[Report 1954] / School Health Service, Newcastle-upon-Tyne.

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CITY AND COUNTY OF NEWCASTLE UPON TYNE

SCHOOL HEALTH SERVICE

REPORT

OF THE

PRINCIPAL SCHOOL MEDICAL OFFICER

W. S. WALTON, G.M., M.D., B.Hy., D.P.H.

FOR THE YEAR ENDED DECEMBER

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PREFACE

To the Chairman and Members of the Education Committee

Ladies and Gentlemen,

I have the honour to present to you my ninth Annual Report on the School Health Service of the City for 1954 ; the Report being the forty-eighth in the whole series.

The year 1954 showed further steady progress in the School Health Service, and it is again a pleasure to report that on the whole the health of the school children in the City was good. The general health of the school leavers was well up to the average standard of recent years.

Weather during the year was disappointing and compared very unfavourably in sunshine hours and mean temperature with the annual average of the preceding 8 years period 1945-1953.

As is stated in the body of the Report, the end of food rationing occurred during the year and this marked the close of a period of transition from war-time economy and planning to peacetime living. There is no doubt that so far as the school child was concerned, food rationing was of enormous value and it also was of outstanding value as a general educative measure of the public in the matters of diet, nutrition and dentition.

It is not easy to assess the effect of the great social changes which have taken place during the last decade, but these changes have undoubtedly brought in their train improvements in the health of the school child. The disturbance in the " old order " (pre war) of monetary values and of purchasing power has caused many problems for parents of school children. Clothing and footwear are comparatively more expensive items and food and costs of meals and school meals have increased during these years. On the other hand, salaries and wages, have improved but the question arises, has the ratio been maintained of expenditure on things essential to health (including the provision of good housing) to total household budgeting expenditure, or perhaps more searchingly to actual total family income ? Has there been a lag in some cases of bringing up the level of expenditure on essential things during these rapidly changing circumstances to a level compatible with the maintenance of health and well being ? Judging by general impressions of the health of the school child in Newcastle upon Tyne, it would appear that there has been no such lag in the large majority of cases. This situation, however, in some cases merits continuing attention and especially where expenditure on daily transport takes up a proportion of family expenditure.

There have been other remarkable changes during the last ten years and not the least has been the re-organisation of the School Health Service, and the provision and availability of the free hospital and free treatment services for all school children. This period has seen the introduction of family allowances ; a far reaching and a successful measure. The milk in schools schemes were further developed and the provision of school meals has been greatly extended.

During the year, the Education Committee's programme of development of the School Health Service was continued and opportunity was taken to improve and decorate many of the clinics.

The number of individual children found to be verminous at inspection, still remains high but there are some signs of improvement.

The Committee's general scheme for linking the service with treatment facilities provided by the hospitals and the general practitioners has continued to develop and has worked successfully. General Practitioners are kept fully informed of the findings of the School Health Service and they are consulted freely about their schoolchild patients. It is noted that the number of children referred by the family doctor to the School Health Service for minor ailments and for assistance in placing in special schools or hospitals is increasing.

In 1954, there were no serious outbreaks of infectious disease. Mumps was rather prevalent and the number of septic skin infections following the vacation was more than usual. There was a sharp general outbreak of Influenza in November, which materially affected school attendances in that month.

Of the 24 deaths occurring amongst school children during the year 13 were due to accidents and 6 occurred on the roads. Accidents are discussed in detail on pages 21 to 25 and merit the further attention of the Committee.

Conditions of foot wear and of feet attracted the attention of your School Medical Officers. Special enquiries were made during the year and are continuing in 1955. Recent information would tend to show that foot troubles among school children are more common than is generally recognised in the City, and your medical and nursing staffs are engaged in further investigations.

The policy of including short reports from your School Medical Officers is continued in this Annual Report, and I would commend to you this year Dr. Sainsbury's reports on Pediculosis and Social Conditions and Dr. Buckley's reports on the Health of the School Population and Colour Vision, and Dr. Dixon's continuation of his researches on Ringworm. In the Dental Department, Mr. Crombie conducted an investigation into the efficacy of topical fluorine treatment of children's teeth, pages 46 to 50.

The School Dental Service, under Dr. J. C. Brown, the Principal Dental Officer, was strengthened further and it is interesting to note that the ratio of teeth saved to teeth extracted was 3 to 1. Dental anaesthetic arrangements were reviewed by the Committee and adjustments made to include additional expert medical assistance. Some of the clinics still need adequate recovery room facilities and the Committee is considering these matters.

Speech therapy facilities were increased by virtue of a full-time appointment, and the new clinic came into full operation during the year.

A section termed " Positive Health " has been included in this year's report and shows other activities which while not undertaken directly by the School Health Department, are concerned with the promotion of health and are of great interest to the School Medical Officers. These activities include physical training, provision and facilities for athletics, swimming, and play centres. There is no doubt whatever about the value of this latter development and of the popularity and of the excellent results which come from supervision of play of children during the evenings.

Mr. A. Brown, the first Dental Surgeon appointed to the School Health Service (1921) retired in December, 1954, after 33 years' good service with the Local Authority. Dr. A. H. Fairlamb left for another post at the end of the year. Dr. Fairlamb had been with the Authority for 7 years, and had contributed consistently to the efficiency of the Service.

I should like to take this opportunity of thanking you, Councillor Edwards, and also Miss Temple, the Chairman of the School Health Service and Child Care Sub-Committee, and the other members of the Education Committee for their careful consideration of recommendations made to them during the year and to the staff in carrying these recommendations out. The Director of Education, Mr. H. V. Lightfoot, B.Sc., has been very helpful indeed to the School Health Service and staff, and it has been a pleasure to work in such close harmony with him, and his staff and with the Committee.

Finally, I should like to acknowledge to Dr. Sainsbury, the Senior School Medical Officer, my gratitude for his co-operation and in respect of the greater part of the preparation of this Report, and to the staff for the excellent team work maintained among the Medical, Dental, Nursing and Clerical sections of the School Health Service.

I am,

Your obedient Servant,

W. S. WALTON,

Principal School Medical Officer.

SCHOOL HEALTH SERVICES

Sub-Committee

Councillor Percival Harry Edwards
(Chairman of the Education Committee)

Councillor Miss Ethel Beatrice Temple
(Chairman of the School Health Services Sub-Committee)

Alderman Mrs. Dorothy Ann Fitzpatrick

Councillor J. R. Bartlett

Councillor Mrs. Catherine Frances Boothroyd

Councillor Mrs. Mary Phyllis Broad

Councillor Mrs. R. A. Dixon

Councillor J. D. Mason

Councillor Mrs. Isabella McCambridge

Councillor Mrs. Gladys Robson, J.P.

Councillor Mrs. Amelia Louisa Storey, M.B.E.

Mrs. A. M. G. Curtis, J.P.

The Rev. Canon P. M. Martin

The Rev. Edward Flynn

Mrs. A. Nesbitt

Chief Education Officer : H. V. Lightfoot, B.Sc.

STAFF

Principal School Medical Officer and Medical Officer of Health

W. S. Walton, G.M., M.D., B.Hy., D.P.H.

Senior School Medical Officer

H. S. K. Sainsbury, M.R.C.S., L.R.C.P.

School Medical Officers

Mary Anderson, M.B., B.S.

Brendon Buckley, M.B., B.S.

Irene Robinson (nee Colbert) M.B., B.S.

Henry M. Dixon M.D.,

Alan H. Fairlamb, M.B., B.S., D.P.H. (Resigned 31/12/54)

George E. Welch, M.B., B.S., D.P.H.

Ophthalmic Surgeons

(Part-time)

Leslie W. Davies, M.B., B.S., M.R.C.S., L.R.C.P., D.O.M.S.

Victor G. O'Leary, M.B., B.Ch., B.A.O.

Joseph D. Milne, L.R.C.P. and S., D.O.M.S.

Principal Dental Officer

James C. Brown, L.R.C.P., L.R.C.S., L.D.S., R.C.S.

School Dental Officers

Arthur Brown, L.D.S. (Retired 6/12/54)

Thomas E Coulson, M.C., L.D.S.

David M. R. Crombie, L.D.S.

James Elder, L.D.S.

Anna M. M. Greig, L.D.S.

Valerie N. Matthews, B.D.S. (Appointed 3/8/54)

Alfred E. Pattie, L.D.S.

Kenneth Sissons, L.D.S.

Dental Anaesthetist

William Shaw, M.B., B.S.

Dental Attendants 8

Orthopaedic Surgeons

(Part-time appointments by arrangement with the Regional Hospital Board)

C. C. Michael James, Ph.D., F.R.C.S. (Consulting Surgeon)

J. N. Spencer Simpson, M.B., B.S. (Orthopaedic Registrar) (Resigned Jan. 1954)

C. C. Slack, M.Ch., F.R.C.S. (Consulting Surgeon) (Appointed Feb. 1954)

Superintendent Physiotherapist

Bertha Hague, S.R.N., M.C.S.P.

Physiotherapists 5

Superintendent School Nurse

Evelyn D. Coulson, A.R.R.C.

School Nurses .. 23 Nursing Helpers 11

Speech Therapists

Margaret Atkinson, L.C.S.T.

Mary I. J. Clutterbuck, L.C.S.T.

Chief Clerk

Jessie S. Hills

General Clerks .. 5 Clerical Assistants to Medical

Dental Clerk .. .. 1 Officers 7

GENERAL STATISTICS

No. of children on rolls of Primary Schools	28,708
No. of children on rolls of Secondary Modern Schools	7,741
No. of children attending Grammar, High and Technical Schools	4,882
No. of children attending Nursery Schools	90
No. of children attending schools for Handicapped Pupils :	
Day	449
Residential	123
Total child population 5—15 years	45,601

Cost of School Health Service

Gross Expenditure	£53,591	4s. 8d.
Net Cost to Rates	£21,616	9s. 8d.

CONTENTS

APPENDICES

THE HEALTH OF SCHOOL CHILDREN IN 1954

With the end of food rationing the year 1954 marks the close of a period of transition from wartime economy to peace time living. Many war time controls such as those of foodstuffs and clothing were designed to preserve the physical well-being of the community in which children received special attention.

Within the space of almost a decade many social experiments have been introduced ; notably a reorganisation of the medical services to include a comprehensive scheme of free treatment for all school children. Family Allowances were also introduced.

Economically it has been a period of full employment and high wages. Recently there has been a tendency to rise in food prices and the cost of school meals.

Consequent upon the return of parents from war service domestic difficulties were experienced and in the process of adjustment to civilian life resulted in an increase in migration of families and of juvenile delinquency. A housing shortage, which is beginning to ease somewhat added to these difficulties. Overcrowding in schools has been the outcome of a temporary high birth rate and limited school building programme.

Against this background present day children have been brought up and the following pages should be read with this in mind.

Medical Inspections

All children attending maintained schools in certain age groups were examined to discover any physical defect which might be present, whether already under treatment or not, and to assess the general health of the children. The numbers of these inspections were as follows :—

PERIODIC INSPECTIONS

No. of children inspected—	
Entrants (aged 5 years)	1,591
Intermediates (aged 9 and 10 years) ..	3,608
Leavers (aged 14 years)	2,333
	7,532
Additional Periodic Inspections	1,255
TOTAL ..	8,787

The numbers of defects which came to light is shown in Table I. Information concerning Dental Diseases and Infestation not shown in this Table is given elsewhere. Malnutrition is now extremely rare and not referred to.

TABLE I

Number of Individual Pupils found at Periodic Medical Inspection to Require Treatment (excluding Dental Diseases and Infestation with Vermin).

Group	For defective vision (excluding squint).	For any of the other conditions recorded in Table IIA.	Total individual pupils.
(1)	(2)	(3)	(4)
Entrants	23	365	353
Intermediates ..	326	1,043	1,249
Leavers	260	292	507
Total	609	1,700	2,109
Additional Periodic Inspections ..	180	158	271
Grand Total ..	789	1,858	2,380

The numbers of children with specific types of defect is shown in Table 2.

TABLE 2

A.—Return of Defects found by Medical Inspection in the year ended 31st December, 1954.

Defect or disease.	PERIODIC INSPECTIONS		SPECIAL INSPECTIONS	
	No. of defects.		No. of defects.	
	Requiring treatment	Requiring to be kept under observa-toin, but not requiring treatment	Requiring treatment	Requiring to be kept under observa-tion, but not requiring treatment
(1)	(2)	(3)	(4)	(5)
Skin	177	79	1,272	67
Eyes—*a.* Vision	789	390	—	472
b. Squint	222	95	—	105
c. Other	76	88	343	131
Ears—*a.* Hearing	64	43	—	57
b. Otitis Media	68	69	154	13
c. Other	37	25	246	62
Nose or Throat	272	396	355	186
Speech	53	52	—	70
Cervical Glands	17	73	49	30
Heart and Circulation	28	167	—	22
Lungs	74	274	—	272
Developmental—				
a. Hernia	11	24	—	2
b. Other	11	29	—	2
Orthopaedic—				
a. Posture	33	43	—	12
b. Flat Foot	84	70	—	39
c. Other	197	142	134	34
Nervous system—				
a. Epilepsy	10	12	—	5
b. Other	14	32	—	14
Psychological—				
a. Devolpment	10	27	—	—
b. Stability	16	107	—	11
Other	68	80	931	653

This Table gives a picture of the incidence of defects as they occur in the City as a whole, but differences occur in the various school departments. Table 3 has been constructed to show certain of these differences which are peculiar to the age of the children concerned.

TABLE 3

Number of Defects recorded in different types of schools at Periodical Inspections (per 100 children requiring Treatment).

Defect	TYPE OF SCHOOL				
	Nursery	Infants	Junior	Sec. Modern	Grammar
Skin	1.00	2.20	3.10	2.20	0.80
Vision	—	1.60	12.50	11.50	14.50
Squint ..	3.00	3.80	3.50	1.90	1.50
Hearing ..	Routine testing not practical	1.00	1.19	0.65	0.20
Nose and Throat	4.00	5.60	5.77	1.05	1.05
Speech	2.00	1.00	0.70	0.30	0.10
Posture.. ..	—	0.06	1.08	0.07	0.10
Flat Foot ..	0.10	2.00	1.54	0.47	0.225

Considerable variation also occurs in the frequency with which defects are met with in individual schools. This is largely the outcome of the social conditions prevailing in the district from which the school draws. The differences are illustrated in Table 4. The mean defect rates differ somewhat from those of the previous Table, since only schools in which a hundred children or thereabouts were inspected are included. The coefficients of variation provide a measure of the variability of the defect rates and signify how closely these rates in individual schools are distributed about the mean for the group.

THE VARIATION IN RATES OF DEFECTS FOUND AT PERIODIC INSPECTIONS TO REQUIRE TREATMENT IN SCHOOLS OF SIMILAR TYPE.

Type of School	No. of pupils inspected	No. of Schools included	Variability	Physical defects						
				Skin	Vision	Squint	Deaf	Nose and Throat	Speech	Flat Feet
Grammar	623	7	Mean %	0.64	12.7	1.95	0.28	1.6	Negligible	0.28
			Range of %	0—2.5	8—29	0—7	0—1.1	0—5	. .	0—1.25
			Coef of Variation	**127**	**57**	**113**	**164**	**113**		**250**
Senior Modern	1,029	10	Mean %	2.35	11.35	8	1.12	1.37	1 defect only recorded	0.49
			Range of %	0—6.25	5—21	0—4.2	0—2	0—5		0—2.6
			Coef of Variation	**106**	**44**	**146**	**92**	**92**		**182**
Juniors	1,055	10	Mean %	2.77	9.1	1.76	0.75	3.75	0.44	1.53
			Range of %	1—9	1—20	0—3	0—2.3	0—8	0—1.5	0—3
			Coef of Variation	**85**	**56**	**82**	**139**	**65**	**177**	**59**
Infants	749	10	Mean %	2.65	No Routine Testing	5.24	1.5	6	1.5	2.25
			Range of %	0—6		0—10	1—5	0—13	0—3	0—9
			Coef of Variation	**72**		**51**	**148**	**61**	**70**	**141**

TABLE 4

The general physical condition of the children of the City shown in Table 5 which in comparison with similar figures published in previous years, show that the general health of children is well maintained.

TABLE 5

B.—Classification of the General condition of pupils inspected during the year in the age groups.

Age Groups	No. of Pupils Inspectd	A. (Good)		B. (Fair)		C. (Poor)	
		No.	% of col. 2	No.	% of col. 2	No.	% of col. 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Entrants	1,536	390	25.39	1,064	69.27	82	5.34
Intermediates	2,626	777	29.59	1,671	63.63	178	6.78
Leavers	2,333	791	33.91	1,454	62.32	88	3.77
Additional Periodic Inspections ..	1,255	390	31.08	813	64.78	52	4.14
TOTAL	7,750	2,348	30.30	5,002	64.54	400	5.16

In addition to these " Periodic " Inspections children are brought forward by Head Teachers for special examination when the Medical Officer visits the school. Opportunity is also taken to " Re-inspect " children already under observation.

These inspections were as follows :—

Special Inspections	6,352
Re-inspections	652
TOTAL ..	7,004

Pediculosis

The incidence of Pediculosis is a reliable index of the social conditions prevailing. Table 6 shows variations in the incidence of this condition in different age groups of children. It will be seen that it increases in volume with age and suggests that young people are less particular in themselves than they might be.

TABLE 6

The Incidence of Pediculosis in different School Departments.

	BOYS			GIRLS		
	No. Examined	No. found infested	% infested	No. Examined	No. found infested	% infested
Infants	15,555	597	3.90	15,366	1,842	11.10
Juniors	14,497	664	4.60	13,539	1,864	14.50
Seniors	7,563	279	3.70	8,337	1,657	19.90
E.S.N.	457	22	4.80	771	51	6.35
Grammar and Technical	1,101	23	2.09	1,788	50	2.80

Pediculosis and Density of Population

The following remark in a recent publication * has a bearing on the problem of Pediculosis. "The connection between Residential Density and living conditions is also clear in a general way. The evils resulting from high density in many of our large towns are widely recognised."

Normally then one would expect to find an association between the density of population in different areas of the City, and the incidence of Pediculosis found by nurses in the schools of those areas — congested parts presenting a greater problem in this respect than that in open residential districts.

Estimates of the population density of individual areas are available for reference. They are 'Net Population Densities' and give the number of persons per 'Residential Acre,' (that is per acre of housing). The incidence of pediculosis in these areas is derived from nurses returns for individual Schools, but in order that the figures might be comparable one class of children only was used, namely, girls attending Infant Schools. These were chosen for their relatively high incidence (see Table VI), which would render more conspicuous local variations. Moreover the incidence approximates in these children to that of adult females in the household, and reflects living conditions in the district. Not all school returns could be used, but only those whose catchment was completely contained within the area for which density figures had been calculated.

In all, inspection reports on some 4,000 children were available and samples of the children in each of the areas were sufficiently large to yield results of a high degree of significance. (The X^2 test when applied gave a P value of less than 0.01.)

The coefficient of correlation between density of population and percentage of children found infested was $r = .109$ (S.E. 0.28). The Scatter diagram in Fig. 1 is more explicit and shows that no such association exists.

This fact would appear to require explanation. The findings appear reliable and relevant. The assumption that such an association would normally exist is in accordance with what is known of Pediculosis. One has therefore to look for extraneous factors which might have influenced the distribution of infestation in the City and two probable factors immediately suggest themselves, namely :—

1. The rehousing of slum dwellers in open housing estates.

2. The efforts of school nurses to improve conditions in the more congested areas.

It appears from the above findings that the former factor is only partially responsible, whilst it is a fact that nurses tend to concentrate upon overcrowed areas.

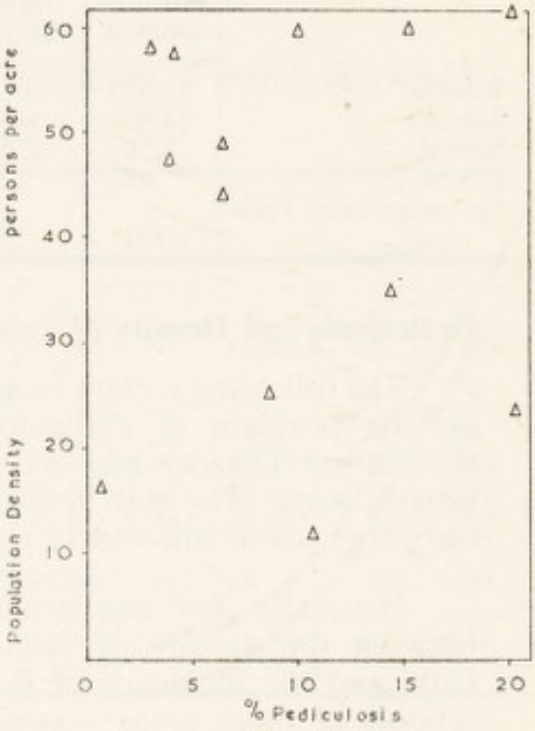

FIG. 1

The findings therefore suggest that the efforts of the social services to raise the standards of hygiene in the worst areas of the City to those of the best, have been materially successful.

*The Density of Residential Areas : Minister of Housing and Local Government 1952.

Pre-School Children

The 30 children attending Delaval Nursery Class and 90 others attending Ashfield Nursery School, are selected on social and economic grounds. During the year 1954, 20 children were admitted and 21 left to enter infant departments of primary schools.

The health record of these children is exceptionally good and, apart from the influenza epidemic period when attendance fell considerably less than in infant departments, the rate of attendance throughout the year was over 90%. The spread of infection does not present the problem it usually does in this type of school. Children generally show a marked improvement in health after admission.

In the Delaval Class a nurse visits once a month. Ashfield Nursery is adjacent to the School Clinic and enjoys daily visits. The children are inspected by a Medical Officer once a term. Their general health was assessed as follows :—

	A (good)	B (fair)	C (poor)
No. of children Inspected ..	26	126	29
%	14.4	69.6	16.0

Heights and Weights were carefully recorded in November. The results are reported in a form in which it is possible to compare them with the findings of the late Sir James Spence twenty years ago.*

	No. of Children	% above average	% within zone of normal	% below average
HEIGHTS				
Nursery 1954	89	15.7	74.2	10.1
Spence 1934 .. .. (Labouring classes)	115	1.7	51.3	47.0
WEIGHTS				
Nursery 1954	109	57.8	27.4	14.8
Spence 1934	115	11.2	33.6	55.2

DEFECTS FOUND.

No. of Inspections performed	181
No. of individual children inspected	99
No. of children found to require treatment	15

The Types of Defect Found

Defect	No. of Defects Requiring Treatment	No. of Defects Requiring Observation
Skin	1	—
Eyes—Squint ..	3	—
Nose and Throat ..	3	4
Speech	2	2
Cervical Glands ..	—	2
Heart and Circulation	3	4
Orthopaedic-Flat Feet	1	—
Other	2	3
Psychological—		
Development ..	—	1
Other	—	1

*An Investigation into the Health and Nutrition of certain of the Children of Newcastle upon Tyne between the ages of one and five years. J. Spence (1934).

Infectious Disease

Weather Conditions

The year has been on the whole cool and dull — the summer months particularly so and rain, whilst not heavy, was frequent. Such weather, although depressing, was not conducive to the spread of Infectious Disease and, contrary to popular belief, has not markedly affected the health of children, although the lack of sunlight might have had some connection with an increase in septic skin conditions noted in the Autumn.

The salient features of the year are shown in Fig. 2. Full statistical data will be found in my Annual Report as Medical Officer of Health.

NOTIFIABLE DISEASE

The incidence of notifiable disease is shown in Table 7.

Table 7

The incidence of Infectious Diseases among School Children.

Disease	Children aged 5—9	Children aged 10—11	Children aged 11—15
Scarlet Fever	52	27	10
Diphtheria	—	—	—
Meningococcus Infection ..	1	—	—
Poliomyelitis	7	—	—
Encephalitis	1	—	—
Enteric Fever	—	—	1
Dysentery	24	7	5
Food Poisoning	2	—	—
Chicken Pox	768	124	49
Measles	304	6	2
Rubella	57	18	6
Whooping Cough	312	19	7
Pneumonia	21	6	5

During the year there were again no cases of Diphtheria. Cases of Poliomyelitis, although somewhat more numerous than in the previous year, were relatively few. In April and May rather more cases of Mumps occurred than usual.

SEPTIC SORES

On the return of children to school after the midsummer holidays, an increase in the amount of Impetigo was noted. The number of children treated in the Clinics were as follows :—

CASES OF IMPETIGO TREATED IN CLINICS

No. of Cases Treated	September	October	November	December
1953	34	244	148	164
1954	79	126	77	68

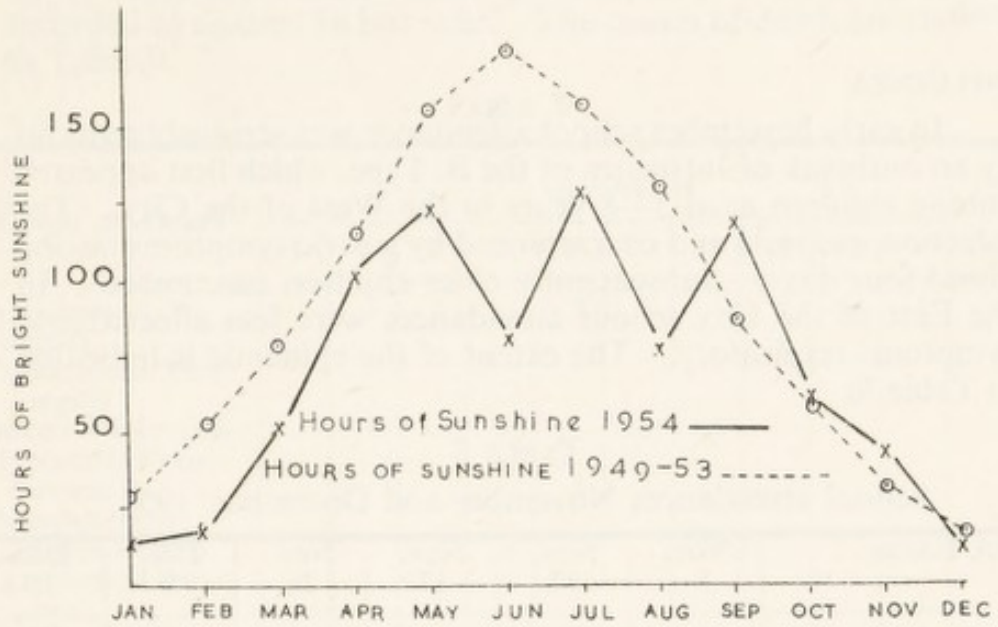

Fig 2a. Monthly Totals of Sunshine in 1954 Contrasted with those of the Previous Five Years.

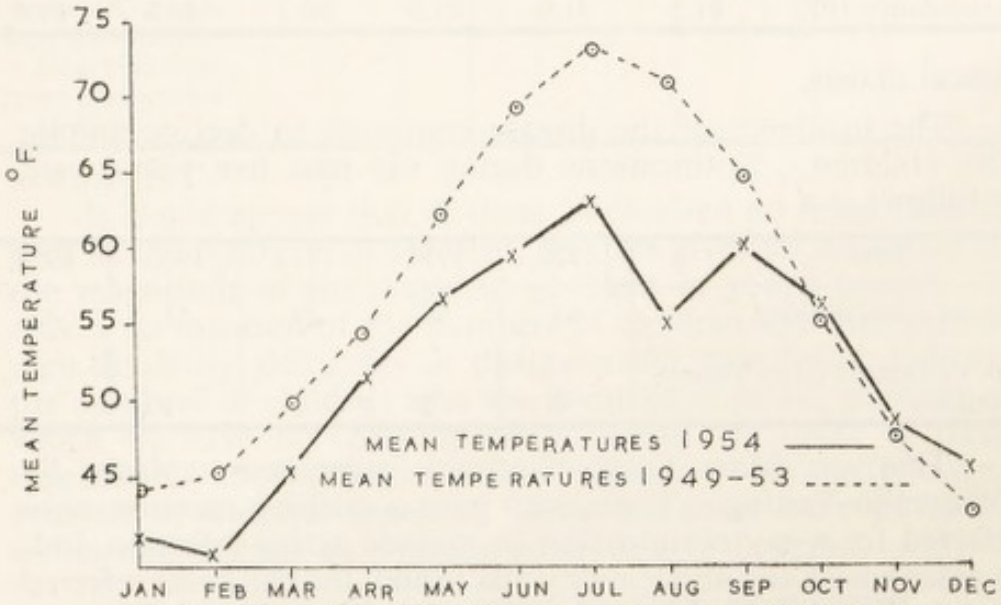

Fig 2b. Mean Monthly Temperatures in 1954 Cotrasted with those of the five Preceding years

FIG. 2

It will be seen from the figures that the outbreak was rapidly brought under control when contagious cases had been dealt with.

INFLUENZA

In early November school attendance was seriously reduced by an outbreak of Influenza of the B. Type, which first appeared among children aged 5—8 years in the West of the City. The infection was mild and characterised by gastric symptoms lasting about four days. Subsequently older children succumbed. In the East of the City school attendances were less affected and symptoms respiratory. The extent of the epidemic is indicated in Table 8.

TABLE 8

School attendances November and December, 1954.

Week Ending ..	Nov. 5	Nov. 12	Nov. 17	Nov. 26	Dec. 3	Dec. 10
% attendance ..	86.6	78.2	78.3	81.2	87.3	89.7
Range of % in different schools	65.0-85.9	53.0-98.0	52.0-98.0	55.0-92.9	61.5-94.4	80.0-94.7
% attendance 1953	91.5	91.0	91.0	90.2	90.5	89.8

TUBERCULOSIS.

The incidence of the disease continues to decline among City children. Notifications during the past five years were as follows :—

Year—	1950	1951	1952	1953	1954
No. of cases notified ..	61	56	49	51	45
No. of Deaths from Tuberculosis	6	2	1	1	1

This year Mass X-ray of school leavers was replaced by Tuberculin Testing. Those who gave a positive reaction were referred for x-ray examination to exclude active infection and, in cases where any abnormality was found, the child was referred to the Chest Clinic for further examination. The numbers of children handled were as follows :—

No. of children Tuberculin Tested 3,034
No. of Positive Reactors referred for X-ray.. .. 1,423

Children referred to Chest Clinic following X-ray

(a) Chest Clinic 5
(b) Cardiovascular Clinic 2
(c) Newcastle General Hospital 2

Deaths of Children

Twenty-four deaths among children of school age were recorded as against 16 last year. The causes of death are shown in Table 9.

TABLE 9

Cause of Death	AGE—YEARS										Total
	5	6	7	8	9	10	11	12	13	14	
Accidents	1	3	1		1	1		1		1	9
Tetanus								1			1
Tuberculous Meningitis ..									1		1
Infective Hepatitis		1									1
Hypostatic Pneumonia					1						1
Bronchiectasis ..											—
Lymphosarcoma ..				1						1	2
Lymphatic Leucaemia			1							1	2
Cerebral Haemorrage										1	1
Subarachnoid Haemorrage ..									1		1
Cerebral Oedema								1			1
Cerebral Diplegia										1	1
Hepatolenticular Degeneration ..										1	1
Other Congenital Defects ..					1					1	2

ACCIDENTS

It would appear that of these 24 children no fewer than 13 died as the result of an accident, but this gives no indication of the magnitude of the Accident problem in young people. It makes no mention of the numbers of children left with permanent disability, deformity or disfigurement, nor does it indicate the numbers of children who are involved in minor mishaps of which we have no comprehensive record. In order to piece together the information available let us start with the following analysis of hospital reports. These are cases believed to be sufficiently serious to warrant admission to hospital.

THE LOCATION OF ACCIDENTS TREATED AT HOSPITAL

Place where Accident occurred	No. of Accidents	% of Total
Home	10	16.6
Street	15	25.0
Park	6	10.0
Out of Doors ..	24	40.0
School	5	8.4

ACCIDENTS IN SCHOOL

The above figures indicate that about 8% of accidents take place in school, where in a year a child spends rather more than one quarter of his waking hours. Here a system exists by which all accidents of consequence which occur on school premises are reported in detail by the Head Teacher. During the year 1,026 accidents were reported. Of these 238 were analysed and the following information extracted :—

School Population at risk 42,000
No. of fatal accidents in the year None
*No. of serious accidents in sample 34 (136 estimated)
No. of slight accidents in sample .. 204 (186 estimated)
*This figure includes all Fractures and Dislocations.

The risk in terms of age and sex was as follows :—

Age in Years	No. of Accidents Boys	Girls	Total	No. of Children at Risk	Estimate rate per 1,000
5	13	4	17	4,244	18.2
6	17	7	24	4,417	24.7
7	13	3	16	5,040	14.4
8	7	9	16	3,715	19.6
9	5	4	9	3,633	11.3
10	12	12	24	4,101	26.7
11	12	10	22	3,566	37.0
12	9	20	29	3,288	40.2
13	11	16	27	3,168	39.2
14	11	17	28	3,423	27.3
15	5	8	13	2,737	21.3

In this sample of 238 accidents occurred as follows :—

Free Play in school yard	65
Gymnasium	40
Organised Games	40
Class Room	23
Woodwork, Laboratory, Domestic Science	14
On Stairs	15
Doorways	13
Cloakroom and Toilet	9
Hall	2
Garden	2
School Baths	1
Road outside	2
TOTAL	238

The main causes of accidents arose out of :—

1. Falls	108 (mainly older girls)
2. Collision	32 (mainly boys)
3. Pushing and Pulling	12 (mainly boys)
4. Miscellaneous	86

The types of injury were as follows :—

Burns—Thermal	3
Chemical	2
Head injury	3
Fractures	28
Dislocations	3
Strains and Sprains	46
Wounds—Incised	5
Lacerated	50
Penetrating	6
Contusions	61
Shock	5
Splinters	1
Dog bite	1
Fingers trapped in door	3
Broken teeth	5
Eye injuries	3
Swallowed marble	1
TOTAL	226

Accidents on the roads reported by the Chief Constable again constitute a reliable index of this kind of accident. These were classified as :—

Fatal	6
Serious	21
Slight	164
TOTAL	191

113 boys and 49 girls were involved. Seventy six of the children were between 5 and 8 years of age, the largest number being in the 6 year age group.

Thirty-seven pedal cyclists were involved of whom 24 were boys aged 10—14 years. They appear to have been fortunate for only one met with a fatal accident.

These accidents occurred on the main roads of the City during the hours when traffic was heaviest. The distribution of accidents is shown in the diagram overleaf.

Of accidents which occurred elsewhere we have no reliable information. Many were treated in the school clinics and by private doctors and many received no treatment at all. Reports

DIAGRAM

Illustrating Hourly and Monthly fluctuations in the frequency with which Road Accidents were reported in 1954.

Time of accident	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
8 a.m.			...		.	.				.	..	.	9
9 a.m.		.											1
10 a.m.					...					..	.	.	7
11 a.m.	.	..	.	....	.		...	.		.		.	15
12 noon	..	..	...	.	.	.....	.		..	.	.....	.	25
1 p.m.	.		...	..	.		...	...	..	.	..	.	19
2 p.m.				.	.	..	.	...		.		.	10
3 p.m.	.	...	..	...	...	.	.		...	...	.	..	23
4 p.m.	.	.	....		.....	....	..	..	..	.	..	.....	29
5 p.m.	....	...	..	..	....	....	...	...	.	...	..	...	34
6 p.m.	.		...	.....	.	..	..			...		.	18
7 p.m.	.	.			...	....	.		.	..			13
8 p.m.	.		.		.		...	.		..			9
9 p.m.	.						.						2
10 p.m.								.					1
Total	14	13	22	18	25	24	21	14	11	21	15	17	215

Each dot represents an accident on the Road involving one or more children aged 3—15 years.
Heavy lines indicate current ' Lighting Up ' Time for the Month.

from two hospitals give another view of the problem namely that seen in hospital, where the diagnosis is most reliable, these were classified as :—

Fatal	1	
Severe	71	(admitted to hospital)
Slight	3	

The types of injury were as follows :—

Head injury	18
Fractures and Dislocations	12
Sprains	7
Wounds—Lacerated	12
Penetrating	1
Contusions and Abrasions	13
Dog bite	2
Shock	6
Other	5
TOTAL	76

SCHOOL LEAVERS

The 3,328 children who left school during the year were on the whole an excellent body of young people. In their final Medical Inspection special consideration was given to such defects as might have a bearing upon their choice of employment and appropriate information passed to the Youth Employment Bureau.

The following recommendations were made :—

A. No. of children suitable for all types of employment	2,905
No. of children requiring special care in placing	423
B. *Types of defect indicating special care in placing*	
1. Unfit for heavy manual work (Mainly poor physique)	22
2. Defective Vision	148
3. Defective Colour Vision	147
4. Epileptic	4
5. Respiratory Disease	53
6. Orthopaedic Defects	17
7. Deafness	26
8. Skin Disease	6

It will be noted that in this minority of children by far the most common type of defect is defective vision, and in industry the need for good vision is one of increasing importance. These cases of defective vision are largely hereditary, for which in the present state of our knowledge prevention and remedial measures are not available.

CONCLUDING REMARKS

by Dr. Buckley

Although the year under review will long be remembered as one wet above the average and cold and cheerless beyond compare, the general health of the school child does not appear to have been adversely affected. In Spring, Mumps were rather more prevalent than usual, and on return from Summer holidays Septic Skin conditions were troublesome for some time. Finally commencing in November, there was a sharp epidemic of Influenza which, for some weeks, affected school attendance. No cases of Diphtheria were notified and Poliomyelitis did not assume any marked departure from the course taken in 1953.

Nutrition was still maintained despite the economic problems which no doubt beset many households, in the period of adjustment of prices following the unlamented abolition of rationing. The standard of clothing in general suffered no deterioration, although footwear is often of the wrong type owing to popular fancy rather than economic stricture.

Advances were made in the onslaught on Tuberculosis. More than three thousand children in the third age group were Tuberculin Tested during the year, and those giving positive reactions were subsequently x-rayed. The B.C.G. Vaccination of non-reactors remains to be completed.

The incidence of Pediculosis is disappointing and the prevalence of the condition calls for a campaign of eternal vigilance. The progressively increasing incidence in volume in the age groups, particularly amongst girls, suggests that adolescent girls are not sufficiently self-conscious in this aspect of hygiene and could do more to help themselves. Persistent education of pupils and parents, and a firmer attitude to chronic offenders, appears to offer the best solution to a long term problem.

TABLE 10

Facilities provided in School Clinics

Clinic	Consultations	Refractions	Dressings	Dental Treatment	Orthopaedic Treatment	Speech Therapy	Plantar Warts	Ringworm
Central ..	+	+	+	+ +	+	+	+	+
Ashfield ..	+	+	+			+		
Atkinson Rd.	+	+	+	+	+			
Bentinck ..	+	+	+	+	+			
Cowgate ..	+		+	+				
East End ..	+	+	+	+	+			
Middle St. ..	+	+	+	+		+		
Sunray Cl. (Brinkburn Street) ..					+			

TREATMENT OF CHILDREN IN SCHOOL CLINICS

SCHOOL CLINICS

During the year the following Clinics have been redecorated throughout—Central, Bentinck and Middle Street, and also certain rooms in the East End Clinic. Furnishings and equipment have been well maintained. Dry rot was discovered at Atkinson Road Clinic and repairs put in hand. Owing to lack of suitable accommodation in this Clinic, consultations had to be curtailed towards the end of the year. Action has been taken to meet this difficulty.

The work and staffing of the various Clinics is summarised in Tables 10 and 11.

TABLE 11

Staffing of Clinics

Clinic	No. of children attending	No. of Medical Officers	No. of School Nurses	Nursing Helpers	Clerical Assts.
Central ..	6,006	1	3	2	Office Staff
Ashfield ..	3,403	½	2	1	½
Atkinson Rd.	9,516	1	4	1	1
Bentinck ..	5,572	1	3	1	1
Cowgate ..	4,954	½	2	1	½
East End ..	7,433	1	3	1	1
Middle St.	7,054	1	3	1	1

CLINICS ON SCHOOL PREMISES

These are rooms provided on school premises where dressings may be done. In addition head inspections, dental inspections and follow-up inspections may also be accommodated. They were introduced some years ago to meet the difficulty of getting parents to accompany children to the School Clinics, and at present there are eleven of them.

Details of these clinics are given below :—

TABLE 12
Clinics on School Premises

School ..	Parent Clinic	Av. Sessional attendance	No. of Sessions per week	Accommo-dation
Walkergate	Middle St. ..	39	1	Classroom
Christ Church C.E. ..	Central ..	9	2	Staffroom
St. Dominic's R.C.	Central ..	10	2	School Porch
Ouseburn	Central ..	20	1	Parochial Room
Cambridge St. ..	Ashfield ..	28	2	Staffroom
Whickham View ..	Atkinson Rd.	23	2	Medical Room
Elswick Road.. ..	Atkinson Rd.	24	2	Staffroom
Vic. Jubilee	East End ..	22	2	Staffroom
Cruddas Park.. ..	Atkinson Rd.	32	2	School Hall
Condercum E.S.N. ..	Bentinck ..	15	2	Medical Room
Bolam St. Special ..	East End ..	24	2	Bathroom

PEDICULOSIS

During the year the concentration method of dealing with this problem was experimented with. Inspections and cleansing of children were concentrated at the beginning of term so that the children may be rapidly cleaned up and subsequent spread of infestation in school avoided. The observed effect of this change has been to render more conspicuous those cases where a home background of infestation exists. The work done was as follows :—

Total number of examinations in Schools	109,537
No. of Individual Pupils infested	4,156
No. of pupils in respect of whom cleansing notices were issued (Sec. 54(2) Ed. Act 44)	223
No. of pupils in respect of whom orders were issued (Sec. 54(3) Ed. Act 44)	111

It has been impressed upon nurses that all cases no matter how slight the infestation shall be recorded as infested. Thus encouraged nurses have conducted a rigorous campaign which whilst it has increased the numbers of children reported, has, I believe, considerably reduced the incidence of infestation in the schools, and may well lighten this work in future.

Prosecution cannot be relied upon to yield reliable results. The 111 cases in which orders under Section 54(3) of the Act were therefore dealt with by (i) referring to the Co-ordinating Committee, (ii) reporting to the N.S.P.C.C., (iii) Probation Department, (iv) Almoner of General Hospital, (v) Children's Officer, (vi) Health Department for Adult Cleansing, (vii) reporting to L.E.A. as educationally subnormal.

All these children were clean (perhaps temporarily so) at the end of the year.

MINOR AILMENTS

Treatment given by nurses were as follows :—

TABLE 13—Treatment given in Clinics

Condition	No. of treatments given	No. of children treated
Ringworm—Scalp	780	117
Body	730	132
Scabies	99	29
Impetigo	4,203	835
Other skin conditions	45,733	15,559
Eye diseases (External and other but excluding errors of refraction and cases referred to hospital)	3,422	1,529
Ear, Nose and Throat	2,380	1,032
Minor Injuries	9,048	4,692

SCABIES

Twenty cases of Scabies were treated during the year as against four last year and 18 the year before. A small outbreak in the area served by Ashfield Clinic in May accounted for the majority of the cases. Ninety-nine bath treatments were given :—

CONSULTATIONS

Medical Officers continue to play a useful part in the advice which they offer to parents in connection with minor departures from health of children.

The following consultations took place in the Clinics :—

Central	598
Ashfield House	540
Atkinson Road	2,049
Bentinck	778
Cowgate	534
East End	800
Middle Street	1,044
TOTAL	6,352

PLANTAR WARTS are treated at the Central Clinic. The number of children who attended for treatment was as follows:—

No. of cases of Plantar Warts—Boys	.. ..	41
Girls	.. ..	102
No. of other skin conditions	.. .. ..	21
No. of children referred to hospital	.. ..	3

Over the past four years there has accumulated strong evidence to show that this condition is more prevalent among girls between the ages of 10 and 14.

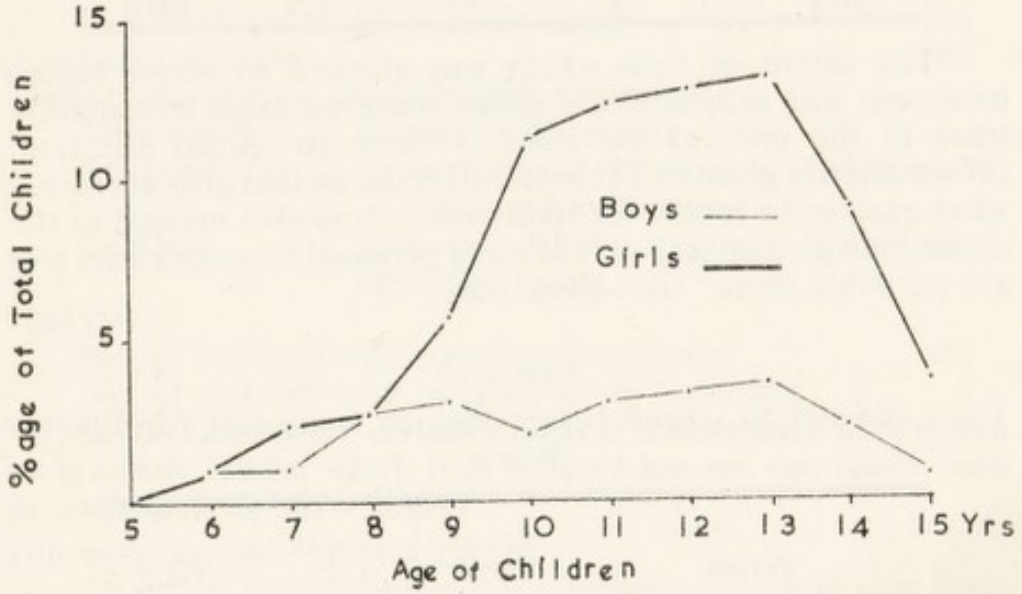

FIG 3. The Age and Sex Distribution of Children Treated for Plantar Warts

TABLE 14

The Age and Sex Incidence of Plantar Warts—1950-4

Age in years	5	6	7	8	9	10	11	12	13	14	15	Total
Boys.. ..	3	8	8	16	18	12	17	21	22	13	5	143
Girls ..	3	5	13	15	33	68	73	76	78	53	22	439
TOTAL ..	6	12	21	31	51	80	90	97	100	66	27	583

The reason for this incidence is not at present fully understood and the matter is under investigation.

The site of the lesion is as recorded in Table 15 but demonstrates no appreciable difference between boys and girls.

TABLE 15

Sites of Plantar Warts

Site	No. of boys	No. of girls	Total	%
Big toe ..	7	17	24	19.2
Other toes	2	9	11	8.8
Heel.. ..	11	19	30	24.0
Sole ..	18	42	60	48.0
TOTAL ..	38	87	125	100.0

The length of time which was allowed to elapse before treatment was sought yields rather more valuable information since in the interval the child is liable to spread infection. Information is given in Table 16 which shows that girls are somewhat quicker to report for treatment. It is also noticed in the clinic these girls appear to take more personal care than boys and are probably more ' foot-conscious.'

TABLE 16

Time allowed to elapse before seeking treatment for Plantar Warts

Period	No. of Boys	No. of Girls	Total
1 month or less ..	2	8	10
2 months or less ..	2	5	7
3 months or less ..	2	12	14
4 months or less ..	2	2	4
5 months or less ..	1	1	2
6 months or less ..	1	3	4
6—12 months ..	1	2	3

The majority of these children do physical training and exercise in bare feet and also attend swimming baths. All these circumstances are known to favour the spread of verruca when an infectious case is at large but it cannot be established from the information available that a significantly larger proportion of the patients attending the clinic partook of these activities than the school population as a whole.

RINGWORM

The Ringworm Clinic has continued as in previous years. The work done was as follows :—

No. of cases carried forward from 1953 ..	33
No. of cases of confirmed Ringworm	38
No. of other infections	46
No. of contacts examined	102
TOTAL	219

Investigations included :—

Clinical examinations	864
Examinations under Wood's Lamp	265
Cultures taken	562

These cultures grew the following organisms :—

Microspora	Gypseum, Lanosum
Trichophyta	Craterforme, Asteroidse, Sulphureum, T. Pedis and Versicolor.
Candida	Albicans, Rhidotorula and other unidentified yeasts.

TREATMENT

No. of children who completed treatment ..	100
No. of children who received X-ray Epilation ..	4

In the Laboratory certain strains of Trichophyta were grown on synthetic media, which it is believed has not previously been accomplished in this country.

THE PRESCRIPTION OF SPECTACLES

There has been a tendency for refraction work to pass from the hands of School Medical Officers to Consultants. This is an advantage in that the work has an authoritive basis, but School Medical Officers who are not conversant with the practice of refraction are at some disadvantage in following up children who have been examined. The increase in the volume of work done by Ophthalmic Surgeons during the past five years is shown in Table 19.

TABLE 19

Refractions performed 1950—1954

By School Medical Officers :		Year	By Consultants :	
No. of Refractions	No. of Medical Officers employed		No. of Consultants	No. of Refractions
2,620	5	1950	1	285
2,720	5	1951	2	372
1,741	4	1952	3	715
1,731	4	1953	3	1,053
1,908	4	1954	3	1,033

The number of children awaiting examination at the end of the year was :—

New Cases	61
Re-examinations	455

B. *Prescription of Spectacles*

No. of children for whom glasses were prescribed	1,435
No. of children who obtained spectacles .. (This figure includes children for whom spectacles were prescribed but not obtained till January 1st, 1954)	1,489
No. of children for whom repair and replacement of spectacles was necessary	1,156

The sum of £115 9s. 11d. was charged to the Education Committee for replacement and repair of spectacles by the Ophthalmic Services Committee.

PHYSIOTHERAPY

Since February, 1954, we have had the services of a second Consultant Orthopaedic Surgeon, who was appointed to replace the Orthopaedic Registrar. The two Consultants attend three sessions per week to examine new patients and review periodically patients who attend for treatment and those under supervision.

Children who require surgical treatment are admitted to the Sanderson Orthopaedic Hospital, and on discharge continue to attend one of the Orthopaedic Clinics for after care.

The follow up and providing of surgical appliances and boots for children discharged from Sanatorium and other hospitals, is still satisfactorily maintained.

B. HAGUE,
Superintendent Physiotherapist.

Statistics for the Year 1954

	School Medical Service	Maternity and Child Welfare Service
1. ATTENDANCES		
New Patients .. Boys 239 / Girls 301	540	95 / 87 — 182
Old Patients	1,088	215
Transfer from Maternity and Child Welfare List ..	90	—
Total number of Children who attended for examination..	1,718	397
Total number of attendances at Surgeon's Clinics ..	2,061	576
Children on whom the Surgeon's opinion was requested but who failed to attend	44	8
2. DISCHARGES		
Not requiring further treatment	450	44
No orthopaedic abnormality found	2	—
Left School	53	—
Transferred to School Medical Service	—	90
Left the City	23	10
Referred to other clinics and hospitals	77	20
Referred to Percy Hedley School for Spastics ..	1	—
Failed to continue attendance	162	35
Attending non-maintained schools	6	—
Died	—	3
Total Number of Discharges	704	187

	School Medical Service	Maternity and Child Welfare Service
3. PHYSIOTHERAPY		
Total number of attendances at physiotherapy clinics ..	12,435	3,989
Special therapies given for orthopaedic conditions :—		
Swedish Remedial Exercises	7,834	1,672
Massage	80	595
Manipulations	1,339	1,802
Medical Electricity ..	5,116	1,027
Radiant Heat	183	420
Ultra Violet Light ..	63	11
Manipulations in Patient's Homes (Congenital foot Deformities)	—	34
Special therapy was also given to children with the following non-orthopaedic conditions :—		
CHEST CONDITIONS		
Asthma .. Bronchitis .. Bronchiectasis — Patients	351	—
Asthma .. Bronchitis .. Bronchiectasis — Treatments	1,996	—
NON-ORTHOPAEDIC		
Ultra Violet Light		
Acne .. Alopaecia .. Debility .. Psoriasis .. — Patients	28	—
Acne .. Alopaecia .. Debility .. Psoriasis .. — Treatments	177	—
4. OTHER INFORMATION		
Number of children requiring X-ray examination ..	107	21
Number of children photographed	4	3
Number of children supplied with plaster splints ..	3	5
Surgical appliances supplied or altered		
New splints	182	106
Splint repairs	71	21
Surgical boots	36	11
Boot alterations	688	461

Diagnosis of Cases which have come under the care of the Orthopaedic Department in 1954

(PERCENTAGES)

	School Medical Service	Maternity and Child Welfare Service	Total
General foot conditions including flat foot and foot strain	50.0	34.5	47.0
Hallux Valgus	2.0	0.0	1.6
Hallux Rigidus	0.8	0.0	0.7
Knock knee and Bowleg ..	13.2	28.2	16.5
Postural conditions including Scoliosis	8.3	0.8	6.9
Peculiarity of gait (not yet diagnosed)	1.3	5.0	2.0
Injuries and sprains	5.8	0.8	4.9
Congenital Anomalies :—			
Spine and Upper Limbs ..	1.5	1.2	1.4
Lower Limbs—feet	2.9	17.9	5.8
Lower Limbs—other ..	0.7	0.8	0.7
Dislocated Hip	0.5	0.3	0.5
Cerebral Spastic conditions including Ataxia	2.6	1.2	2.4
Anterior Poliomyelitis (effects of)	2.7	1.2	2.6
Tuberculosis of Bone and Joints	2.2	0.8	1.1
Infective Arthritis : Synovitis of Knee	0.5	0.0	0.4
Perthe's Disease of Hip ..	0.5	0.0	0.4
No Orthopaedic Abnormality	3.0	6.5	3.7
Others	1.5	0.8	1.4
	100.0	100.0	100.0

The category " others " includes cases of Infantile Coxa Vara, Osteochondritis of Vertebrae, Renal Rickets, Slipped proximal Femoral Epiphysis, Fatigue fracture of Tibia, Erb's Palsy, Torticollis, Osteogenesis Imperfecta, Hemi-hypertrophy, Pseudo-hypertrophic Muscular Atrophy, Muscular Dystrophy, Achondroplasia, Tarso-epiphyseal Aclasia, Still's Disease, Haemangiomatosis, and Amyotonia congenita.

THE HOSPITAL TREATMENT OF SCHOOL CHILDREN

In accordance with Section 48 of the Education Act, 1944, the Local Authority has a duty to provide medical treatment to all children attending maintained schools. The School Health Service was not however designed to provide in itself a comprehensive Child Medical Service and when the National Health Service was introduced Local Authorities were permitted to delegate much of their duty under this section to the new service. Prior to the National Health Service Act, 1946 arrangements existed whereby children were referred by the School Health Service to hospitals, voluntary and municipal, for in-patient treatment. The change which occurred was more than an extension of this, it resulted in an intergration of the services whereby certain services as for example Ear and Throat work were handed over entirely to the Hospital Services, who have provided four consultants to work in school clinics. At the same time, also, recognising the value of the School Health Department as a follow-up agency, the hospitals make a practice of sending copies of all reports made on children in their care to this department.

The brief notes which follow concern hospitals which deal with specific types of defect. In addition a large amount of work is reported upon in connection with the general medical and surgical treatment of children which is too voluminous and wide in scope to summarise.

1. The Ear, Nose and Throat Hospital

The following operations were performed :—

Tonsils and Adenoids	719
Tonsils	31
Adenoids	35
Antrostomy	16
Antrum Wash Outs	22
Proof Puncture	1
Tonsil Dissection	4
Removal of Polypus	1
Mastoidectomy	3

Hearing Aids are supplied by the National Health Service on the recommendation of the Ear, Nose and Throat Surgeon. Only one type of aid is available namely a simple amplifier of all frequencies. During the year an improved pattern of the ' mono pack ' type has been made available for all children but some preferred to retain the aid to which they had grown accustomed and were permitted to do so.

The School Health Service has co-operated with the hospitals in following up children to whom aids were issued. The information to hand is as follows :—

No. of children issued with an aid during the year ..	8
No. of children reported as having an aid ..	53
No. of children traced in maintained schools ..	37

These latter children were reported upon by School Medical Officers as follows :—

No. of children wearing the aid and deriving benefit	15
No. of children not wearing the aid regularly in school	14
No. of children not deriving benefit	1
No. of children who no longer required a hearing aid	4
No. of cases in which the aid was broken and had not been repaired	5

The hearing aid is a delicate instrument which requires intelligent use, perserverance and careful maintainance and is, therefore, of limited value to certain children. In this respect the Educational Services, conscious of the importance of good hearing in education, can accomplish much in reducing the handicap of defective hearing.

2. The Eye Hospital

The hospital makes a free allocation of one of its staff on two sessions per week for the examination of children in the School Clinics.

158 children were referred by our Consultants to hospital. These were mainly cases of squint and were treated as follows :—

By operation	79	Glasses only	21
By orthoptics	43	Observation ..	12
By occlusion	19	Unspecified	57

Other conditions reported upon were :—

Retinal Changes ..	7	Diseases of the lids ..	3
Cataract and injury to Lens	2	Eye Injuries	5
Keratitis	2	Epiphora	2
Conjunctivitis	2	Enucleation and Evisceration	2

3. The Cardiovascular Clinic

The usual excellent service has been given to our children by this department of the Newcastle General Hospital. The following types of cases were under treatment and observation during the year :—

New Cases	22
Old Cases	11

The conditions for which children were seen were as follows :—

Congenital Heart Disease	7
Rheumatic Carditis	4
Pathology Doubtful	2
No Cardiac Disease	20

4. The St. Thomas Clinic and Department of Psychological Medicine.

i. Delinquency : Where the Juvenile Court requires a psychiatrist's report upon a child, arrangements for this purpose are made by the School Health Service.

The number of children so referred were 12

The charges against the children were—Larceny .. 4

Breaking and Entering 8

In two cases children were recommended for ascertainment as Educationally Subnormal pupils.

ii. Maladjusted children : All children referred by this department receive a preliminary investigation which includes 1. A complete physical examination. 2. Intelligence test. 3. Report from the Head Teacher. 4. A home visit and report on the home conditions.

Cases dealt with were as follows :—

Old Cases	5
New Cases	14
Cases closed	8

Source and Reason for report were as follows :—

Source		Reasons	
School Medical Officers ..	8	Behaviour difficulties ..	9
Head Teachers	4	Enuresis	4
General Practitioner ..	2	Emotional Instability	3
Parent	2	Educationally Retarded	2
Children's Officer	1	Speech Defect	1

Final diagnosis was as follows :—

Maladjustment	4
Anxiety neurosis	8
Psychological Personality ..	1
Dull and Backward	4
Educationally Subnormal ..	2
Functional Enuresis	1
Epilepsy	1

Recommendation was made as follows :—

Admission to school for Maladjusted Pupils	5
Admission to school for E.S.N. Pupils ..	3
Admission to Open Air School	1
Report to Local Health Authority ..	1
Treatment by General Practitioner	1
Treatment at clinic	6

5. The Sanderson Orthopaedic Hospital and Stannington Sanatorium

Some 70 children were referred from the Physiotherapy Department for in-patient treatment at the Sanderson Orthopaedic Hospital. When discharged the department receives a report from the Hospital and continues such after treatment as may be required.

The Stannington Sanatorium deals with tubercular cases and has an out-patient department of its own. Close liaison is maintained between the two departments and whilst we do not give treatment we do maintain supervisory care to children by looking to the maintainance of surgical footwear and appliances.

6. The Chest Clinics and Children's Department of the General Hospital

These clinics deal with pulmonary tuberculosis and the following children are under their care :—

No. of new cases	(a) Respiratory	14
	(b) Non-Respiratory ..	7
No. of old cases		42
No. of contacts under observation		39

7. The Special Clinic, Newcastle General Hospital

Nineteen children (6 boys and 13 girls) attending maintained Newcastle schools are under treatment. The conditions treated were mainly Interstitial Keratitis and Osteitis.

The majority of the children were born during the war years. The ante-natal Wasserman Scheme introduced in 1946 has been largely responsible for a reduced number of children requiring treatment in recent years. The age grouping was as follows :—

TABLE 17

Children under Treatment or Surveillance at the Special Clinic—General Hospital

Year of Birth	Live Births	No. of Children
1939	4,646	1
1940	4,519	3
1941	4,176	2
1942	4,289	2
1943	4,548	3
1944	5,359	1
1945	4,836	2
1946	6,079	2
1947	6,449	0
1948	5,705	2
1949	5,377	1

REPORT ON THE SCHOOL DENTAL SERVICE FOR THE YEAR 1954

by Dr. J. C. Brown, Principal School Dental Officer

Staff

During the post war years the difficulty of finding and retaining professional staff has been one of the major problems of the School Dental Service. The greater remuneration obtainable in private practice since the introduction of the National Health Service in 1948 attracted many officers from the School Service and although we were fairly fortunate in Newcastle in retaining most of our staff through the difficult years, there were times when we were not without anxiety.

There was some improvement in the situation, however, in 1951-1952 when " patients payments " were introduced to the General Dental Services. The consequent lessening of the demand for treatment resulted in a marked drop in the earnings of private practitioners, and consequently school dental officers were less tempted to withdraw from the service. Recruitment nevertheless, was still a problem and it was rarely possible to procure the services of experienced and competent practitioners.

This last year, however, has seen a much brighter side to the picture, with the publication of the Industrial Court Award for Public Dental Officers, and it can now be anticipated that the School Service will cease to be the " Cinderella of the profession " as it has been termed, and will once again provide a career attractive enough to induce recruits to join its ranks.

I have to record the retirement of Mr. Arthur Brown from the Service. Mr. Brown was the first dental officer to be appointed by the Committee, taking up his duties in 1918, under the late Dr. George Foggin at the old Central Clinic in Northumberland Road. His chairside assistant was Nurse Shyvers and it is interesting to see from the Medical Officer's report of that year that Nurse Shyvers personally visited the parents of the children found to be in need of dental attention and was successful in obtaining their consent to treatment in " nearly every case."

Miss Riddell's resignation was also received towards the end of the year. Miss Riddell acted as secretary and Chief Dental Attendant during her nine years of service and our best wishes go to her in the new occupation she has chosen and to Mr. Brown in his retirement.

In July, Mr. Patterson was appointed as a full-time technician to the service and his appointment has enabled us to undertake the treatment of many more children in need of prosthetic appliances and regulation treatment.

We were unable to fill the vacancy for an assistant dental officer with special experience in orthodontic work, as this branch of dentistry has now become a speciality, and, at the salary offered there were no applicants forthcoming to advertisements.

The demand for regulation treatment is steadily increasing and merits the appointment of a full-time officer capable of undertaking the treatment of the majority of cases we see, while the remainder as at present would be referred to the Dental Hospital for specialist attention.

Dental Inspections

Most of the children coming under the Authority's care were examined during the year, but inspection of several schools in the East End of the City has had to be held over on account of the fluorine investigations (now completed) being undertaken by Mr. Crombie.

It will be seen that some 35,000 children were inspected in the schools during the year and 5,000 seen as emergency cases in the clinics. Of this 35,000 children 20,000 were found to be in need of attention, of whom 12,000 accepted an offer of treatment, leaving 8,000 children who did not. This eight thousand includes those children who receive treatment privately as well as the children who refuse treatment, the latter, unfortunately being in the majority.

This number, and also the large number attending for emergency treatment gives cause for concern. The principal reasons for failure to take advantage of the service are two, firstly, the fear of being hurt and secondly, a " couldn't care less " attitude to the care of the teeth and mouth. The fear of being hurt at the dentist's is an attitude with which we are all familiar, and every effort is made at the clinics to reassure our young patients and to make all our attentions as painless as possible, but it will probably be a long time before this fear and dislike of a visit to the dentist's can be entirely removed. In the meantime much can be done by the adoption of a friendly and sympathetic attitude on the part of the dentist and receptionist towards the nervous child and time spent in reassuring the young patient and explaining all that is being done is rarely time wasted in the long run.

The other factor, the couldn't care less attitude and apathy to dental treatment is a different matter and can be tackled right away. Dental education must be brought to the children in the schools, to the teaching staffs and to the parents by way of the Teacher-Parent Associations, Welfare Centres, etc. At the moment, not much time can be given to this side of the service by the School Dental Officers owing to pressure of chairside work, but in dentistry prevention is better than cure

and dental education and propaganda are one of the most important functions of the school service and should never be neglected.

At present the Dental Officers are encouraged to talk to the children on dental hygiene at the routine examinations, and every effort is made to win their confidence both in the schools and in the clinics. This limited approach, however, can never attain the results that an organised effort in this direction would achieve.

It is accordingly under consideration that a system of dental education and instruction in oral hygiene be introduced into the schools as a regular feature, and full use made of dental propaganda features such as instructional films, illustrated talks, etc. The appointment of a trained oral hygienist is visualised, who would undertake this work and whose duties would, in addition to the carrying out of minor operative work, embrace giving talks to the children and teachers in the schools, and also to the parents and nursing staffs in the Welfare Centres, Nursery Schools, etc.

Treatment

While the importance of the preventive side of the School Dental Officers' work must never be forgotten, by far the greater part of his time must of course be spent by the chairside, and over the year nearly 3,000 chairside sessions were held in the school clinics. The majority of these sessions were devoted to conservative work and extractions and it is interesting to note that the ratio of permanent teeth saved to teeth extracted is nearly three to one. This figure is even better when it is realised that the number of teeth extracted includes those removed for regulation purposes.

Once again the majority of the conservative work undertaken was carried out on the second dentition although over the year some five or six hundred temporary teeth were filled. These were undertaken in suitable cases where the circumstances were such as to merit time being spent on the conservation of deciduous teeth and where the parents were co-operative and anxious for the children to have healthy mouths from an early age.

The majority of the extractions were carried out under gas and oxygen anaesthesia, a general anaesthetic session being held once a week in each clinic. It may be mentioned here, that the facilities for recovery for gas patients are still far from satisfactory in most of the clinics and an adequate recovery room with at least a couple of rinsing cubicles and recovery couches should be included in every dental clinic.

The number of children fitted with artificial dentures and orthodontic appliances was considerably more than last year but there is still a waiting list for this type of treatment, particularly for regulation work and the early appointment of a

full-time Dental Officer to undertake this work, as suggested earlier in this report, is urged, particularly now that plans for the construction of the new laboratory at the Central Clinic are complete and the bottle neck of lack of technical staff no longer in existence.

Mr. Crombie's work on the topical application of fluorine to the teeth has now been completed and a report from him on his findings is included in this synopsis of the work of the service His conclusions, in common with those reached by other workers, seem to suggest that fluorine, applied topically to the teeth, is of doubtful or even little value, in the prevention of dental decay, and such is now generally assumed to be the case. It is interesting to note, however, that encouraging results have been achieved by observers working on the fluoridation of water supplies, as a preventative measure against dental decay and a Mission visiting Canada and the United States under the auspices of the Ministry of Health in 1952, report that they " consider the evidence conclusive that fluoridation of water supplies reduces caries in children to a level comparable to that found in areas where fluoride occurs naturally in the water—60% less caries at 12-14 years and about six times as many children free from caries of the permanent teeth."

The Mission was satisfied that with a fluorine concentration of up to one part per million there was no risk of disfigurement of the teeth from mottling and pigmentation, and no evidence of any danger to health.

Their report concludes that fluoridation of water is preferable to all other methods of administering fluorides to a community, both in effectiveness and in the avoidance of possible risks associated with some alternatives.

Arrangements were maintained during the year for any child requiring urgent or emergency treatment to be dealt with immediately and during the school holidays a continuous service was operated at the Central Clinic, staffed by the Dental Officers in rotation.

Some three hundred cases were X-rayed during the year at the Central Clinic and arrangements functioned smoothly with the Ambulance Service, the General Hospital and the Sutherland Dental Hospital.

An outline of the work of the service with details of the treatment carried out is given below and I should like to record my appreciation of the efforts of the staff for their co-operation and assistance during the year.

Yearly Report—Dental—All Clinics

1. Number of pupils inspected	(*a*) Periodic age groups		35,028
	(*b*) Specials	.. ..	5,356
2. Number found to require treatment		.. ..	20,191
3. Number referred for treatment		.. .. ..	11,782
4. Number actually treated	.. ..		10,275
5. Attendances made for treatment		.. .. ..	21,757
6. Half days devoted to	(*a*) Inspection	.. ..	234
	(*b*) Treatment	.. ..	2,711
7. Fillings	(*a*) Permanent teeth	..	11,011
	(*b*) Temporary ,,	..	528
8. Number of teeth filled	(*a*) Permanent teeth	..	10,263
	(*b*) Temporary ,,	..	528
9. Extractions	(*a*) Permanent teeth	..	4,027
	(*b*) Temporary teeth		12,123
10. Administrations of general anaesthetic		.. ..	6,085
11. Other operations ..	(*a*) Permanent	.. ..	2,150
	(*b*) Temporary	..	509
12. Number of children fitted with artificial dentures			111
13. Number of children fitted with orthodontic appliances	.. ..		119
14. Number of children fitted with crowns		.. ..	16
15. Number of inlays	.. ..		—

Notes on an Investigation into the Efficacy of Topical Fluorine Treatment of Children's Teeth

by Mr. David Crombie, L.D.S. of the School Dental Services Staff

In 1950 an investigation into the efficacy of topical fluorine treatment of children's teeth was sponsored by the medical department of the Ministry of Education. Topical fluorine treatment of teeth had been practised abroad for some time, particularly in America, and claims indicating as much as 30% to 40% decrease in caries after such treatment, were being made.

'Topical' fluorine treatment, which must not be confused with 'Fluoridation' of water supplies, consists of painting the enamel of the teeth with a weak solution of Sodium Fluoride or some other suitable salt of Fluorine, after suitable preparation of the mouth has been made.

At first sight, it would seem improbable that any marked effect would result from exposing the enamel, which is the most impermeable structure in the body, to the temporary action of a weak concentration of a soluble salt. However, it is a known fact that Sodium Fluoride has a strong affinity for the Phosphates and Carbonate of Calcium of which tooth enamel is largely composed. It forms a somewhat complex compound which has a considerable resistance to the destructive acids occurring in the mouth.

The resistant film formed is necessarily very thin and it is here that Fluoridation of Water Supplies has the advantage. The minute quantity of fluoride (about 1 or 2 parts per million) absorbed, with the drinking water, and from there into the blood stream, is ' built in ' as it were, to the enamel of the tooth as it grows, and so the entire thickness of the enamel has the protective fluorine content. It is therefore unlikely that topical application of fluoride will be found to be equally as effective in preventing dental decay as in the case of fluorine absorbed into the system from the drinking water.

However, if topical fluorine can be shown to be even partially effective as a substitute for fluorine absorbed from drinking water, it might well be worth the time spent in its application.

The test as conceived by the Ministry of Education is impressive both as regards the number of children involved and in the stringency of the conditions laid down for its carrying out. Some thousands of children spread over England were treated. These were selected at random from volunteers and a system of charting caries was carried out which involved the accurate mapping out of decayed areas and the evaluation of the degree of decay. This latter was indicated by the numbers 1 to 4 which ranged from slight decalcification of the enamel to complete involvement of the tooth substance.

In order to assess the value of the treatment, the teeth on one side of the mouth only, were treated. The other side of the mouth was used as a control. The standard Knutson technique, or a variation of it, was used, preceded by a preliminary charting of the condition of the teeth at the commencement of the test.

The Knutson technique consists of a preliminary cleansing and drying of all tooth surfaces, followed by painting a 2% solution of Sodium Flouride over the teeth for a period of 4 minutes. This is repeated on three further occasions with a few days intervening between treatments. Variations consisted of increasing the strength of the solution to 4%, or condensing the treatment into two eight minute periods or one sixteen minute period.

In Newcastle the standard technique was used throughout the test. In different areas of the Country different age groups were treated. In Newcastle treatment was restricted to the 7 to 8 age group, and the number to be given the treatment in Education Committee Clinics was fixed at 300.

Certain schools which were representative of all income grades were selected for the test and parents of children in the 7 to 8 age group were circularized, and invited to co-operate.

Three hundred and forty two names were received, somewhat more than were required, but this number was accepted since it was necessary to allow for the inevitable wastage which would occur. Indeed, only 298 children completed the course of treatment which required four attendances at the East End

Clinic—where the treatment was carried out. (Another list of names was compiled for treatment at the Newcastle Dental Hospital, but these cases are not the subject of this report).

Once a year for three consecutive years these cases were re-examined and re-charted, using the same system as in the preliminary charting, but no further fluorine treatment was given. Re-examination was done on the school premises as this proved the most certain way of reaching the children, but inevitably wastage occurred through children leaving the district, and from other causes. That only 18 were lost because of the above reasons, must be considered as satisfactory. Every effort was made to follow up these cases even though this involved long car journeys to distant schools ; some of these being schools of other Authorities. Revisiting schools to catch the absentees of previous visits proved to be a laborious task.

The completed charts were forwarded to the Ministry of Education to be assessed by a medical statistician. In due course a report may be expected, which should give a very comprehensive picture of the value of topical fluorine as a means of combatting caries. Involving as it does, such a large number of children from all over England, the elements of chance should be reduced to negligible proportions, and since the local investigators had all been briefed in the methods of treatment and charting at a special course held in the Eastman Clinic in London, a large degree of uniformity of method may be assumed.

With regard to the cases treated at the East End Clinic, it was considered that it would be interesting if a private assessment was made during the investigation. Consequently, duplicate charts were made at the preliminary charting and these were kept up to date at each annual re-examination. After each case had been examined a rapid assessment was made with the picture of the patient's mouth still fresh in the memory. New caries occurring on the untreated side of the mouth was given a ' plus ' sign and if on the treated side—a ' minus ' sign. If no new caries was presented, or if the plus and minus signs cancelled each other out, then a ' zero ' was recorded.

This method while having no pretensions of being as accurate as the methods used by the Assessor at the Ministry of Education seems none the less capable of giving some sort of picture of the value of the treatment. While it gives no indication of the total number of new cavities on treated and untreated sides, it does show if an individual seems to have benefited or otherwise from the treatment. Unfortunately, the idea of a private assessment was not adopted until one third of the cases in the first annual re-inspection had been completed, so that results of only 179 inspections were analysed. During the two subsequent years however, 286 and 280 respectively were analysed.

The results obtained were as follows :—

	1st Annual Re-inspection	2nd Annual Re-inspection	3rd Annual Re-inspection
Plus	54	91	83
Zero	89	131	124
Minus	36	64	73
TOTALS ..	179	286	280
Percentage Bias	5%	$4\frac{1}{3}$%	$1\frac{3}{4}$%

It will be realised that an excess of ' plus ' signs shows a bias in favour of the treatment, while on the other hand, an excess of ' minus ' signs means a bias against the treatment. In passing, it is significant to note that 60% of the cases changed from one group to another during the course of the investigation.

Referring to the first year's figures, it will be observed that an excess of 18 points is shown in favour of fluorine treatment, and at first sight this would seem to indicate a substantial bias of approximately 10%. However, when it is remembered that 36 patients out of the 179 (i.e. 20%) showed a result which appeared to indicate that in their case fluorine had an actual detrimental effect, and that in only 30% of the cases was a beneficial result shown, 10% would be too high a percentage to give a true picture of fluorine as an effective prophylactic agent.

Since it is highly improbable that fluorine has a bad effect on the teeth of 20% of the patients, the obvious explanation of the negative percentage seems to be that the pure change of randomly occurring caries has masked the beneficial effect (if any) of fluorine. It would be reasonable to assume that if the law of averages had worked impartially, and if no fluorine treatment had been given to any of the 50% who showed ' plus ' or ' minus ' bias, then one would expect the figures to be 25% + and 25%— respectively, so that the figure of 30% + only represents 5% improvement over the normal expectation.

Again, it is possible that even this may be inaccurate, since in so small a group as 179, the law of averages is not likely to work out completely impartially. However, since in the subsequent two years the bias remained in favour of fluorine—to a diminishing degree—it can be fairly assumed that the treatment gave a small but definite resistance to the teeth which were treated.

The drop in the second year to $4\frac{1}{3}$% shows a moderate decline and in the third year the drop to only $1\frac{3}{4}$% is substantial. At this low figure the effectiveness of the treatment may be considered to be almost spent. This drop in the resistance of fluorized teeth with the passage of time is not restricted to topical fluorine only.

In areas where teeth have an enhanced fluorine content, derived from the water supply, the teeth of the young children show a marked resistance to caries, and are considerably better than the teeth of children in towns where the water contains no fluorine. By early adult life, however, this difference is greatly reduced and by middle age the teeth are little better in the fluorine areas than elsewhere.

This is probably due, not so much to the fluorine actually losing its efficacy, but to the fact that fluorine acts mainly as a 'delayer' of caries by rendering the enamel more resistant to erosion by acids. The resistance is relative, and not absolute, so that eventually when the enamel protection of the tooth is at last penetrated, the decay of the body of the tooth takes place in the same way as in untreated teeth.

If the figures arrived at represent a true or even approximate picture of the value of topical fluorine as a prophylactic agent against caries, the question now arises as to whether the time spent on the treatment (likely to amount to about 1¼ hours per patient) is worth the benefit derived from it.

In terms of fillings saved it could reasonably be valued at half a filling per child during its 10 years of school life. In one and a quarter hours, 2 or 3 fillings could be completed—possibly even more—so that it would seem that topical fluorine is not the answer to the problem of caries in the teeth of the school child.

It should again be pointed out, however, that when the report of the Ministry of Education is published, a different conclusion may well be indicated. The results of the Ministry being based on a much larger group of children, and assessed with the better statistical methods available should produce greater accuracy than was possible in the investigation described above.

THE EDUCATIONAL TREATMENT OF CHILDREN

The Local Education Authority has a statutory duty to provide a system of education which will contribute towards the spiritual, moral, mental and physical development of the community. By such a system some 98% of school children in Newcastle are suitably provided for in primary and secondary schools, but for an important minority some modification in educational arrangements is required to meet a specific handicap. The Education Act, 1944, requires all children over the age of 2 years who may require special educational treatment to be examined and where found to be in need of a special form of education to be ascertained as Handicapped Pupils. The names of these children are reported to the School Health Services Sub-Committee at its monthly meetings. The manner in which they are being provided for is shown in Table 18.

The various classes of handicap defined in the Handicapped Pupils Regulations 1953 were described in my report last year.
1. *Blind* : Mr. Vernon Ingram continues to be certifying officer for the Blind. In the case of blind children the Education Authority is responsible for their education and training from 2 years to 21 years of age. The majority of our ascertained blind children lost their sight very early in life and the causes of their blindness were as follows :—

Congential Cataract	2
Optic Atrophy	3
Tumour of Eye	1
Retrolental Fibroplasia	2

Of these children four are being educated at the Royal Victoria School for the Blind where they remain till they reach the age of 11. One has gone on to the York School for the Blind. Two are in the Sunshine Homes for Blind Babies and two are awaiting admission to these homes. One blind child moved from the district during the year.

The children are certified blind or likely to become so and care is required to determine the correct methods of instruction to be given since it is unwise to employ tactile methods whilst the child still retains some sight.

2. *Partially Sighted* : Dr. Milne continues to ascertain partially-sighted children and is responsible for them after admission to the myope class at Pendower Open Air School. The numbers of children attending these classes continues to diminish in accordance with prevailing trends in medical opinion as to their education.

TABLE 18

HANDICAPPED PUPILS REQUIRING EDUCATION AT SPECIAL SCHOOLS (OTHER THAN HOSPITAL SCHOOLS) OR BOARDING IN BOARDING HOMES

	(1) Blind (2) Partially sighted		(3) Deaf (4) Partially Deaf		(5) Delicate (6) Physically Handicapped		(7) Educationally Sub-normal (8) Maladjusted		(9) Epileptic	TOTAL (1)—(9)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
In the calendar year ended 31st December, 1954 :—										
A. Handicapped Pupils *newly placed* in Special Schools or Boarding Homes	1	1	5	—	84	28	75	3	4	201
B. Handicapped Pupils *newly ascertained* as requiring education at Special Schools or boarding in Homes ..	1	4	—	2	78	20	58	10	4	177
On or about Dec. 1st, 1954 :—										
C. Number of Handicapped Pupils from the area :—										
(i) attending Special Schools as										
(a) Day Pupils	1	24	—	—	136	46	252	—	1	460
(b) Boarding Pupils.. ..	5	1	40	—	6	2	41	1	5	101
(ii) attending independent schools under arrangement made by the Authority ..	—	—	—	—	—	—	—	12	—	12
(iii) boarded in Homes and not already included under (i) or (ii)	—	—	—	—	—	—	—	—	—	—
TOTAL (C) ..	6	25	40	—[1]	142	48	293	13	6	573

	(1) Blind (2) Partially sighted		(3) Deaf (4) Partially Deaf		(5) Delicate (6) Physically Handicapped		(7) Educationally Sub-normal (8) Maladjusted		(9) Epileptic	TOTAL (1)—(9)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
D. Number of Handicapped Pupils being educated under arrangements made under Section 56 of the Education Act, 1944 :—										
(i) in hospitals	—	—	—	—	—	—	—	—	—	—
(ii) in other groups (e.g., units for spastics)	—	—	—	—	—	—	—	—	—	—
(iii) at home	—	—	—	—	—	6	—	—	—	6
E. Number of Handicapped Pupils from the area requiring places in Special Schools (including any such children who are temporarily receiving home tuition or whose parents have not yet consented to their attending a Special School) :—										
(i) Day	—	3	—	—	2	1	8	—	—	14
(ii) Boarding	2	—	8	2	3	1	8	7	1	32

EXPLANATORY NOTE

The actual waiting list given in Section E differs from the apparent waiting list because :—

(*a*) One blind child moved from this area.

(*b*) One E.S.N. child was committed to an Approved School.
One E.S.N. child was reported to the Local Health Authority.
One E.S.N. child moved from this area.

(*c*) Two maladjusted children were admitted to Approved School.
One maladjusted child was found to be no longer in need of special School treatment.

Number of children reported during the year :—

(*a*) under Section 57(3) (excluding any returned under (b))—37

(*b*) ,, ,, ,, relying on Section 57(4))—Nil.

(*c*) ,, ,, 57(5)—30

of the Education Act, 1944.

No. of children attending the class on 31-12-54 ..	24
No. of children admitted during the year	2
No. of children discharged during the year.. ..	6

3. *Deaf Children* are ascertained by Mr. Munro Black at the Ear, Nose and Throat Hospital, and Mr. Wearmouth, Headmaster of the Northern Counties School for the Deaf. The causes of deafness in children receiving special education were :—

Following meningitis	10
Following measles	5
Following diphtheria	1
Otitis Media	5
Unknown	10

It is becoming recognised that when children are suspected of being deaf in early infancy, immediate examination and training is essential.

4. *Delicate and Physically Handicapped* : The majority of these children attend Pendower Open Air School as day pupils, daily transport being provided by this Authority.

Where home circumstances indicate a residential school is provided.

5. *Maladjusted Children* : Investigation of these children is completed and recommendations made by the Psychiatrist at St. Thomas' Clinic. The types of difficulty from which the children suffer have been mentioned.

No. of children in Residential Schools on 31-12-54 ..	13
No. of children ascertained during the year	12
No. of children who left school during the year ..	1

6. *Epileptics* : Only the more severe cases of epilepsy are considered for special school or institution. The majority successfully continue at an ordinary school under medical treatment.

7. *Educationally Subnormal Pupils* : These children are either reported by the school or referred by the Juvenile Court. They are ascertained by School Medical Officers approved for the work by the Minister of Education. At present five members of the medical staff are so approved.

These children are more than two years retarded in the educational attainments and the medical examination is designed to discover what causes may be responsible. Where it appears that the main cause is other than innate intellectual deficiency the child may be recommended for some other special form of education than at an E.S.N. School. Children are recommended for Residential School where home circumstances indicate.

Where it appears that a child, usually a young child, is incapable of deriving benefit from education in any type of school, it is reported to the Local Mental Health Authority.

During the year 67 children were so reported.

8. *Spastic Children* : Do not form a recognised class of Handicapped Pupils. They may be crippled in body or defective in intellect, but the handicap varies considerably in degree and many are well able to attend ordinary schools as shown in the following survey of spastic children in Newcastle.

A. Attending School	Commercial (2) Building Crafts (2)	4
	Primary and Secondary School ..	28
	Special Day—E.S.N.	1
	Open Air	3
	Residential E.S.N.	1
	Percy Hedley School for Spastics	10
		47
B. Not attending School	Reported to Local Authority as ineducable	3
	In-patient in hospital	4
	Awaiting ascertainment ..	2
		9

Special Schools

With the exception of schools for maladjusted children there is a reasonable selection of special schools both day and residential for the different categories of handicapped pupils in the North East of England and places are becoming easier to secure in those schools for children who have been ascertained as handicapped.

This Authority provides the following accommodation :—

1. E.S.N. Pupils—Day Boys 150. Girls 90
   Residential .. Girls 50
2. Open Air School—Day (Boys and Girls) .. 180
3. Partially Sighted—Day (Boys and Girls) .. 45

There are also in the district schools for the Deaf, Blind and Spastic children which are managed by private bodies.

Jesmond Dene

In September Jesmond Dene House was opened by the Committee as a Residential Special School for Educationally Subnormal Senior Girls. The school has accommodation for 50 pupils of which 26 were in residence at the end of the year. It is not anticipated that the school will serve the needs of Newcastle alone but will draw also from surrounding Local Authorities. By a reciprocal arrangement Gateshead has opened a similar school for boys at Hindley Hall, Stocksfield.

The school is housed in a stately family residence built about the latter part of the last century and overlooking Jesmond Dene and is excellently appointed having been well adapted, fitted and newly redecorated throughout (*see frontispiece*).

The Staff include the Headmistress, Miss I. Reed, and assistant mistresses, a Matron who has experience in children's ailments, assistant matron, housekeeper and domestic staff.

A medical room and sick bay are provided. The Matron attends to minor ailments and Dr. H. A. Wilson and his Assistant visits when sickness demands. The School Health Service undertakes periodical medical inspection of pupils in the prescribed age groups and renders other services similar to those given in other ordinary schools. Effective liaison is maintained with the parent authority of girls outside Newcastle.

Since opening all girls have been medically and dentally inspected. Two girls have been reported to the Orthopaedic Surgeon and one to the Cardiovascular Clinic. Dental treatment has also been given.

Lower Condercum House

The Headmaster, Mr. P. J. Walker, was unfortunately absent on account of sickness during the early part of the year and Mr. Robinson ably deputised for him.

A feature of this school is the provision of a reception class for boys as young as five years. This is the equivalent of a nursery class for the mental age of the boys is three years and upwards and it is equipped and managed on the lines of a nursery class with a nursery assistant in attendance. The settling-in period is a difficult one for ordinary children but it is especially so where children are backward and attending a school which involves daily transport and staying for lunch at mid-day.

During the year an evening class for present and past pupils was formed similar to that of Bolam Street Special School.

The attendance figures for the school were as follows :—

No. of pupils on Register 1st January, 1954 ..	156
No. of pupils admitted during the year	32
No. of pupils who left—	
1. On reaching school leaving age	2
2. Granted exemption from further attendance	1
3. Notified to Local Health Authority	12
4. Reported to Local Health Authority for supervision purposes	13
5. Committed to Approved School	3
6. Left District	4
7. Deceased	1

All pupils within the prescribed age groups were medically inspected and treatment put in hand for defects found.

All pupils who had not had an intelligence test within the past two years were retested.

A Speech Therapist visits the school once a week.

Bolam Street

The school situated in one of the congested areas of the East End of this City and adjacent to Bolam Street School was opened in 1909. The buildings were inspected during the year and it was noted that three classrooms required redecoration. This has since been done. In addition the bathroom was transferred to another room. This latter room is used by a visiting nurse for dressings and head inspections and is inconveniently small.

The evening class continues as previously.

The attendance figures for the year were as follows :—

No. of Pupils on Register 1st January, 1954	91
No. of Pupils admitted during the year	24

No. of Pupils who Left :—

1. On reaching school leaving age	1
2. Granted exemption	2
3. Notified to Local Health Authority	6
4. Reported to Local Health Authority for supervision purposes	4
5. Left the District	2
6. Transferred to Residential Special School ..	1

Where Intelligence Testing had not been done during the past two years, girls were reviewed. An enquiry was received from the University of Bristol concerning the results of Intelligence Retests and these we were able to supply for research purposes.

The majority of girls within the prescribed age groups were inspected and treatment put in hand where found necessary.

Pendower Open Air School

Miss E. A. Adam, the Head Mistress, retired at the end of the Summer Term. She was appointed in 1945. Mr. E. G. Demant, who was appointed in her place, took up his duties at the beginning of December, having previously taught at Stannington Sanatorium.

At the beginning of the year extensive alterations which were begun in 1953 were completed. These included alterations to the Physiotherapy Department, the addition of two Classrooms and the addition of a new Kitchen.

The accommodation of the School has thereby been increased from 125 to 175.

Dr. Anderson visits the School once a month to review children, who are examined at least once a term.

The types of children who attended were as follows :—

Register of Physically Handicapped and Delicate Pupils for 1954

by Dr. M. Anderson

Type of Defect	On register December 1953		Admitted during 1954		Discharged during 1954		On register December 1954	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Debility	11	10	18	21	2	7	27	24
Asthma	16	8	5	5	4	4	17	9
Bronchitis ..	9	7	5	10	3	5	11	12
Bronchiectasis ..	8	4	2	1	3	—	7	5
T. B. Lungs ..	6	4	3	3	3	—	6	7
T. B. Spine ..	4	2	—	1	4	—	—	3
T. B. other bones	—	3	1	1	1	2	—	2
T. B. Glands ..	2	1	—	3	2	2	—	2
T. B. Meningitis ..	—	3	1	—	—	2	1	1
Arthritis	—	—	1	—	—	—	1	—
Spina Bifida ..	—	2	1	—	—	1	1	1
Poliomyelitis ..	1	2	3	1	—	—	—	—
Ataxia	1	1	2	—	1	—	2	1
V.D.H.	3	5	2	3	—	1	5	7
Hemiplegia ..	1	—	—	1	—	—	1	1
Diabetes	1	—	1	—	1	—	1	—
Perthe Hip ..	1	—	—	—	1	—	—	—
Nephritis	1	—	—	—	1	—	—	—
Coeliac	2	—	—	1	1	1	1	—
Rheumatism ..	—	—	1	1	—	—	1	1
Chorea	—	1	—	—	—	1	—	—
Cystic Pancreas	—	—	—	1	—	—	—	1
Deformities ..	—	2	—	3	—	1	—	4
TOTAL ..	122				TOTAL ..		170	

No. of children who left were :—

1. Admitted to Stannington Sanatorium .. 1
2. Transferred to Residential Open Air School 1
3. Reached School Leaving age 5
4. Left the District 3
5. Deceased 1

TOTAL 11

Speech Defects

by Miss M. Atkinson

A full-time appointment was made in September, 1954 in place of a previous part-time arrangement. The number of sessions was thereby increased from sixteen to twenty per week. The remaining two sessions were devoted to clinics under the Newcastle upon Tyne Hospital Management Committee and the United Newcastle upon Tyne Hospital Management Committee. This helped to maintain the close co-operation between

the hospital and school therapists. It also enabled us to observe and or treat forms of Speech and Language abnormalities many of which are rarely seen in School Clinics. It also gave the opportunity for the exchange of ideas on all aspects of Speech Therapy.

The twenty sessions have been divided between the various School Clinics as follows :—

1. Central Clinic .. .. .. 15 sessions
2. Ashfield Clinic .. .. .. 2 sessions.
3. Middle St. Clinic .. .. 2 sessions.
4. Condercum Rd., Special School 1 session.

It is proposed that an additional session be commenced at Middle St. Clinic in January, 1955, because of the large number of patients in that area at the present time.

There are thirty children now awaiting treatment as compared with sixty in December, 1953. The additional four sessions have therefore helped to reduce the waiting list.

The figures for cases treated are as follows :—

	Boys	Girls	Total
Total No. of patients on books ..	239	85	324
Total No. of treatments	2,878	907	3,785
Total No. of patients admitted ..	99	34	133
Total No. of patients discharged	64	29	93
Total No. of audiometer tests ..	46	26	72

The types of Speech Defects treated are as follows :—

Stammer	91
Dyslalia	162
Retarded Speech	19
Dysarthria	11
Cleft Palate	6
Other Defects	50
TOTAL ..	339

Note

A discrepancy between the total number of patients on the books and the above figures occurs because some patients have more than one defect.

Audiometer tests have been carried out during the past year. Several tests have also been performed at the request of School Medical Officers. The ultimate aim of this department is to test every child with defective articulation at the commencement of treatment.

The facilities offered by the new clinic in City Road have given a much wider scope for the observation and treatment of patients.

POSITIVE HEALTH

There are other services provided within the educational system which whilst not undertaken by the School Health Department are directly concerned with the promotion of health.

1. PHYSICAL EDUCATION

(a) *Physical Training* : The more formal " Syllabus of Physical Training in Schools " of 1933 has been replaced by a more elastic system of Physical Education embodied in the manuals of " Physical Education in the Primary School " published in 1952.

Most Infant Schools have at least a daily period of 20 minutes. In the Junior and Senior Departments the amount of time devoted to the subject is more variable but four periods of 35—40 minutes per week is the recommended minimum.

The standard of work in the schools continues to be a high one.

(b) *Athletics* : The City Childrens Championships held in May, 1954, have been described as the " best meeting yet organised in the City." It was attended by approximately 1,000 children representing 29 different schools.

In the County Championships held at Tynemouth in June the Newcastle team of 140 children became champions.

At the inter-county Championships held at Ashington 18 City children were included in the Northumberland team.

(c) *Swimming* : Swimming instruction is given to children over 11 years old at six City baths and consists of one period of 40 minutes per week from September to July, instruction being given by members of the teaching staff who are qualified to instruct.

It was however decided to introduce all the year round instruction and to appoint two male and two female instructors. These have been appointed but the male instructors had not taken up their duties at the end of the year.

No. of children who received instruction 1st April—22nd July, 1954 was ..	1,925
No. of children who received instruction 1st September—31st December, 1954 ..	3,350

(d) *Dancing* : Modern Educational Dance has continued to be taught in most departments of City schools and is found to be a form of dancing best suited to the needs of school children.

2. CAMPING

The following parties of school children were taken camping in the summer holidays :

School		No. of pupils	No. of teachers
Atkinson Rd. Technical ..	Budle Bay	32	6
Middle St. Sec. Comm. Boys ..	Coldstream, Berwickshire	46	6
Middle St. Sec. Comm. Girls ..	Newlands (Holiday Fellowship Association)	32	2
Northumberland Rd. Sec. Mod. ..	Croxdale, Durham ..	65	5
Pendower Sec. Comm. Boys ..	Braithwaite, Keswick	33	4
Raby St. Sec. Mod.	Hamsterley, Bishop Auckland	60	9
Walkergate Sec. Mod.	Brigham, Keswick ..	31	7

It should be remembered that members of the teaching staff attend these camps voluntarily in holiday periods and undertake full time responsibility for the children under camping conditions.

These camps not only provide an opportunity of enjoying a holiday under healthy living conditions but also provide a valuable practical exercise in observing the rules of health in these conditions.

One boy was recommended by the School Health Department to attend a special camp for Diabetic Children organised by the Diabetic Association.

3. EVENING PLAY CENTRES :

Nine play centres are open in various parts of the City from 5-30—7-30 p.m. on three evenings per week. Attendance at the centres was as follows :—

		No. of children attending
Senior Centres	Bolam Street	218
	Cambridge Street ..	118
Junior Centres	Cowgate	196
(for children 8—11 years)	Cruddas Park	105
	Denton Road	151
	East Walker	174
	Raby Street	262
	Sandyford Road ..	214
	Westmorland Road ..	165
	TOTAL ..	1,608

The centres are staffed by qualified teachers in the employ of the Education Committee and provide facilities for supervised play to children whose only alternative is the street where as seen elsewhere in this report they are liable to come to physical injury or get into trouble with the police.

4. SCHOOL MILK AND MEALS, BY MR. P. WATSON :

The output of the school meals kitchens, though not reaching the high level of 1952, has risen considerably following the definite falling off during 1953. The highest number of meals in any one week during the year was reached in the week ending 17th December, when 85,478 were supplied. The total number supplied during the year was 3,155,000.

On 1st October, 1954, the responsibility for the milk in schools scheme passed from the Food Office to Local Education Authorities. Tenders were accordingly invited, and new contracts for the supply of milk, in 1/3 rd. pint bottles, to schools, were placed. The supply has been very satisfactory, the quality of the milk is high and samples are examined at frequent intervals.

The following statistics, obtained for the Ministry of Education, illustrate the contribution which the service makes to the amenities provided for the children attending the schools of the City (*for illustration see end of book*) :—

	Pupils in attendance at school			Pupils taking mid-day meals and milk at school			
	Primary	Secondary	Total	Free	Paid	Total	Milk
1st June, 1954 ..	27,544	11,425	38,969	3,553	11,029	14,582	35,000
13th October, 1954	26,581	11,501	38,028	3,422	10,827	14,249	34,607

Diphtheria Immunisation

by Mr. Pellatt (Public Health Department)

Once again I have to report a falling off in the number of school children and pre-school children who have been immunised or re-immunised. This falling off is a continuing cause for concern, and can only be accounted for by the apathy of parents resulting from the fact that there have been no cases of Diphtheria in the City since 1951. This absence of the disease has no doubt lulled some parents into a false sense of security, and I can only repeat what has been said many times before, that all children should be immunised before their first birthday and a further boosting dose should be given before they start school.

Table 5 below shows that only 49.3% of all school children have been immunised or re-immunised during the past five years and can therefore be regarded as adequately protected, but of the age group 5—9 years it can be said that approximately 75% have been immunised. This figure has fallen, however, as it was 79% last year, and if this decline continues the results can be quite serious.

TABLE 1

Number of Children of School Age (5—14 years) who completed primary Immunisation.

YEAR	1950	1951	1952	1953	1954
Clinics	128	571	181	75	34
Private Practitioners ..	59	292	153	36	17
TOTALS	187	863	334	111	51

TABLE 2

Number of Children of School Age (5—14 years) who were Re-Inoculated.

YEAR	1950	1951	1952	1953	1954
Clinics	469	2,255	566	363	242
Private Practitioners ..	196	824	615	391	440
TOTALS	665	3,079	1,181	754	682

TABLE 3

Number of Children of Pre-School Age who completed Primary Immunisation.

YEAR	1950	1951	1952	1953	1954
Clinics	2,121	3,216	1,992	1,724	1,582
Private Practitioners ..	1,316	1,782	1,629	1,454	1,551
TOTALS	3,437	4,998	3,621	3,178	3,133

TABLE 4

Number of Children of Pre-School Age who were Re-Inoculated.

YEAR	1950	1951	1952	1953	1954
Clinics	1,135	2,353	1,548	1,201	971
Private Practitioners ..	231	552	580	541	640
TOTALS	1,366	2,905	2,128	1,742	1,611

TABLE 5

Immunisation in Relation to Child Population of School Age (5—14 years).

Born in year :—	1945—49	1940—44
Number immunised last complete course (primary or booster) 1950—54 ..	18,062	2,836
1949 or earlier	1,255	15,142
Estimated mid-year population ..	42,400	
Immunity index	49.3	

TABLE 6

Diphtheria Incidence and Mortality among Non-Immunised Schoolchildren 5—14 years.

YEAR	No. of Cases	No. of Deaths	Case Mortality
1950	Nil.	Nil.	0.00%
1951	9	2	22.22%
1952	1	Nil.	0.00%
1953	Nil.	Nil.	0.00%
1954	Nil.	Nil.	0.00%

APPENDIX

A. Incidence of Defective Colour Vision in the Third Age Group of School Children

by B. Buckley, M.B., B.S.

Since 1950 the Leaver Group of school children in Newcastle upon Tyne have been tested for defective colour vision by means of the Confusion Chart Test designed by Professor Shinobu Ishihara of Tokyo. The ninth edition, printed in Britain, and the tenth edition, printed in Japan, were employed and the tests were carried out by the various members of the School Health Service in the normal course of Periodic Medical Examinations. As separate figures are not available for the number of boys and girls examined, it is assumed that the sexes were evenly distributed in the total. The total, based on this premise, summarises the results obtained from 17,471 children over a period of five years. For purposes of comparison the incidence rates for both sexes quoted by Professor W. D. Wright of the Department of Technical Optics at the Imperial College of Science and Technology are included in the summary.

Year	Total examined both sexes	Boys C.V. defective	% Boys C.V. defective of Total Boys	Girls C.V. defective	% Girls C.V. defective of Total Girls
1950	3,207	124	7.74	11	.68
1951	3,895	167	8.58	16	.82
1952	2,965	86	5.80	13	.88
1953	4,076	135	6.62	10	.50
1954	3,328	132	7.94	13	.78
1950—1954 (Inclusive)	17,471	644	7.37	63	.72
Incidence as quoted by Prof. Wright		MALES 8.00%		FEMALES 0.40%	

The early ascertainment of defective colour vision is important for the following reasons :—

1. Pupils may spend much time in training for work for which they are later found to be unsuitable. To be rejected as being unsuitable at a later stage often leaves a sense of frustration.

2. Pupils may successfully enter the lower grades of some occupations only to find at a later date that because of the finer degree of colour discrimination required for the higher posts, their further promotion is debarred and that, as far as they are concerned, they have entered a blind alley occupation.
3. In certain occupations the defect might endanger the lives or safety of others.
4. In industry valuable time and materials may be consumed needlessly, whilst there is the risk to the employer of a damaged business reputation.

The optimum age for ascertainment of defective colour vision in school children in the opinion of the writer, is the maximum age before entry into vocation, or vocational training. The response to the test is given with more assurance then than at earlier ages and the possibility of the vitiation of the test by such extraneous factors as educational subnormality, defective visual acuity, lack of colour education and nervousness are at a minimum.

Although the Ishihara Colour Confusion Chart Test has much to recommend it and is, in many respects, admirable, there are weaknesses to guard against. There is, apart from the unusual shape of one or two numbers, a tendency to exaggeration of green and yellow defectiveness. Dr. A. Elliott reporting for 1952 to the Kent Local Education Committee, found that only 52 (61.5%) out of 86 children ascertained to have a defect of colour vision when tested by the Ishihara Colour Vision plates and subsequently examined by ophthalmologists by means of a lantern test had, in fact, such a degree of defect as to render them unsuitable for future employment in occupations where a full range of colour vision was essential. Conversely there are occasional cases which are considered satisfactory when tested by the Ishihara plates and yet are not regarded as acceptable for employment or service when further tested by more exhaustive methods. Indeed the Ishihara test is not considered sufficiently accurate as a guide to a pupil's suitability for entry to those grades of the Royal Navy, Royal Air Force or the Railways, where normal colour vision is required. In conveying the interpretation of the result of the test to a pupil or the pupil's parent, it is wise, in certain instances, to mention the limitations of the preliminary test and to indicate the necessity for supplementary testing by the accepted means employed in the occupation to which entry is sought, when successful entry to the occupation is dependent upon such a test. This will avert what might otherwise be a legitimate grievance and will mitigate any later disappointment on the part of the pupil or parent.

B. Septic Skin Conditions.

The following account of an enquiry into the occurrence of Septic skin conditions is included as an interesting example of the value of small surveys in the daily work of the department.

As mentioned elsewhere an increase of septic sores was observed by Medical Officers at the beginning of the winter term, which with the onset of winter threatened to spread in the schools. It was important therefore, to ascertain the extent of the problem without delay and to determine what action should be taken. The medical staff were at that time fully engaged in routine duties and any such investigation must be conducted with strict economy of man power. This could only be achieved by limiting the size of the investigation and giving greater care to its design.

A sample of 100 children was selected by picking medical Inspection record cards in the different clinics. These are filed in such a way that the resulting sample matched the school population of the city in age, sex and type of school.

The children were then examined in the clinics and search made for any form of skin infection which might be present. As far as possible every child selected was examined ; only three substitutes being permitted for children who had left school or had left the city.

The findings were as follows :—

A. PREVALENCE :

Number of children free from Septic conditions ..	89
Number of children with some form of skin sepsis ..	11

B. TYPES OF SEPTIC LESIONS FOUND

Furunculosis	8 children
Boils	1 child
Septic Burns	1 child
Septic Abrasions	1 child

C. OTHER SKIN CONDITIONS WHICH POSSIBLY PREDISPOSED TO SEPSIS

Papular Urticaria	8 children
Warts	4 children
Eczema and Seborrhoea	4 children
Chronic Pediculosis	3 children
Acne	1 child

D. OTHER PREDISPOSING CONDITIONS

TABLE 1

Predisposing Conditions	No. of children free from skin sepsis (89)	No. of children with skin sepsis (11)	Significance of Difference
Overcrowding	16	3	Significant
Contact with Sepsis ..	7	2	Not significant
Susceptable to sepsis ..	7	2	Significant
Thick Clothing	39	5	Not significant
Uncleanliness of clothing	9	5	Significant
Skin ..	4	4	Significant
Subnormal Health ..	11	4	Significant

CONCLUSIONS

A. 11% of children had some form of septic skin infection. The standard error of sampling was 3.16 which means that subsequent samples if taken might yield percentages between 5—17%, but would be unlikely to fall outside this range.

B. The distribution of cases was not affected by age or sex. All the lesions were very slight, but were potentially contagious. It is probable that only a routine search would bring them to light and a not inconsiderable reservoir of infection was thus uncovered.

C. Other skin conditions were relatively numerous and some undoubtedly predispose to skin sepsis, particularly Papular Urticaria, Seborrhoea and Acne. One case of Warts also developed infection at the site of the wart. Some conditions, usually associated with skin sepsis, such as scabies, pediculosis, nasal and ear discharge, did not do so in this series.
The picture presented by this body of children therefore differed somewhat from that seen among children under treatment at the Clinics.

D. Other factors shown in Table 1, which might have a bearing on the condition, were more frequently found in the group of children with lesions. The criterion of significance was that the difference between the percentages in the two groups should succeed twice the standard error. The findings shown in this Table 1., are generally what one would expect with the exception of the type of clothing worn. Thick winter clothing is less easily kept clean than lighter washable garments which are more commonly worn by girls. At the time of the examinations winter clothing had been recently purchased and was clean.

High as was the incidence of these infections all were slight. No children required exclusion from school and all were responding to home treatment. Moreover, there was no evidence of spread in the family. No action apart from routine measures was therefore deemed necessary, but the children were kept under surveillance until the end of the year and watch kept for any skin sepsis among them. This would have been taken as a warning that similar developments were occurring in the City as a whole.

The children were thus looked over once a fortnight by the Clinic nurse and reported upon to the Office. This information, when compared with the monthly numbers of children treated in the Clinics, showed a common trend of events and no intervention was necessary.

C. Note on the Physical Measurements of Pre-School Children

The remarkable improvement in the heights and weights of Pre-School children since 1933, shown in this Report calls for closer scrutiny. Before accepting the findings at their face value three questions might be asked, namely :—

1. What of the accuracy of the measurements ?
2. Are the numbers of children sufficiently large for conclusions to be drawn ?
3. Are the two groups of children comparable ?

In his Report Spence gives few details of the technique of weighing and measuring, but it may be assumed that the work was conducted with that degree of efficiency which Sir James always demanded. In the 1954 findings, children were measured standing and particular attention was paid to the posture of the child whilst so doing. (This is the main source of error in children of this age). A steel yard weighing machine appears to have been used in 1933, whilst a Salter's Spring type of machine was used in 1954. It is probable that no toddlers bar was used in 1933 ; the Salter's machine had a seat attachment and the children were weighed sitting. Measurements in 1933 were recorded to the nearest ounce, in 1954 to the nearest four ounces, (the Salter's machine which complies with the requirements of British Standards 1887 : 1953 weighs to two ounces). In the course of treatment of the weight values in both series ; weights were reduced to the nearest four ounces and it is probable that the measurements were of equal reliability.

The numbers of children examined on either occasion are small, but the differences between the percentages in the superior, intermediate and inferior grades, are several times the Standard errors of percentages and therefore are not affected by chance.

The material in 1933 was derived from the Dispensary, a Sunday School and the Maternity and Child Welfare Clinics ; that in 1954 from both Nursery Schools where children from west end families are selected on account of social and economic difficulty, and the two groups are comparable on this account. The group in 1933, however, range from birth to five, whilst that of the Nursery School range from two and a half to five. When, however, children from birth to two and a half are removed from the 1933 group the findings are not materially altered.

This apparent improvement in the physical development of children during the past 20 years is therefore based on reliable findings, and one might enquire further into the factors responsible. The obvious reason for the improvement is a corresponding improvement in social conditions which have occurred

in the interval, but one should exclude possible racial change giving rise to a taller child population. Since tallness is a hereditary characteristic, one needs to discover the parentage of present children and accordingly enquiry was made of parents as to where they started school. The results were as follows :—

No. of children measured in 1954	89	No. of parents involved	178

Schools attended by parents :—

	Local	Elsewhere	Total
Mothers..	74	10	84
Fathers	38	12	50
Both Parents	35	15	50

If all children were of local stock, one would expect that in the next generation no marked change would occur in the distribution of tall and short children, but nearly one-third of the children are of a new stock, and if the parents who came from outside the North East of England were predominantly tall, the findings would be improved as follows :—

	Tall	Medium	Short
1933 Group	1.7%	51.3%	47.0%
Estimate Optimum ..	14.0%	48.0%	33.0%
Actually Found 1954 ..	15.7%	74.2%	10.1%

In other words such a genetic change, whilst it would result in more tall children, would not account for the reduction in the proportion of short children. The observed improvement has affected all groups of children and suggests that children today are reaching their optimum height. That this was not being achieved in 1933 is shown by Spence's findings in children of well to do families which were as follows :—

Tall	Medium	Short
25.0%	72.2%	4.8%

Elsewhere in his Report he does in fact make mention of under nutrition in children of the lower classes. It seems reasonable therefore to attribute the improvement in physical development here observed, to the improved social conditions which have taken place in the last 20 years.

DINING ROOM

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