .. | ... | 4 | 8 | 6 |
| Nervous System — Epilepsy .. .. | 4 | 1 | 4 | 6 |
| Nervous System — Chorea .. .. | ... | ... | 12 | 1 |
| Nervous System — Other Conditions .. | 2 | 1 | 10 | 6 |
| Deformities — Rickets .. .. | 4 | 6 | 14 | 8 |
| Deformities — Spinal Curvature .. | 5 | 3 | 6 | 7 |
| Deformities — Other Forms .. .. | 32 | 26 | 49 | 39 |
| Other Defects and Diseases .. | 99 | 61 | 885 | 166 |
| Goitre .. .. .. .. | 30 | 44 | 32 | 54 |
| Total .. .. | 1724 | 2333 | 4149 | 2599 |

TABLE II.

B.—NUMBER OF INDIVIDUAL CHILDREN FOUND AT ROUTINE MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES)

| | Number of Children. | | Percentage of Children found to require Treatment. |
|---|---|---|---|
| | Inspected. | Found to Require Treatment. | |
| Code Groups — Entrants .. .. | 3284 | 587 | 18 |
| Code Groups — Intermediates .. .. | 2275 | 485 | 21 |
| Code Groups — Leavers ... .. | 2710 | 443 | 16 |
| Total (Code Groups) | 8269 | 1515 | 18 |
| Other Routine Inspections .. | Nil | Nil | Nil |

TABLE 3.—RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

| — | — | — | Boys | Girls | Total |
|---|---|---|---|---|---|
| Blind (including partially Blind) | Suitable for training in a School or Class for the Totally Blind | Attending Certified Schools or Classes for the Blind .. | .. | 3 | 3 |
| | | Attending Public Elementary Schools .. .. | 1 | .. | 1 |
| | | At other Institutions .. | .. | .. | .. |
| | | At no School or Institution .. | .. | .. | .. |
| | Suitable for training in a School or Class for the Partially Blind | Attending Certified Schools or Classes for the Blind .. | 1 | 2 | 3 |
| | | Attending Public Elementary Schools .. .. | .. | .. | .. |
| | | At other Institutions .. | .. | .. | .. |
| | | At no School or Institution .. | .. | .. | .. |
| Deaf (including Deaf and Dumb and partially Deaf) | Suitable for training in a School or Class for the Totally Deaf or Deaf and Dumb | Attending Certified Schools or Classes for the Deaf .. | .. | .. | .. |
| | | Attending Public Elementary Schools .. .. | .. | 1 | 1 |
| | | At other Institutions .. | .. | .. | .. |
| | | At no School or Institution .. | .. | .. | .. |
| | Suitable for training in a School or Class for the Partially Deaf | Attending Certified Schools or Classes for the Deaf .. | 12 | 6 | 18 |
| | | Attending Public Elementary Schools .. .. | 6 | 10 | 16 |
| | | At other Institutions .. | .. | .. | .. |
| | | At no School or Institution .. | .. | .. | .. |
| Mentally Defective | Feeble-minded (Cases not notifiable to the Local Control Authority) | Attending Certified Schools for Mentally Defective Children .. .. | .. | .. | .. |
| | | Attending Public Elementary Schools .. .. | 3 | 4 | 7 |
| | | At other Institutions .. | .. | .. | .. |
| | | At no School or Institution .. | .. | .. | .. |
| | Notified to the Local Control Authority during the year | Feeble-minded .. .. | 1 | 1 | 2 |
| | | Imbeciles .. .. .. | 4 | .. | 4 |
| | | Idiots .. .. .. | 2 | .. | 2 |
| Epileptics | Suffering from severe Epilepsy | Attending Certified Special Schools for Epileptics .. | 1 | ... | 1 |
| | | In Institutions other than Certified Special Schools | .. | .. | .. |
| | | Attending Public Elementary Schools .. .. | 4 | 4 | 8 |
| | | At no School or Institution .. | .. | .. | .. |
| | Suffering from Epilepsy which is not severe | Attending Public Elementary Schools .. .. | .. | .. | .. |
| | | At no School or Institution .. | .. | .. | .. |
| Physically Defective | Infectious and Pulmonary and Glandular Tuberculosis | At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board .. .. .. | 1 | .. | 1 |
| | | At other Institutions .. | 1 | .. | 1 |
| | | At no School or Institution .. | 5 | 6 | 11 |
| | Non-infectious but active Pulmonary and Glandular Tuberculosis | At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board .. .. .. | 2 | 6 | 8 |
| | | At Certified Residential Open Air Schools .. .. | .. | .. | .. |
| | | At Certified Day Open Air Schools .. .. | .. | .. | .. |
| | | At Public Elementary Schools | 43 | 58 | 101 |
| | | At other Institutions .. | .. | .. | .. |
| | | At no School or Institution .. | .. | 1 | 1 |
| | Delicate Children, (*e.g.*, pre- or latent Tuberculosis, Malnutrition, Debility, Anæmia, etc.) | At Certified Residential Open Air Schools .. .. | .. | .. | .. |
| | | At Certified Day Open Air Schools .. .. | .. | .. | .. |
| | | At Public Elementary Schools | 990 | 863 | 1853 |
| | | At other Institutions .. | .. | .. | .. |
| | | At no School or Institution .. | .. | 3 | 3 |
| | Active Non-pulmonary Tuberculosis | At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board .. .. .. | 4 | 3 | 7 |
| | | At Public Elementary Schools | 21 | 23 | 44 |
| | | At other Institutions .. | 1 | 2 | 3 |
| | | At no School or Institution . | 2 | 2 | 4 |
| | Crippled Children (other than those with active Tuberculous Disease), *e.g.*, Children suffering from Paralysis, &c., and including those with severe Heart Disease | At Certified Hospital Schools | 11 | 13 | 24 |
| | | At Certified Residential Cripple Schools .. | .. | .. | .. |
| | | At Certified Day Cripple Schools .. .. | .. | .. | .. |
| | | At Public Elementary Schools | 241 | 267 | 508 |
| | | At other Institutions .. | .. | 2 | 2 |
| | | At no School or Institution .. | 2 | 1 | 3 |

# TABLE IV.
## RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31st DECEMBER, 1925.

## TREATMENT TABLE

GROUP I.—MINOR AILMENTS (EXCLUDING UNCLEANLINESS, FOR WHICH SEE GROUP 5).

| Disease or Defect. | Number of Defects treated, or under treatment during the year. | | |
|---|---|---|---|
| | Under the Authority's Scheme. | Otherwise. | Total. |
| (1) | (2) | (3) | (4) |
| *Skin.* | | | |
| 1. Ringworm—Scalp .. .. | 70 | 3 | 73 |
| 2. Ringworm—Body .. .. | 60 | .. | 60 |
| 3. Scabies .. .. .. .. | 92 | 1 | 93 |
| 4. Impetigo .. .. .. | 423 | .. | 423 |
| 5. Other Skin Diseases .. .. | 219 | 10 | 229 |
| 6. Minor Eye Defects .. .. (External and other, but excluding cases falling in Group 2). | 170 | 15 | 185 |
| 7. Minor Ear Defects .. .. | 159 | 9 | 168 |
| 8. Miscellaneous .. .. .. (e.g., Minor Injuries bruises, sores, chilblains, etc.). | 685 | 180 | 865 |
| Total .. .. | 1878 | 218 | 2096 |

## TABLE IV.

GROUP II.—DEFECTIVE VISION AND SQUINT (EXCLUDING MINOR EYE DEFECTS TREATED AS MINOR AILMENTS—GROUP 1).

| Defect or Disease | Number of Defects Dealt with. | | | |
|---|---|---|---|---|
| | Under the Authority's Scheme. | Submitted to refraction by Private Practitioner or at Hospital, apart from the Authority's Scheme. | Otherwise. | Total. |
| (1) | (2) | (3) | (4) | (5) |
| Errors of Refraction (including Squint). (Operations for Squint should be recorded separately in the body of the Report) .. | 441 | 75 | 2 | 518 |
| Other Defect or Disease of the Eyes (excluding those recorded in Group 1) .. | 4 | .. | .. | 4 |
| Total .. .. | 445 | 75 | 2 | 522 |

Total number of Children for whom Spectacles were prescribed :—

(a) Under the Authority's Scheme .. .. .. 424

(b) Otherwise .. .. .. .. .. 69

Total number of Children who obtained or received Spectacles :—

(a) Under the Authority's Scheme .. .. .. 424

(b) Otherwise .. .. .. .. .. 69

TABLE IV, GROUP III.—TREATMENT OF DEFECTS OF NOSE AND THROAT.

| Number of Defects. | | | | |
|---|---|---|---|---|
| Received Operative Treatment. | | | | |
| Under the Authority's Scheme, in Clinic or Hospital. | By Private Practitioner or Hospital apart from the Authority's Scheme | Total. | Received other form of Treatment. | Total Number Treated. |
| 109 | 50 | 159 | 12 | 171 |

## Table IV. Group IV.—Dental Defects.

(1) Number of Children who were :—

(a) Inspected by the Dentist :—

| | Aged | | |
|---|---|---|---|
| Routine Age Groups | 5 | 239 | Total 3028 |
| | 6 | 376 | |
| | 7 | 449 | |
| | 8 | 503 | |
| | 9 | 408 | |
| | 10 | 374 | |
| | 11 | 237 | |
| | 12 | 189 | |
| | 13 | 193 | |
| | 14 | 60 | |
| Specials | | | 65 |
| Grand Totals ... ... | | | 3093 |

(b) Found to require treatment... 2616

(c) Actually treated ... ... 1543

(d) Re-treated during the year as the result of periodical Examination ... ... ... 171

(2) Half days devoted to { Inspection 35 / Treatment 362 } Total 397

(3) Attendance made by Children for Treatment 2065

(4) Fillings ... { Permanent Teeth 622 / Temporary Teeth 3 } Total 635

(5) Extractions { Permanent Teeth 1412 / Temporary Teeth 3620 } Total 3032

(6) General anæsthetics administered for extractions ... ... ... 1844

(7) Other Operations { Permanent Teeth 168 / Temporary Teeth — } Total 168

## Group V.—UNCLEANLINESS AND VERMINOUS CONDITIONS.

(1) Average number of visits per school made during the year by the School Nurses ... ... 3

(2) Total number of examinations of children in the schools by School Nurses ... ... ... 50828

(3) Number of individual children found unclean ... 730

(4) Number of children cleansed under arrangements made by the Local Education Authority ... —

(5) Number of cases in which legal proceedings were taken :—

(a) Under the Education Act, 1921 ... —

(b) Under School Attendance Bye-laws ... 20

APPENDIX B.

# "ON IODINE"

By KENNETH FRASER, M.D., D.P.H.,
Deputy School Medical Officer.

## ON IODINE.

The report which follows is the account of a rough and ready attempt to associate deficiency of iodine with certain conditions commonly met with among school children (and also, of course, among adults). It has been rough and ready, because the observations have been made in a widely scattered rural area, cases being as much as 40 miles apart, and the accurate observations possible in an urban area have been impracticable. Observation has been kept on the cases by frequent letters to parents and head teachers as well as by personal visits; such observations have, however, not made it possible to keep, e.g., regular measurements of thyroid enlargement, as these are not worth while unless taken with care by the same person.

Much has been written in the medical and, to some extent, the lay press recently on the association between iodine deficiency and thyroid enlargement. That of itself makes no great appeal—an enlarged thyroid, or goitre, is a disfigurement, but, except in extreme cases, is not an inconvenience, or a danger to life. It is only when it is realised that the swelling in the neck is a visible manifestation of an important part of the body—the thyroid gland—starved of something essential to the body functions and so to health, overworking itself, and striving to do its duty to the body economy under hopeless circumstances, which striving results in nothing but an overgrowth of useless tissue, that the attention is arrested.

If this be the true position, iodine deficiency is a common thing (because goitre is common), and the observation of some 100 cases of widely different conditions which I imagined *might* all be *deficiency* cases has convinced me that they are in fact deficiency cases, and that the substance deficient is iodine.

The evidence which follows makes it clear that iodine is essential to health, and may fail to reach the machinery which deals with it either (a) because there is not sufficient taken into the body for reasons which follow, or (b) because what is taken in is interfered with, and fails to reach its destination. The place where it is interfered with is the intestine, and thispiracy is associated with what we call intestinal auto-intoxication.

If a personal note is permissable, I would like to explain why I became interested in the question. I had the opportunity of observing a case who, while on military service, contracted a very severe attack of ptomaine poisoning. This left behind a legacy of general ill-health, intestinal pain and flatulence, and a gradually developing "rheumatism" of more or less all the joints. This joint condition or arthritis became so severe that he could hardly raise his arms or walk without a stick. He was chronically shivering and depressed. He had his appendix removed, which for some months effected a great improvement. He then had vaccines and all manner of intestinal antiseptics without permanent benefit. Eventually he gave iodine a trial without any great hopes after the above experiences. The result was really astonishing. In a month all internal and joint trouble had quite gone; in three months he was 1½ stone heavier than his previous highest weight.

Subsequently I suggested to various friends who were suffering from this and that to take iodine also. The results continued to be astonishing, apart from the improvement in the particular condition under observation. Quite a common —in fact the usual comment after a month or so was "I have never felt so well in my life." There was a general gain in weight, in health, and in working capacity.

With the approval, therefore, of the County Medical Officer, I endeavoured to investigate in my area of the County the extent, if any, to which iodine deficiency is responsible for certain ailments of childhood.

It will be well at this point to review the physiological aspects of the case.

### The Thyroid Gland.

This gland, situated at the root of the neck, is one of the ductless glands of the body. That is to say, the secretion of the gland is not discharged through a passage or duct internally or externally as in the case, for example, of the liver, salivary and digestive glands, the sweat and mannuary glands. Of recent years it has been recognised that the ductless glands of the body are of the very highest importance in the body economy. Their secretions are *internal*, and for the most part absorbed directly into the blood stream, which, erh aps of itself presumes their importance. Dr. Thomson M.O.H., Deptford, says :[4] "The centre of vital power is in

man's ductless glands; of these the thyroid is probably the most important. The thyroid governs the vital processes of the body." He goes on to say: "The age of a man depends on the quality of his thyroid gland." Now, the value of the thyroid secretion—thyroxin—to the body economy appears to be entirely dependent on its iodine content. Thyroxin contains 65% of iodine. The capacity of a normal thyroid for iodine is rather less than 30 milligrammes. The thyroid is a store-house for iodine, and without it the gland cannot function. The iodine in the gland is in a colloid form. Saleeby[9] and others are of opinion that the iodine content has a seasonable variation, being highest in summer—the inference being that sunlight has a bearing on the matter.

Without its normal supply of iodine the gland cannot function, but the demands of the body upon it do not cease; as Saleeby[9] says: "The thyroid is asked to make bricks without straw," or as Dr. Goodfellow, of Chesterfield, says: "The thyroid gland may be regarded as a bank for iodine. Goitre is evidence of impending bankruptcy." The term "impending bankruptcy" refers to the fact that, when deprived of its normal iodine supply, the thyroid gland enlarges, and goitre—variously called "thick neck," "Derbyshire neck," and in France "gros cou" results.

This enlargement of the gland is valueless, *except as a danger signal*, because it consists of connective tissue and not of gland or secreting tissue. Experiment shows that this enlargement takes place when the iodine content of the gland falls below one quarter of its normal or below 0·1% of the weight of the dried gland.

There are various forms of goitre. Exophthalmic goitre is due to *overactivity* of the gland (*hyper*thyroidism), the chief symptoms being a protrusion of the eyeballs (hence the name), rapidity of the heart's action, and nervousness. This form of goitre has no bearing on the subject of this paper, and is merely referred to because it has been used as an argument against certain methods of reducing iodine deficiency in areas, e.g., by iodising the water supplies. It is argued that cases of hyperthyroidism will be seriously affected, and that this condition may be initiated in normal individuals by such measures. The point is dealt with later.

Simple goitres are due to *hypo*thyroidism, i.e., *underactivity* of the gland. These are endemic, that is to say they occur in definite areas.

It is possible that other causes than iodine starvation may be involved, but certainly that is the chief cause. One important contributing cause lies in the water supply. For years the water supply has been blamed for goitre in goitrous areas ; this is now realised to be true only in so far as the water produces intestinal conditions which prevent the normal absorption or assimilation of the available iodine. Impure and polluted waters have this effect ; so too, probably, do unduly hard waters by irritating the epithelial lining of the bowel. Water, however, is only the medium. Birds and animals kept under filthy conditions frequently develop goitre, which disappears on adding iodine to their water.

What are the functions of this gland ? Why are they so important that the term "danger signal" is used when the outward and visible sign of its diminished activity appears in the shape of goitre ?

We know that extreme deficiency of thyroid secretion in pregnancy results in the birth of feeble-minded and idiot children. In Switzerland, for example, it is estimated[8] that 50,000 cretins, that is idiots of a certain type, are recognisable *at sight*. "Cretinoid idiots and deaf mutes fill the asylums." It is generally true that goitrous areas are areas of cretinism also.

We know that extreme thyroid deficiency in later life produces myxoedema—a disease associated with gross adiposity—due to the imperfect oxidisation of fats, which is an important function in which the thyroid assists.

A curious relation has lately been noted between the incidence of cancer and goitre, e.g., Switzerland, the most goitrous country in Europe, has also the highest cancer incidence. The *British Medical Journal* recently drew attention to the work of Dr. Percy Stocks in this connection. Dr. Stocks says his observations "seem to indicate that defective functioning of the thyroid is favourable to the incidence of cancer of the stomach, and possibly of other organs also

This leads to the suggestion that iodine prophylaxis applied after middle age on the same lines as it is now being successfully applied to young persons in Switzerland for the prevention of goitre, or some other form of thyroid administration, might result in diminishing cancer incidence." It has been asserted by so eminent a surgeon and investigator as the late Sir Victor Horsley that the cause of old age is the degeneration of the thyroid gland. It is deyond dispute that after middle age the activity of the gland diminishes. Cancer, of course, is a disease, the incidence of which is greatest after middle life. There may be some connection ; more than that is not known at present.

One observer at least has suggested an association between thyroid deficiency and diabetes—it is not impossible.

Apart from these two points, which are in the realm of theory, there are certain known functions of the gland which were admirably set out by the late Dr. Sidney Barwise, M.O.H., Derbyshire. Derbyshire is a goitrous area, and Dr. Barwise for many years turned his acute powers of observation to this question. After observing, as we have noted above, that the thyroid gland does not begin to grow abnormally until a very serious iodine shortage has occurred, and that persons with no goitrous enlargement may still be suffering from partial iodine starvation, he goes on to tabulate the functions of the thyroid[7] :—

(a) " It is necessary for effective metabolism, respiratory functions, and physical growth."

(b) It is necessary for mental development. Shortage may produce anything, from mental dulness to imbecility. Severe shortage before birth produces cretinism.

(c) It is especially needed in pregnancy (a point for anti-natal clinics).

(d) It is especially needed in puberty, and then especially in females.

(e) It is needed for a healthy functioning skin. Thyroid deficiency produces a dry skin and loss of hair.

(f) It is needed for digestion and the proper assimilation of fats. In extreme thyroid deficiency fats are not properly assimilated and obesity follows.

(g) It is needed for the metabolism of calcium, and especially in areas where the water is hard.

(h) It is highly necessary in strengthening the resistance of the body to infection, and in combating micro-organisms and their toxins. Many of the secretions of the body have germicidal properties—even the tears have this—and the thyroid secretion appears to be intimately concerned in this matter.

It might be added that fever is believed to be closely associated with hyperthyroidism due to the reaction in the gland to toxins. In fever the excretion of iodine is increased.

These far reaching claims and the absence of any duct explain the extreme vascularity of the thyroid; it is estimated[8] that all the blood in the body flows through the gland *sixteen times a day*.

No reliable statistics exist as to the prevalence of goitre in this country, and it is superfluous to add that the percentage of iodine starvation cases not associated with goitre cannot at present even be guessed at. Dr. Barwise estimated that 10% of the population of Derbyshire are suffering from partial iodine starvation (with or without goitre).

It may be added that goitre is much more common in females than in males. It is infrequent under 5 years of age, and thereafter increases progressively during adolescence, but to suggest as some do that, on this account, certain age and sex factors should be taken into account in preventive measures is absurd. There is no age limit to the need for iodine, and neither sex is at any age immune from the risk of iodine starvation given appropriate conditions.

Heredity no doubt plays a considerable part. That can be demonstrated clearly in the goitrous areas of this County where goitre notoriously runs in families.

Finally goitre is a condition which can be, and frequently is, produced in animals, birds, and fish deprived, artificially or otherwise, of their normal iodine supply.

Goitre was known to the ancients, and was treated by the Greek physicians with preparations which are now known to contain iodine[9].

To sum up it may be regarded as proved beyond doubt that goitre is a "deficiency disease," and that a large but unknown percentage of the population suffer, especially in certain areas, from the same deficiency without this outward and tangible sign, and that the substance deficient is iodine.

It is also beyond argument that by the careful administration of iodine these deficiency symptoms can be prevented in any area, and can be cured in most cases, and in others alleviated after their onset by the same means.

The evidence on this point is overwhelming, both in the laboratory and in the outside world. I give only one example. I have referred to the extreme prevalence of goitre and cretinism in Switzerland where these conditions have been in the past a national scourge. Since the introduction of iodised salt and iodised sweets these scourges have practically been wiped out. "We are witnessing," as Goodfellow says, "a modern miracle." He refers to one canton, where he says "no fresh cases of goitre now occur and no cretins are now born."

## The Normal Source of Iodine and how it is interfered with.

The home of iodine is the sea, and the sea is therefore the main source of iodine. It is blown inland with the sea spray, especially in storms, and impregnates the water supplies—lakes, reservoirs, etc., and also the soil. It finds its way into grasses, plants, and vegetables, and so is available for animals and men. Certain areas far removed from the sea, areas where the prevailing wind is off the land, and mountainous areas, especially sheltered mountain valleys, are liable to be deficient in iodine. This, notwithstanding that the area affected by sea spray is far wider than would at first sight be supposed ; traces of salt for example can be found in the water of Loch Katrine after a storm at sea.

It should be remembered that all life was originally marine, and long after animals became amphibious, and even entirely land creatures, the salt craving remained.

Goodfellow[8] points out that some animals, *e.g.*, the porcupine still make an annual pilgrimage to the sea to satisfy the salt craving, and will on their way gnaw the handles of implements, doors, etc., which may hold a trace of salt from human sweat. The attraction of "salt licks" for animals is well known. It may be inferred that not all of this craving is for sodium chloride (common salt), but that the iodine craving also intervenes. Thus the popularity and benefit of the sea-side holiday is understandable. It means a renewal of the iodine store, plus, of course, sunlight and other accessory factors.

Unfortunately the available iodine in water, salt, and vegetables is by modern practice frequently wasted. It is removed from water and salt in purification schemes, although with reference to land salt deposits it is true that the iodine content largely disappears by solution and evaporation. It is removed from our vegetable and fruit food supplies because it is chiefly found in the skins of fruit, and the husks of grain. With regard to the formed "Don't eat the skin" is an axiom of childhood's days. With regard to the latter, the husk is removed in milling to give us white bread. The iodine in green vegetables is largely lost in boiling. Those who have studied the question of vitamins, will observe that we lose out vitamins in much the same way. The scourge of beri-beri among Eastern races was due to the removal of the husks of rice to produce "polished rice;" the geography of the scourge depended on the fact that rice is, or was, the staple article of diet in the East. The anti-neuritic vitamin B was lost to these races. Now beri-beri has been cured experimentally by adding iodine to the diet, and as vitamin supplying foods are also iodine supplying foods it is more than probable that the action of these two is associated.

Salt water fish are relatively rich in iodine, which is a content, *e.g.*, of cod liver oil.

Saleeby[9] admirably sums up this artificial interference in these words:—"We do not know what to do in our seeing cleverness. We invent window glass which cleverly seems to let through all the light; we do not notice that the ultra-violet is excluded to our detriment or destruction. We invent water, he might have added 'and salt,' to be a footnote on the oppropriate log, purification systems excluding all manner of undesirable impurities, and

do not notice that we have also excluded the iodine without which no one can live. We devise clever milling machinery, and prepare beautifully polished rice or white flour, and do not notice that the vitamins and the iodine are missing."

Apart from the interference with the normal iodine supply on the lines outlined above, there is no doubt that interference also occurs within the body itself as regards the absorption and assimilation of iodine ingested in adequate amounts. This interference it is believed takes place in the intestines. It is probable that the iodine expends itself locally in combating abnormal bacterial infections of the intestine and the resulting toxins. It is becoming generally recognised that intestinal auto-intoxication is vastly more common than used to be supposed.

The site of trouble is mainly in the large bowel. The symptoms are pain, flatulence (due to fermentation), shivering, and depression, etc. A paper was read at a recent clinical meeting at the Cumberland Infirmary on this question by a member of the Infirmary Medical Staff. It was pointed out that an important point in treatment is to coat the bowel wall with some protective substance to prevent the absorption of toxins as far as possible. There is no question that these intestinal toxins are active, powerful and quickly absorbed—their results clearly demonstrate that. It is quite easy to believe that a strong attacking anti-bacterial and anti-toxic substance, such as we know iodine to be, meeting these powerful toxins in the intestine may elect to make the intestine the battlefield, and may so expend itself *locally*, with less effect no doubt in the long run.

I have found this class of case to do well on (1) charcoal, (2) an intestinal antiseptic, (3) iodine given in sequence and in that order. If the above theories are correct, as they are generally supposed to be, the process of treatment on these lines is understandable.

Few medical men will quarrel with the axiom laid down by the British Medical Journal :—"If iodine want is to be regarded as the essential cause of goitre, its absorption at the intestinal threshold is of the first importance."[2]

## Measures to Supply Iodine.

These fall into two groups (a) Preventive, (b) Curative.

### (a) Preventive.

These may apply to (1) the community as a whole, *e.g.*, by iodised water supplies or by iodised salt, or (2) to families by the voluntary use of iodised salt in districts where no special measures are in vogue, or (3) to individuals as in the case of iodised sweets, etc.

### Iodisation of Water Supplies.

The classical experiment under this head has been at Rochester, U.S.A., where ·056 grains of sodium iodide per gallon have been added to the water supply for two weeks every six months. The cost, with a daily consumption of 25,000 gallons, has amounted to £357 per year. The expenditure seems small, but it is more than doubtful if it is of any value ; it is obvious that the greater part must be wasted ; it is also obvious that the amount taken by individuals must vary so much as to render the prophylactic effect so uncertain as to be almost valueless.

### Iodised Salt.

This method has much more to commend it. It has been widely adopted in New Zealand, America, Switzerland, the Austrian Tyrol, and is becoming more general in this and other countries, In Switzerland the proportion is 1 part of iodine to 200,000 parts of salt ; in New Zealand the proportion is 1 in 250,000 ; in this country it is 1 in 200,000, with the higher figure of 1 in 50,000 for *table* as opposed to cooking salt only. The concentration allowed in America is much higher than in other countries, and 1 in 500 has been recommended there. Iodised salt is of course only intended to *supplement* the iodine we get elsewhere. It is generally agreed that, although the above concentrations, which have in most countries been fixed by the Ministries of Health after careful investigation, may be too low, yet that is erring on the safe side. There seems to be no evidence that the fear that over functioning thyroids may be prejudicially affected, and that normal functioning thyroids may be induced to over function has any foundation in fact. The fear, however, has been freely canvassed in certain areas, and must be respected. It will be better to start small and increase the

concentration if necessary. As a matter of fact there is considerable evidence that toxic (over functioning) thyroids are benefitted by iodine administration.

Various brands of iodised salt are now on the market made by various firms of manufacturing chemists, and are easily obtainable. There is little reason to doubt that before many years have passed all salt will be iodised. In the meantime the more widely it is adopted voluntarily by individual households, and especially in goitrous areas such as Cumberland the better. I believe it has been adopted in two of the Secondary Schools of the County—an example which might well be followed by other institutions.

With more general use the present cost of iodised salt will no doubt fall. In America it is estimated that salt can be iodised at the cost of one dollar per ton.

It should be emphasised that iodised salt will benefit mainly the normal individual by assisting the normal functioning of a healthy thyroid. Iodine deficiency cases require other measures.

### Iodised Sweets and other Methods for Individual Cases.

A number of preparations are now on the market of sweets or tablets of chocolates, butter scotch, etc., containing iodine, usually in the form of sodium iodide.

In Switzerland, a chocolate tablet containing 5 millegrammes of iodine as an organic iodide is in general use in the schools. In Derbyshire, a sweet containing one tenth grain iodine is given weekly to selected children. In Somerset, chocolate tablets containing one-fifth grain sodium iodide are used. These are preventive measures solely.

In America, Marine and Lenhart gave 2 grains of sodium iodide for two 2 weeks every six months, and claimed to have *prevented* goitre in 99% of children, and to have *cured* 50% of small goitres.

In New Zealand very careful observations were carried out recently in the administration of potassium and sodium

iodide among 2,000 children. In the group to which potassium iodide was given 31 grains were given over a period of twelve months. In the larger sodium iodide group the amounts given varied according to age. Children of 11 years and over were given 120 grains in twelve months. The results were much better in the sodium iodide group. In both groups a considerable percentage of the goitres continued to increase in size in spite of the iodide administration. In the sodium iodide group, however, there was a *marked* difference in the results between children receiving the iodide and children not receiving iodide as regards (a) incidence of new goitres, (b) increases in existing goitres. A very material advantage accrued to the iodine group in both (a) and (b).

Practically all these references, as well as most others in the medical publications, refer solely to *prevention of goitre*. The references to *treatment* of goitre are few ; the references to *treatment of other iodine starvation cases* are almost nil. **This is most deplorable ; there is no doubt that the prevention of goitre, which is quite a side issue, has become a red herring on the trail of the much greater question—the treatment of iodine starvation cases, irrespective of whether they have goitres or not.**

For this reason one welcomes the observations of men like Dr. Joseph, of Prestatyn, who (B.M.J., 22/11/24) gives his results on the *treatment* of 450 cases of goitre with the syrup of the iodide of iron.

His method is :—

| Age. | Dose. | |
|---|---|---|
| 5—7 years ... | 20 minims | Three times a day in a *glass* measure or spoon, well diluted to prevent discoloration of the teeth. Give for one month —then an interval of one week |
| 7—15 ,, ... | 30 ,, | |
| 15 and over ... | 60 ,, | |

He claims that more than half were cured, and a considerable number of the remainder more or less benefitted. He believes that Syrup Ferri Iodidi is the "ideal remedy for goitre—superior even to iodine itself or any of its derivatives."

Iron and Iodine are undoubtedly two of the chief needs of the body, and in all probability he is, in theory, correct. There is, however, considerable evidence against iodides as the *best* medium for administering iodine.

Iodides are very rapidly excreted. Excretion begins in 10 minutes after taking ; it takes place through the mucous membranes of the lungs, nose, mouth, eyes, etc., and through the skin, but principally through the kidneys. The cumulative effect of iodides is doubtful ; practically total excretion of a single dose takes place in 24 hours.

The amount of free iodine liberated—the immediate point at issue in this matter—is small. Iodides in persons with an idiocyncrasy in the matter are liable to produce "iodism," of which the symptoms are a severe catarrh of the naso-pharynx, conjunctivae and bronchi, with skin eruptions.

Personally, I have used chiefly collosal iodine in the hundred or so cases I have had under treatment during 1925. I do not know that I had any particular reason for giving iodine in this form. It is an aqueous colloidal solution of iodine containing 1 part in 500 of iodine. The fact that iodine is present in the thyroid in colloid form appears to be an argument in favour of this preparation. It also appears to be a preparation by means of which iodine can be pushed and the deficiency made up without fear of iodism. Unlike the iodides it is not quickly eliminated. It should be dispensed in actinic glass-stoppered bottles, as it is liable to decompose. This preparation has certainly given *excellent* results in the cases in which I have used it. After one or two weeks of "pushing" the liquid form, I have continued with collosal iodine pastilles—each of which contains half a teaspoonful of the liquid ; after some weeks of these I have gone on to iodised sweets containing one-tenth grain of iodine.

Whatever method be used, the aim must be to ensure that the thyroid receives its normal iodine requirement, which is about 2 grains per year. It would appear that this need not be given continuously, as the gland has a certain storage capacity.

Thyroid deficiency cases have to be taken on their merits. It is obvious from observation, as one would expect, that the deficiency in some cases is made up under treatment much more rapidly than in others.

Recently in America the use of " Kelp " (seaweed), which is naturally rich in iodine, has been tried. I do not know if any results are yet recorded.

## Results.

As may be inferred from what has gone before, the results of iodine administration are chiefly recorded on the preventive side. Of the success in this branch there is no possible question. Reference has been made above to the practical elimination of cretinism and goitre in the Swiss cantons, which is confirmed by observations in other areas as, for example, America. Extensive experiments on animals—cows, goats, sheep—in the Prairie Provinces and elsewhere give parallel results. In these goitrous areas goitre can be eliminated in the usual way. The young of pregnant animals to which iodine had been given, were born more healthy and vigorous than the others. *Abortion, still-births, and deaths soon after birth have totalled up to 80% in some areas:* this loss has been eliminated by administering iodine to the pregnant animal. Young animals and plants in such areas if supplied with iodine develop much more quickly, and grow much larger than control animals and plants not so supplied. In a severe influenza epidemic in an area in France not a single case occurred in factory concerned with the extraction of iodine. Evidence on this side is ample and conclusive.

On the treatment side less has been recorded. Many observers have recorded beneficial results in simple goitres. Some claim up to 50% of cures. Various observers have recorded marked benefit in certain fevers and cures in such deficiency diseases as beri-beri by the administration of iodine.

In hæmorrhagic septicæmia in cattle and certain other diseases of animals and fowls, iodine compounds have been recorded to be the only preparations to have a beneficial effect.

All this is more or less off the beaten track. Novack, however, in the New York Medical Journal (17/1/23), recording the results of 6 years use of *colodine*—an iodine preparation of his own—claimed that " unusually good and often miraculous results " followed its use in acute and chronic tonsillar affections, acute and chronic rheumatic

affections of the joints, acute and chronic glandular affections, pneumonia, hay fever, acute and chronic bronchitis, senility, in abscesses, boils, carbuncles, erysipelas, cellulitis, and various eczematous skin conditions.

Now, when I began to use iodine I had not read any of the papers to which numerous references have been made in this report. I picked out cases more or less at random along what seemed commonsense lines, e.g., children, often from good homes, with chronic septic conditions, boils, eczemas, septic sores, and so on, children with chronic nasal catarrh, chronic bronchitis or chronic intestinal intoxication, children whose work for no reason was "below par" or had deteriorated, children always "listless" and tired. It seemed that, if there was anything in the "deficiency" theory, it might most likely be found among such cases, often from good and careful homes, who had failed to respond to the usual lines of tonic treatment.

The results have really been remarkable in the groups mentioned above. Observation has been kept on the cases by personal visits, as far as possible, and by letters to head teachers and parents. I give below extracts from some of these letters. If it were possible to publish the whole correspondence it would, I think, convince the most hardened sceptic that those who have led the way in this matter have blazed a trail to health, national and individual, which is well worth further investigation, to say no more. Even from the imperfect observations I have been able to make, I have been struck with the fact that in *practically every case*, apart from the result on the particular condition concerned, *parents and head teachers have reported a marked improvement in health and physique, a gain in weight, in energy, and in working capacity*. I am convinced that the remedy for many of our "dull and backward" children lies to our hand. I agree with Dr. Goodfellow when he says in "The Triumph of Iodine :"—"I know of no single measure better calculated to raise the standard of health throughout the whole country. When goitre goes it will not go alone."

This matter is still, of course, in its infancy, and much educational work is needed before the position outlined above is generally accepted. That in a few years it will take its place in the progress of our race as a matter of course I do

not for a moment doubt. If it does not, more enlightened nations will outstrip us in health, physique, and efficiency.

## Notes on Cases.

| *Case. No.* | *Condition.* | *Remarks.* |
|---|---|---|
| | *Simple Goitres.* | |
| | Out of twenty cases six report no change; the others report reduction in size or complete disappearance. In one case a reduction of 1in. took place in one month. In another case a very large goitre, causing interference with breathing, was so much reduced in four months that all distress had gone. Practically all cases report improved health, e.g.:— | |
| 20 | Goitre: boils. | *Head Teacher.* Goitre less, "Work very much better; it is only a week ago, (I did not then know that she was under treatment), that I told her she was doing ever so much better. Altogether a brighter and more cheerful girl." |
| 40 | Goitre: | Goitre unchanged. *H.T.* "My staff had been wondering why her work had so markedly improved." (Secondary School girl). The girl states that she "feels a different being." |
| 44 | Goitre: | Goitre less. *Parent.* "Everybody says how she is growing big and strong all at once since she began the treatment. This case had iodised sweets only. |
| | *Septic Conditions.* | |
| | These respond particularly well; there have been no failures; e.g.:— | |
| 46 | Boils: Had dozens of these in spite of innoculation. | Since commencing the treatment this boy has only, in four months, had two small boils. |

| | | |
|---|---|---|
| 37 | Septic sores--of several years standing—worst in winter. | In two months all sores had gone, and have not returned during the winter. |
| 36 | Brother of above—similar case, with rhinitis in addition. | As above—the rhinitis has quite gone. |
| 19 | Septic spots — persistent in spite of treatment. | In 4 weeks no spots. These have not recurred. |
| 0 | Chronic bronchitis—septic spots—neither had responded to any treatment. | P. "No septic spots now ; he has had great benefit ; hardly any colds this winter—gained 9lbs. in 6 months."<br>H.T. "Work improved, has had much benefit." |
| 16 | Eczema (very severe) and septic spots | H. T. "Much improved. School work improved."<br>P. "Much better of herself, and sleeps much better. The treatment is doing her so much good. |
| 29 | Boils (very large) styes ; very liable to colds. | P. "He has had no boils since he started ; he has only had one or two small styes, which went quickly ; never used to be clear of colds, but has had no colds this winter."<br>H.T. "Great improvement in work." |

*Chronic Bronchitis* and allied conditions. This group also responds remarkably well.

| | | |
|---|---|---|
| 51 | *Chronic Bronchitis.* Had not responded to treatment (cod liver oil, etc.). | P. "It has done her a lot of good. She has had no colds at all lately."<br>H.T. "She has definitely improved." |

| | | |
|---|---|---|
| 33 | *Bronchorrhœa.* | H.T. "She seems much stronger and brighter, and is a regular attender now." |
| 9 | *Weak Chest* — always having colds. | P. "She has hardly had any colds this winter; before the treatment she was always having colds." |
| 59 | *Chronic Bronchitis.* | P. "He has never had a cough since he started; he used to be always coughing. I spent pounds on Emulsion, which did him no good."<br>H.T. "A better and brighter boy altogether." |
| | *General Conditions :* | |
| 57 | Pretubercular — night terrors — incontinence —constipation | Had cascara for 2 months, then iodine (iodised sweets only).<br>P. "He has improved immensely; he never wets his bed or has bad nights now. He has no cough now, and is fatter and stronger.<br>*Record of Absences :*<br>1924 Jan.-June, absent 92 times<br>June-Dec. „ 79 „<br>1925 Jan.-Mar. „ 35 „<br>*Treatment began here :*<br>1925 Mar.-June, absent 18 times<br>1925 June.-Dec. „ 20 „ |
| 26 | Goitre : dental abscesses. | Goitre gone. P. "She improved very much under the iodine. Since we stopped it she has lost weight and gone back very much, and been very cross."<br>H.T. "Since she stopped she has done poor work." |

| | | |
|---|---|---|
| 15 | Debility. (A Headmaster's daughter attending a secondary school). | P. "My husband and I both saw that she was much more energetic, and altogether in better health. Formerly she would come home from school on Fridays completely fagged, and only able to do home work in a very half-hearted fashion. That was completely changed, and she was much brighter on these occasions." |
| 27 | Abdominal tuberculosis—very delicate. (Brother of 26). | P. He has improved very much. You could see him improving. He used often to vomit—he hardly ever vomits now." |
| 34 | Debility: very backward. (In Standard 1 at age 10). | P. "She is healthier altogether. She has grown in height and weight"<br>H.T. "Great improvement in work; more active in work and games."<br>This child has gone up three Standards in twelve months. |
| 39 | Pretubercular—malnutrition. (Did not improve with cod liver oil). | H.T. "He is a different being. He does not now sit in the listless, unhappy manner of a few months ago. He is putting on weight, and joins in the games now." |
| 42 | Thin, tired, anæmic, backward. | H.T. "Her health has generally improved, she is not so listless, not nearly so nervous; her work has improved." |
| 60 | Skin eruptions—thin, pale, backward. | P. "It has done him a tremendous power of good. It was remarkable how he started when he began the bottle. I weighed all my boys when it began; he has gained more than double what the others have done."<br>H.T. "His school work is much better." |

| | | | |
|---|---|---|---|
| 35 | Worms. | Very thin. | P. "The worms were awfully bad before he began. He had them for 7 years. No treatment cured them. When he got the iodine they got less, and in 3 months they were all gone. He has had none now for 7 months. Everybody says he is looking a lot better. He had no treatment but the iodine." |

*Standard of Work.*

In nearly every case the head teachers report improved work; many very backward children are now doing normal work.

Only two cases reported adverse symptoms, (a) Spots on the face, (b) pain at menstrual period. These conditions may have been coincidences; in both the doseage has been reduced; it is too early to report the result of this.

The records from which these notes are taken along with many others, are available for reference at any time. It will be seen that goitre, septic conditions, lung conditions, debility, and poor work are groups which respond very well.

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3. Goodfellow in the B.M.J., 14/2/25.
4. C. S. Thomson. "Old age deferred." Health Report, Deptford, 1924.
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7. "Goitre and its Prevention," the late Dr. Barwise, "Medical Officer," 1/11/24.
8. Goodfellow. "The Triumph of Iodine." The New Statesman, 6/12/24.
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APPENDIX C.

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# REPORT

OF THE

# SHCOOL DENTAL OFFICER

*For the Year ended 31st December, 1925.*

## APPENDIX C.

## REPORT OF THE SCHOOL DENTAL OFFICER.

I have the honour to lay before you my Report for the year ending December 31st, 1925.

During the year Maryport was re-treated on three days weekly. Flimby, Allonby, and Millom were treated for the first time since the inauguration of the Dental Scheme. The remaining two days of every week have been devoted to country schools, the work being carried out in the Dental Caravan. The following schools were treated by these means :—Talkin, Lanercost, Longtown, Lazonby, Kirkoswald, Gamblesby, Maughanby, Braithwaite, and Newlands.

The re-treatment of Maryport was very successful, the parents taking a very free use of our services as compared with the former occasion. No visiting was carried out at the homes of scholars who refused treatment. There is such a demand for the dentist's visit to other untreated areas that it was felt we cannot at present spend any time on parents who do not signify their consent to treatment. The motto under which we are at present working whilst short staffed is "the greatest good to the greatest number."

In Maryport we found that those children who had been treated in 1921-22 showed evidence of this, their mouths being in a much more efficient state than those who had not accepted our services. The unsatisfactory part of our visit was the feeling that too long a period had elapsed between the two treatments.

In some mouths decay had broken out and progressed so rapidly in the three years that we had to extract teeth which should have responded to filling treatment had our visits been more frequent. Quite often we have been compelled to extract upper six years old molars, the opposing lower teeth having a good, sound filling in them which was inserted in 1922.

This, of course, means the waste of time occupied in the filling operation. Had we been able to re-treat the scholars at, say, even 18 months, both teeth could have been saved, and our time not wasted.

We received very great help from Dr. Haydock, the Area Medical Officer, and undoubtedly our work went much more smoothly than on the former occasion, owing to the goodwill which this efficient officer possesses with the parents in the neighbourhood. The head teachers of Maryport National and Christ Church Infants' Schools also require our thanks for their energetic and enthusiastic help which they extended to us whilst there. In each case a very high percentage of the scholars voluntarily accepted dental treatment largely through their efforts.

On the closure of the Maryport Clinic the dental outfit was removed to Millom, where treatment is in active progress at present. There is a big field for our operations here. Undoubtedly hard times and actual distress have had their effects on the dentitions of the children in this area. The response to our efforts are exceedingly good, and parents readily avail themselves of the clinic. The head teacher at Lapstone Road Boys' has given us very great assistance in our propaganda at Millom, and there are very many of his boys who will have to thank him if in after years they possess a sound set of teeth.

In the course of our caravan work during the year we can only report highly gratifying results. The arrival and departure of our van is quite an event of some social importance in the country towns and villages. The country schools seem to respond particularly well, and maintain a high average of cases who accept our efforts on their behalf.

The town of Braithwaite, near Keswick, was a revelation to me of what could be done by efficient team work. In this well organised parish the social life and welfare of the inhabitants are in highly efficient hands. The Vicar, the Rev. W. R. Burnett, is the Chairman of a keen Committee of School Managers. The headmaster of the school is also very keen on the physical as well as the mental well-being of his scholars.

Owing to the continuous efforts of this band of workers, every child in the school of 100 scholars was given treatment. Not only was this so, but I was asked to give a few words on lantern slides, illustrating the care and importance of con-

servative dentistry in our lives. The Managers also purchased a quantity of toothbrushes of suitable shape and design, and these are sold to the scholars at the very low cost of 4d., any deficit being made up from school funds. These efforts were all voluntary, and largely due to the enthusiasm of the untiring Chairman of Managers.

The assistant teachers also rendered invaluable help with the patients, and undoubtedly strengthened many a quavering knee to the chairside with all its attendant terrors. One felt that human sympathy was the keynote of all the workers here. Taken altogether, I felt the soil to be ideal for the propagation of the seeds of good dentistry, and was extremely sorry to leave the district where we had received so much help, and where our efforts met with such a fine response.

The caravan treatment has been continued right throughout this winter, but it has to be confessed that at times it was with very considerable effort on the part of the Dental Nurse and myself. In the early winter six weeks of continuous frost and snow found us a little less enthusiastic on its use in rigorous weather, and latterly the continuous rains have been trying. Given anything like an average winter, caravan treatment of country schools is perfectly feasible, but this year it has proved to be rather a trying experience. If the van is stationed at a big school of 400 to 500 children, then it is merely a matter of keeping the operator and assistant warm, but to move along from one small school to another every ten days or so is certainly not very economical in time in winter months. In summer we move the van after school hours whenever we can, but the short days of winter preclude that.

As regards the payment of fees to the Council for dental treatment, our system is as follows:—wherever possible the parents pay 2/6 per child, but in cases of large families where there is necessity one fee is made to cover the whole family. In the case of widows or others in necessity the fee is cancelled. As a matter of experience, and speaking in general terms, there is never any difficulty in obtaining the fees in Mid and Eastern Cumberland. These districts are largely agricultural ones, and the depression and unemployment is not so marked as in Western Cumberland, with its paralysed industries. Here, in consultation with schoolmasters and other local officials, we have had to cancel the fees in

the greater number of cases which we see. In Millom and Maryport the fees collected amount to only a very small sum, and in every case the attitude towards the subject has been this :—Is the fee going to prevent the child having her mouth put into a sanitary state? If it is, then we treat the patient free. I venture to think this was the attitude of the Committee, which went into the matter, and advised me on the subject. Most parents are convinced that the 2/6 charged is well spent. It may seem inequitable to collect the major portion of the fees from only one area of the county, but as trade revives and the unemployment problem becomes less acute this state of affairs will right itself. A man drawing unemployment pay with, say, a family of four children, cannot possibly meet the fee.

I should like to take this opportunity of thanking the dental nurse for her assistance in every sphere, surgical as well as clerical, and also for the care of the school children. She continues to be of great assistance to me in the clinics and the caravan, and her kindly disposition aids us often in winning the confidence of our small patients.

In closing my report for 1925, I cannot too strongly urge the appointment of at least one assistant for the Western area at the earliest possible opportunity. The time taken up in travelling to Millom is taking away a considerable amount of time which should be available for actual treatment, and will gravitate heavily against my returns for this year. Request for our presence in various parts of the County are continually coming to hand, and indeed I have had to cease replying to these. When circumstances permit of our engaging another assistant, the economy in time saved in travelling, as well as in cash expended, will be very apparent.

F. E. GILLIERON,
School Dental Officer.

APPENDIX D. and E.

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# REPORTS

ON

# PHYSICAL TRAINING

*For the Year ended 31st December, 1925.*

# APPENDIX D.

## REPORT ON PHYSICAL TRAINING FOR THE YEAR ENDING DECEMBER 31st, 1925.

By Margaret Fraser, Chief (Woman) Organiser.

Definite progress has been made in the Physical Training of the County during the past year, especially with regard to Organised Games and Folk Dancing. The Teachers have entered whole-heartedly into the spirit of the work, and have found the new Syllabus for Rural Schools very helpful.

### Staff.

The Staff consists of :—

1 Chief Woman Organiser.
2 Assistant Organisers.
1 Instructress for Secondary Schools.

There have been changes on the Staff during the year. Miss Brown (Assistant Organiser for Whitehaven and Maryport districts) left at the end of the Summer Term, and Miss Marjorie Ostle, Dartford P.T.C., was appointed to fill the vacancy from September 1st.

Miss Petty (Assistant Organiser for Penrith and Keswick districts) resigned in October, and Miss N. Hall, Bedford P.T.C., was appointed in her stead. Miss Hall was unable to begin work in Cumberland until January, so for two and a half months Penrith district was without an Assistant Organiser.

### Teachers' Classes.

| | No. Enrolled. | Teacher. |
|---|---|---|
| Carlisle ... ... | 41 ... ... | Miss M. Fraser |
| Longtown ... | 12 ... ... | „ M. Fraser |
| Penrith ... ... | 20 ... ... | „ B. Petty |
| Maryport ... | 35 ... ... | „ M. Ostle |
| Maryport ... | 36 ... ... | „ M. Ostle |

The attendance has been good on the whole, but it would be far better if these classes could be held during the daytime instead of the evening, as many of the teachers have to travel

long distances by cycle, or on foot, and during the winter there are so many dark, stormy nights, when it is impossible for them to attend.

### Accommodation.

The accommodation for Physical Training in wet weather is still unsatisfactory in many of the schools, and the work done inside the building has to be of a very cramped nature owing to lack of space. This could be remedied if sheds were provided.

### Playgrounds and Playing Fields.

A number of playgrounds have been put in order during the year, but there are still many urgently in need of re-surfacing or ashphalting; a few, indeed, are positively dangerous.

The Vicar of Wigton generously placed his garden at the disposal of the National School, and full advantage was taken of his kindness during the fine weather.

Every school should have a playing field, but unfortunately this is not the case at present, though much can be done by persistent effort on the part of the Head Teachers, who can rely on the sympathetic support of the Committee.

### Organised Games.

Net Ball is one of the best games for girls, and I am glad to say is now very popular in the Elementary Schools in Cumberland.

A large number of inter-school matches have been played, and Net Ball Leagues have been formed at Penrith, Whitehaven, and Carlisle Rural Districts. We are very grateful to Lady Mabel Howard, Mr. Hugh Jackson, and Mr. Morris, who have shown a practical interest in these Leagues by kindly presenting trophies to be competed for annually. This has given a great stimulus to the game in the different districts.

### Penrith and District Rural Schools Net Ball League.

Miss Petty reported that twelve schools in her district competed in the above League, which was formed during

the year, and played in two divisions. Culgaith School gained the distinction of being the first school to win the cup, given by Lady Mabel Howard.

### West Cumberland Net Ball League.

Miss Brown reported the formation of the above League, in which 15 schools took part. The matches were played on the "knock-out" system, Parton Girls winning the cup for the first year.

### Carlisle Rural District Schools Net Ball League.

This League was formed at the end of the Summer Term 24 schools entering. At the inaugural meeting of Teachers, a demonstration game was played between Cumwhinton and Great Orton Schools on the Girls' High School ground kindly lent by Miss Bevan. In order to economise transport the schools were arranged in four groups, and the following teams have now qualified for the semi-final :—Cumwhinton, Gilsland, Great Orton, and Kingstown. Enthusiasm has been evident throughout, and there was keen competition to win the cup (given by Mr. Hugh Jackson) for the first year. Great Orton were the ultimate winners.

## Sports.

### Maryport Inter-School Sports.

These sports, held for the first time this year in Netherhall Park, kindly lent for the occasion, were an unqualified success. Boys and girls from all the Maryport Schools competed for points, which were awarded instead of prizes. The events were keenly contested, the scholars from the National School gaining the highest number of points, and so winning the distinction of being champions for the first year.

The excellent organisation, and spirit of pure sport shown by all competitors, reflected the greatest credit on the Teachers concerned.

At the end of the afternoon a number of girls from each school in the district gave a very good display of Folk Dancing, under the direction of Miss Dorothy Benson from the Council School.

### Keswick and District Inter-School Sports.

These sports are held annually, and this year girls from St. John's, Crosthwaite, and the two Threlkeld Schools competed on June 24th for the cup given by the late Mr. Marshall.

After keen competition, St. John's School gained the highest number of points, and so held the cup for the year.

### Cockermouth and District Inter-School Sports.

This is an annual event, and to judge by the large number of people who assembled in the sports ground on July 16th, great interest is taken by the parents and friends of the competitors in the district. During the afternoon a display of Dancing was given under the direction of Miss Petty, who had trained a number of girls from Fairfield, All Saints', and St. Joseph's Schools.

### Dearham School Sports.

These sports, held for the first time at Dearham School in September, were very well organised. Great keenness and enthusiasm were shown by all competitors, the events being well contested in spite of the cold and wet weather. The display of Country Dancing given by the girls during the afternoon reflected great credit on the Teachers who had trained them.

### Swimming.

The children in the Wigton district are fortunate in having Swimming Baths in their vicinity, and good progress has been made by the scholars from the National and Roman Catholic Schools, who have attended regularly.

Culgaith School Open-Air Bath has been much appreciated, and about 70% of the scholars can now swim. Swimming sports were held at the beginning of the Autumn Term.

### Keswick Secondary School Swimming Sports.

This year Girls' Swimming Sports were held for the first time. Enthusiasm and keenness was shown by all competitors. Novice's Races were arranged for the girls who had only just learnt to swim. The course, 30 yards in length, was completed by all competitors.

### Demonstration.

Demonstration of Physical Exercises, Games, and Dancing at Workington Secondary School.

Mr. Coles lent the Workington Secondary School Gymnasium on June 12th for a Display of Physical Training, which was held before a large audience of Teachers.

The programme included Infant work by children from Aspatria Infants' School, a Junior Class from Seaton School. Physical Training and Competitive Games by boys from Aspatria Council School, and Country Dancing by girls from Maryport Council School.

### Demonstration at Whitehaven in Irish Street School.

This was held a week after the one at Workington, and was of a similar nature, the following schools taking part :—

| | |
|---|---|
| Infants' School Work ... | Hensingham Infants |
| Senior Standards, P.T. Girls<br>,, ,, P.T. Boys | St. Paul's, Frizington |
| Dancing ... ... ... | Moor Row Girls |

Both these Demonstrations were much appreciated, and praise is due to both Teachers and scholars, who are to be congratulated on the success of their efforts.

Many other Demonstrations have been held in various schools, Moor Row School and Aspatria Council School giving specially good displays.

### Secondary Schools.

The Secondary Schools in Cumberland are fortunate in having a progressive Committee, which has secured specialist teaching in Physical Training for every girl, and good progress is being made.

Margaret Fraser,
Chief (Woman) Organiser.

## APPENDIX E.

## REPORT OF THE CHIEF (MAN) ORGANISER OF PHYSICAL TRAINING.

I beg to submit my report on Physical Training for the year ended 31st December, 1925.

Interest in Physical Education is increasing in a gratifying manner. The Teachers regard the subject as one of vital importance to the health and well-being of a child, and there can be no doubt as to the enjoyment the average child derives from a well conducted lesson. The formal work is very satisfactory, but the general activity part of the lesson needs enlivening. Benefit in this respect should follow from the demonstrations described later in this report.

*Staff.*

Mr. F. Smith is still teaching the boys at Millom, Whitehaven, and Workington Secondary Schools; Mr. J. P. Walker is fully employed at Keswick, Wigton, and Brampton Secondary Schools, and Workington Juvenile Unemployment Centre.

*Accommodation.*

There has been some improvement during the year in the playgrounds of the Elementary Schools.

*Marking of Playgrounds.*

The permanent marking of playgrounds is a great asset in the teaching of games With games such as Captain Ball, Target Ball, Chase Ball, and Rugby Touch, marking saves time, and prevents that "waiting period" which every healthy boy detests The advantage of being thus prepared for games was splendidly illustrated at both the Workington and Whitehaven Demonstrations.

*Playing Fields.*

The number of playing fields is gradually increasing. Grasslot have splendid facilities, and Dearham has secured a field beside the school. At Broughton Moor the miners allow the children to use their field. Cleator Moor, Montreal, and St Patrick's Boys' have acquired a nice field near to both schools. Special mention must be made of the excellent

effort of Brigham Boys' School, Keswick, where a piece of waste ground is being converted into a playing field at a cost of over £100. There should be no school in Cumberland without a suitable space for organised games.

*Swimming.*

At Wigton there is the usual enthusiasm amongst the boys and girls of the Elementary Schools, and one would have to go a long way to find a school so proficient in swimming as Wigton Nelson Boys' Secondary School. At Maryport the school children joined the newly-formed Swimming Club in large numbers, over 200 joining from the Council School alone. The Teachers at Maryport are to be congratulated on their efforts to make swimming popular.

*County Schools' Football Association.*

The final match took place on Friday, 3rd April, in the Cricket Field, Whitehaven, between Cleator Moor St. Patrick's and Hallbankgate and Spelter Works' Schools. St. Patrick's won the Shield which was presented by the Director of Education. St. Patrick's Boys also won the Lonsdale Cup, beating Aspatria in the final. Maryport National won the Local School League, and Brigham Boys won the Championship of Keswick and district. Where the game of "Rugby Touch" has been introduced it is making the boys keen on "handling" the ball, so that there may be many converts to the Rugby code before long.

*Sports.*

| School or Schools. | Date. | No. of Competitors. |
|---|---|---|
| Maryport Schools ... ... | 24th June ... | 600 |
| Millom „ ... ... | 27th „ ... | 500 |
| Blackford School ... ... | 4th July ... ... | 75 |
| Hallbankgate and Spelter Works Schools ... ... ... | 11th „ ... ... | 150 |
| Brampton Boys' School .... | 14th „ ... ... | 100 |
| Cockermouth & District Schools | 16th „ ... | 600 |
| Lowca School ... ... ... | 17th „ ... ... | 150 |
| Raughton Head School ... | 17th „ ... ... | 60 |
| Silloth „ ... | 18th „ ... ... | 156 |
| Cargo and Rockcliffe Schools ... | 24th „ ... ... | 80 |
| Dearham School ... ... | 2nd Sept. ... | 200 |
| Gilcrux „ ... ... | 9th „ ... ... | 80 |

"Purely Amateur" Sports were introduced at Maryport in the beautiful grounds of Netherhall, where certificates were given instead of prizes.

This meeting gave promise of becoming one of the principal athletic meetings in North-West Cumberland. At Millom competition was so keen that many events had to be decided on the following Saturday. On the "Lawn" at Justicetown, the Blackford children entered into the various events full of vigour and energy. The combined meeting at Hallbankgate showed the usual success. The Brampton boys were rather ambitious in their desire to have long distance races, but were quite happy and content with the shorter distance events arranged for them. Sandair Park, Cockermouth, never housed a more enthusiastic crowd of children and parents than on the 16th July. Lowca made their initial step this year, and, judging by the enthusiasm, the sports are likely to become an annual event. At Raughton Head pole vaulting is the most popular event, and several of the boys are quite expert. The most popular part of the programme at Silloth Carnival was the children's sports. Dearham sports were well attended by parents, and a good number of the leading Educationists in Cumberland were present. At Gilcrux a very happy meeting terminated with the presentation of prizes by the Vicar.

The general tendency is to have too many items on the programme, and children should not be allowed to enter for more than four events (three individual and one team).

*Cricket.*

There was more cricket played in the schools this summer than during the last four years, fine weather during June and July providing the opportunity, which the boys and Teachers were not slow to seize. Many friendly matches were arranged between schools. The Millom boys take their cricket in earnest, and again formed a school league.

| Demonstrations. | Date. | Children taking part. |
|---|---|---|
| At Penrith .. .. | 2nd April ... ... | 70 |
| „ Workington ... | 12th June ... ... | 118 |
| „ Whitehaven ... | 19th „ ... ... | 96 |
| „ Moor Row ... ... | 15th July ... ... | 80 |
| „ Aspatria ... ... | 16th „ ... ... | 132 |
| „ Brampton ... ... | 11th Dec. ... .. | 40 |

The boys of Penrith National School gave a good exhibition in St. Andrew's Hall. At Workington Secondary School, boys and infants from Aspatria, girls from Maryport Council, and Seaton Camerton Elementary Schools, gave a delightful exhibition of Physical Exercises, Dancing, and Games. Irish Street Council School, Whitehaven, was the venue for another fine display by children from Frizington St. Paul's, Moor Row, and Hensingham Infants' Schools. Moor Row revived their Annual Exhibition this year. The Aspatria children gave a very fine show in the Public Park. At Brampton the Teachers never miss an opportunity of showing the parents the value of Physical Training. These demonstrations were well attended by County and Local Members of Education Committees, Teachers, and parents. Thanks are due to Members of the Education Committee for their encouragement and support, and also to the Teachers and children who took part, for the fine, cheerful, and enthusiastic spirit with which they entered into all the work.

*Secondary Schools.*

Fair progress is being made, but more time should be given to the subject. I am pleased to report that at Carlisle Grammar School, Workington and Whitehaven County Secondary Schools, new apparatus has been supplied. This will make the work much more interesting, especially for the Senior Boys.

### Evening Continuation Classes.

| | On Roll. | Teacher. |
|---|---|---|
| Penrith ... ... | 12 ... | Mr. Hargreaves |
| Whitehaven ... | 25 ... | Mr. Smith |
| Cleator Moor ... | 24 .. | Mr. Burns |
| Wigton ... ... | 11 ... | Mr. Healey |
| Frizington ... | 29 ... | Mr. Warwick |

When visiting these classes I found that the students generally were full of energy and enthusiasm.

## Teachers' Classes for Men.

The following classes were held during the year :—

| | | On Roll. | | Teacher. |
|---|---|---|---|---|
| Whitehaven | ... | 21 | ... | Mr. W. S. Gray |
| Carlisle ... | ... | 30 | ... | Do. |

At Whitehaven, 18 County and 3 Whitehaven Teachers attended the "Refresher" Course. On the "Closing Night" the members of the class gave a practical demonstration of Exercises and Games, and a demonstration lesson suitable for any playground was given with a class of smart boys. A very successful class is at present being held in Carlisle, where 23 Headmasters and 7 Assistants are in attendance.

W. S. Gray,
Chief (Man) Organiser.

# APPENDIX F.

## WHITEHAVEN COUNTY SECONDARY SCHOOL.

### Medical Report for the Year 1925.

Two hundred-and-ninety five pupils have been examined during the year 1925, in addition to attendance on a considerable number of casualties through that period.

As it is my customary procedure, I will first make my report on the new comers to the school in the three terms of the school year.

There were 67 first examinations made, and of these no more than 29 could be called absolutely normal. This is a smaller percentage than last year, which was, itself, however, somewhat high, and above the average to be expected.

*Teeth.*—No less than 31 new pupils suffer from some defect in the teeth. As I have noted before, this is an important matter, and calls for serious thought. If the teeth can be attended to regularly, and in the early stages of decay, I am quite sure the general standard of health in schools would be considerably raised.

Twenty-five pupils show signs of poor general development. Most of these cases are associated with some other weakness, more frequently enlarged tonsils or defective eyesight.

I find no fewer than 21 cases of enlarged tonsils and (or) adenoids in the 67 under examination. This seems a large number, but I have noted amongst them the very slight cases. I do this more particularly so that on future examinations I may be able to judge whether the enlargement is progressing or not, and whether it is necessary to refer the case particularly to the usual Medical Attendant. Many will probably actually improve without treatment—I have found this to be so in several pupils examined during the last few years.

Only eight cases of *defective eyesight* were detected. This is a very much smaller percentage than usual, and yet larger than last year.

Three heart cases have been found, two of which are evidently due to organic disease—the third being a case of marked tachycardia or rapidly beating heart of functional or nervous origin.

*Skin.*—There were four cases of skin trouble detected, but none of serious nature.

There were three cases of Goitre, all of which were very slight.

Only one child showed a " weak chest "—not tubercular. This child will be kept under observation. Three children showed undue nervousness, which with time and careful treatment they will probably soon overcome.

The outstanding points in these statistics are the Dental question, the large number of pupils showing poor physical development, and the large number of enlarged tonsils and adenoids. I consider this Dental question is of paramount importance, as the persistence of bad teeth does undoubtedly undermine the health, and at this age the maximum of " a stitch in time saves nine " is most applicable. The physical development question is largely a matter of time. It is to be expected that children at the school entry age who have not undergone systematic drill, etc., have not developed. I have, however, remarked before, and noted particularly how wonderfully the " physique " improves when they come to this school and undergo systematic drill and games.

The presence of the enlarged tonsils is a handicap to the development, but where the nasal obstruction is not marked, and the tonsils not septic, the drill and physical training largely help towards the spontaneous cure of the tonsils which I have already remarked on as taking place.

### Re-examinations

Two-hundred and twenty-eight pupils have been re-examined during 1925, and of these 79 or just over 33% are passed as normal. This is just about the same average as in former years. If, however, defective teeth are excluded, the number of normals rise to 115 or just over 50%. This is a great improvement on the past. The number of cases of defective teeth are as many as 98, which seems an enormous number (though it is not so in comparison with children attending the Elementary Schools). Many of these are cases where only one or two teeth are decayed, but it is in the early stages of decay that treatment may save so much trouble.

A great number of these 98 have not actually been sent to a Dentist, and it is quite impossible to work out reliable statistics on the point. Very many have, however, seen the Dentist, and I have distinct evidence in my examinations that at least 24 have had very definite and thorough attention. This large number of dental cases taken in conjunction with the number mentioned under the heading of 1st Examination, and my remarks thereon emphasises the necessity of something being done to ensure treatment.

Three cases of pyorrhæ which have been noted received treatment. To know how to deal with this is rather a difficult matter, but I feel convinced a great deal of time and health could be saved if the teeth received more attention.

*Tonsils and Adenoids.*—Fifty-six pupils have enlarged and (or) adenoids in varying degrees. Very many of these are only slight, and apparently give rise to no trouble. They are all noted so that one may find out if they increase, or have appeared since the throat was last examined. I find that eight have definitely improved without treatment, and become insignificent, and note that four cases have actually been operated upon. The remaining 44 have had no apparent treatment. A great number of these do not need treatment, but they will come under re-examinations during 1926 (and observation again taken). I make special note of the obviously bad (septic, etc.) tonsils, and the parents are advised by the Headmaster to consult their own medical adviser.

*General Physical Development.* — Forty-two are still classified under this heading. No less than 19 of these are noted as having very definitely improved since the previous examination. Thirteen cases noted as lacking in physical development have in addition enlarged tonsils and (or) adenoids, and other six have defective eyesight. These will account very definitely for a good number of the unimproved cases. If we add those who are anæmic and have bad teeth, the cases of lack of good physical development can be fully accounted for.

*Eyesight.*—There are 27 cases of defective eyesight, 16 of whom have received attention. Some of these, however, are not very satisfactory, and will need frequent supervision. Of the remaining 11 cases, 6 needed immediate

treatment, and have been notified to that effect. Three cases of blepharitis were noted.

*Goitre.*—There are still 15 cases of goitre, nearly all being very small, and only 3 of which are more than what may be expected at the time of adolescence.

*Heart.*—Eleven functional disorders of the heart were found, 2 of which were due to overstrain, the rest being functional, and owing to anæmia. There were 3 cases of organic disease of the heart, due to Rheumatic Fever more or less recent, 1 of which has developed during the last twelve months. Five cases previously noted as being affected have this year been notified as normal again.

*Lungs.*—No cases of tuberculosis were found, but 4 noted as having "weak chests" are being kept under observation, and there is 1 pupil who suffers from asthma.

*Skin.*—No contagious skin disease was found.

*Nasal Obstruction.* — Three cases of nasal obstruction were found; they are to be re-examined.

*Ears.*—There were two cases of marked deafness. One has consulted a specialist.

Nineteen cases of anæmia were also found, but this in the ordinary course of events eventually passes off under treatment. Untreated, however, it must handicap the work of the pupil. Several pupils show a susceptible nervous system in having tachycardia, etc. Two pupils stammer rather badly.

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