PROVINCE OF BRITISH COLUMBIA

Thirty-eighth and Thirty-ninth Reports

of the

Medical Inspection of Schools

For the Years Ended June 30th

1949 and 1950

VICTORIA, B.C.
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1952

DEPARTMENT OF HEALTH AND WELFARE,
VICTORIA, B.C., February 1st, 1952.

To His Honour CLARENCE WALLACE, C.B.E.,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Reports of the Medical Inspection of Schools for the years ended June 30th, 1949 and 1950.

A. D. TURNBULL,
Minister of Health and Welfare.

DEPARTMENT OF HEALTH AND WELFARE,
VICTORIA, B.C., February 1st, 1952.

The Honourable A. D. Turnbull,
Minister of Health and Welfare, Victoria, B.C.

SIR,—I have the honour to submit the Thirty-eighth and Thirty-ninth Reports of the Medical Inspection of Schools for the years ended June 30th, 1949 and 1950.

I have the honour to be,
Sir,
Your obedient servant,

G. F. AMYOT, M.D., D.P.H.,
Deputy Minister of Health.

REPORT OF SCHOOL HEALTH SERVICES

This Report, covering the academic years ended June 30th, 1949, and June 30th, 1950, provides an accounting of the school health services in the schools throughout British Columbia during that period.

CHANGING TRENDS IN ADMINISTRATION

School health services are concerned with the medical and preventive health features affecting the growth and development of the school-child. While attention is focused upon the mental, emotional, physical, nutritional, and immunization status of the pupil, the influence of the school environment is taken into consideration to ensure that such factors as heating, lighting, ventilation, and sanitation conform to the requirements of healthful living.

It must again be recorded that concentration toward ideal school health accomplishes little unless similar healthful influences prevail throughout the community. More and more district School Boards, inclined to that view and aware of the advantages of consolidation of health services, are transferring the administration of school health services to Union Boards of Health, to be administered by the health unit staff as an integral part of the total community health service instead of something apart. During 1948–49 six school districts—namely, No. 33 (Chilliwack), No. 76 (Agassiz), No. 71 (Courtenay), No. 72 (Campbell River), No. 75 (Mission), and No. 42 (Haney)—joined Union Boards of Health, while in 1949–50 seven more—No. 40 (New Westminster), No. 41 (Coquitlam), No. 9 (Castlegar), No. 11 (Trail-Rossland), No. 17 (Princeton), No. 18 (Keremeos), and No. 64 (Ganges)—adapted themselves to unit administration. As at June 30th, 1950, therefore, school health services for fifty-one of the seventy-six school districts were provided through health units, while a majority of the remaining twenty-five school districts are seeking similar privileges. It probably should be noted that there are only nine school districts in the Province that do not have public health nursing services, which has always been basic to attainment of health unit status.

METHODS OF EXAMINATION

The inquiries into the best methods of assessing the physical status of school pupils have been continuous through the period covered by this Report. With the increase in the school population and development of greater numbers of schools, it becomes fairly apparent that it is impossible for any school physician to give a thorough physical examination to every pupil. In any case it certainly seems to have been proven over the years that in terms of defects found and remedial attention provided, an annual physical examination for every pupil cannot be substantiated. Experience has shown that a thorough physical examination three or four times during the entire school-life, with a screening of the pupils during the intervening years, permits concentration of medical attention on the physically inferior, most in need of medical attention. For these reasons it has been common practice through school health services to confine routine physical examinations to Grades I, IV, VII, and X, with screening selection of the intervening grades. This is reflected in the statistical analysis of the school medical examination, revealing 76.0 per cent of the pupils in these grades examined in 1948–49 and 73.2 per cent in the following year, 1949–50.

The study mentioned in previous Reports into the usefulness of the Wetzel Grid was completed and the results published in a special report entitled "Report of the Wetzel Grid Study." In summary, the report states:—

It has been seen that the Wetzel Grid screens into an unsatisfactory group approximately 15 per cent for whom no malady can be detected on clinical examination. It does not, however, screen all pathology into this group since it has been shown that 4.6 per cent of the entire group of school children studied were screened into the satisfactory category, notwithstanding the fact that they had significant pathological defects. It remains, therefore, to the second integral part of the Grid technique, the clinical appraisal, to diagnose pathology and causes of deviations.

The qualitative screening by the Grid is, therefore, only a useful adjunct to school health services. It will not materially reduce the work of the examiner, but it will tend to concentrate this work on those children whose condition demands closer supervision. It definitely creates interest in a procedure which otherwise tends to become monotonous and mechanical.

The public health nurses, teachers, parents, and pupils also are appreciative of the Grid as a graphic record and educational aid.

In this study, it was shown that approximately 67 per cent of children follow a growth pattern which, according to the Grid, is a normal one. Admittedly, the grid misses some cases and admittedly it is not a diagnostic instrument. It is felt, however, that the introduction of this system into a school health service would, while demanding additional clerical time, provide better use of professional time. It would arouse a greater interest in social factors and environmental influences as affecting the health of children, and finally, should create improved school health services, which is the ultimate goal.

On the basis of this report, a decision has been made to continue the use of the Wetzel Grid as a screening tool in the sixty schools of the six school districts served by the Central Vancouver Island Health Unit. A further introduction of its use is proposed in other school health services throughout the Province, commencing with Grade I pupils each year, thereby gradually extending it throughout all grades in a school. This move should promote an additional advancement in the school health services in line with the avowed policy toward an ideal school health service.

PREVENTIVE DENTAL SERVICES

Early in 1949 it was at last possible to establish a Division of Preventive Dentistry.

During the period under report, plans for the introduction of preventive services to be provided by full-time dentists in local health units were formulated in co-operation with, and with the approval of, the British Columbia Dental Association. However, by June 30th, 1950, it was not possible to recruit dentists to fill these appointments. As an interim measure, arrangements were made and successfully implemented in many rural communities throughout the Province whereby private dental practitioners conducted clinics for the younger children on one or two days a week in their own offices. Grants representing 50 per cent of the total cost of dental treatment were made by the Department of Health to local committees organizing such clinics.

In addition, during this period were also formulated plans to endeavour to attract dentists to provide dental services to the smaller rural communities of the Province. A system of grants-in-aid was authorized to endeavour to attract dentists to reside in communities in which no resident dentist is available, as was also the provision of dental equipment on loan to communities where a dentist would agree to visit periodically.

In an endeavour to stress the possibilities of the prevention of the vast majority of dental disease, further educational material—that is, booklets, pamphlets, posters, films, and film-strips—has been made available to schools through the local public health personnel. In particular, a booklet entitled " Your Teeth—How to Save Them " was made available to all schools, and on the instruction of the Department of Education was adopted as the official text for teaching dental health.

At last a start has been made to endeavour to solve the problem of dental ill-health amongst rural school-children. It is now confidently expected that it will be possible to report considerable progress in this field in future years.

NUTRITION SERVICES

Education as to the wise selection of food is a vital part of the school health programme, since food has an important bearing on the child's growth, development, and

general well-being. Since the fall of 1949 the nutrition consultants have assisted teachers and public health personnel in studying the pattern of foods eaten by school-children. This information is then used as the basis for developing a programme with specific emphasis on the important foods that are neglected in the children's daily meals. The studies are carried out under the supervision of the teacher and public health nurse as a school health project. The children record all the foods they eat over a three-day period, and the records are analysed according to food-groups. Food-studies have been conducted in areas of the Kootenays, Vancouver Island, Vancouver, and Northern British Columbia. In each area the three major deficiencies in children's diets have been milk, Vitamin D preparation, and foods rich in Vitamin C. These foods are essential for best growth and development and good health. In addition, the studies have revealed that many children eat excessive amounts of sweet foods, such as candy, soft drinks, and cake. Not only are these foods expensive, since they contain little food value, but they also dull the appetite and help to promote tooth decay. In view of these findings it has been recommended that the follow-up programme in each area give special emphasis to the four major problems. To assist in these programmes, the Nutrition Service has prepared pamphlets dealing with each of the four topics, and supplied visual aid and outlines for use in schools. Where studies have been made, public health personnel have reported an increased interest in improving food-habits by children and parents alike.

A new project introduced during the fall of 1950 has been that of rat-feeding experiments in schools. One group of rats is fed on a poor lunch, often typical of that eaten by many of the children, while the second group is fed a recommended adequate lunch. The children are able to observe the effects of the two contrasting diets on the weight and generally healthy appearance of the rats over a period of several weeks. The experiments illustrate vividly the importance of food on both appearance and disposition, and are effective in encouraging improved food-habits among the children.

The nutrition consultant and public health personnel have continued to assist teachers and Parent-Teacher Associations in planning and operating school-lunch programmes most efficiently. Food-studies have often indicated where improvement can be made in school-lunch menus, and rat-feeding experiments have emphasized the value of a well-planned lunch.

HEALTH EDUCATION

During the two school-years under review a major step in the improvement of health-teaching in schools was undertaken with the completion of the Effective Living Course for junior and senior high schools. The implementation of this course, which includes material on guidance, safety, home and family living, and alcohol education, as well as personal and community health, should do much to improve the quality of school health education in this Province. The curriculum was planned to help students to help themselves by providing them with a necessary background of scientific knowledge on which to build by developing an inquiring attitude and by linking health improvement with basic interests of adolescence. A representative of the Health Education Division assisted materially in the preparation of the health sections of this course. One month during the summer of 1949 was devoted to the preparation of certain units, and a curriculum workshop on this course was attended during the previous summer.

Throughout the past two years local public health services have continued to assist health-teachers through the provision of information, printed material, and films. Meetings of public health and teaching staffs on the local level have been a most satisfactory method of furthering greater understanding of their respective functions and responsibilities and of ensuring close co-operation in the development of sound school health programmes.

SCHOOL ENVIRONMENT REPORT, 1949–50

With three years' use of the detailed method of reporting on school environment, School Boards have been able to apply better methods, procedures, and practices in the considerable amount of school building and renovations carried out in the past two years. New schools have been required by increased enrolment, the establishment of new subdivisions, and the shifting population in the larger centres. Substantial progress has been made in the betterment of existing accommodations and all phases of environmental efficiency.

Electrification of many areas has made possible artificial lighting and the use of pressure-tanks and water-supplies and the installation of modern conveniences in rural schools. One School Board decided no further buildings would be erected with outdoor toilets nor would they install stove heaters in the established rural areas. In one locality, in the reconstruction programme the British Columbia Chapter of Illuminating Engineering Society conducted a model lighting experiment where two classrooms were connected to model lighting areas—one room with fluorescent lighting and the other with incandescent fixtures.

Portable schools, capable of being moved at will, have been erected in communities where settlement has not yet been stabilized, and has enabled School Boards to provide education facilities in small communities that have sprung up around sawmills and logging operations. This year saw the expansion of dormitory facilities in secondary schools in two areas.

For areas not served by full-time health services, many inquiries were answered for details as to installation of sewage-disposal systems, water-supplies, and lighting arrangements.

HEALTH OF THE SCHOOL-CHILD

As in previous years, the physical examinations of school-children have revealed the vast majority of them to be in good physical condition clinically. As a matter of fact, the trend noted in the last medical inspection of schools toward a consistently improved status among the pupils has been maintained year by year, although very slightly in the last year.

TABLE I.—PHYSICAL STATUS OF PUPILS EXAMINED, SHOWING PERCENTAGE IN EACH GROUP, 1943–44 TO 1949–50

Academic Group	Percentage of Pupils, A Group[1]	Percentage of Pupils, B Group[2]	Percentage of Pupils, C Group[3]
1943–44	86.6	11.4	2.0
1944–45	88.3	11.0	0.7
1945–46	90.4	9.0	0.6
1946–47	91.1	8.3	0.6
1947–48	91.7	7.8	0.5
1948–49	93.3	6.4	0.3
1949–50	93.4	6.5	0.1

[1] A Group: A, Ad, Ae, and Ade categories.
[2] B Group: Bd, Be, and Bde categories.
[3] C Group: Cd, Ce, and Cde categories.

So many features affect physical status it is difficult to determine any definite reason for such a trend. It is, however, significant that improved physical health is one of the major goals of all public health services, and that this improved physical status among school pupils has paralleled a transition of school health services from its former partial service to integration with community health services administered through health units.

In addition to the excellent physical status of the average British Columbia school-child, the majority of pupils (more than 70 per cent in each group) are immunized against

such major communicable diseases as diphtheria and smallpox, maintaining their immunity status throughout their school-life. This bespeaks a satisfactory trend in the immunity status of that population group, but the fact that cases of diphtheria were recorded in both years (rates of 1.1 cases per 100,000 population in 1949 and 5.5 in 1950) emphasizes that immunization of the total school population would be most desirable.

A significantly smaller proportion of the school population are immunized against scarlet fever, whooping-cough, and typhoid fever. This is understandable, as administration of scarlet fever toxin and typhoid fever vaccine is governed by the vagaries of disease incidence, particularly since the immunity so conferred is less permanent. In the case of whooping-cough, concentration of protection toward this disease is emphasized in the early infant and pre-school years, in which population group the disease is more serious and often fatal. Consequently, as the child becomes older there is less need for immunity protection to pertussis, and this is reflected in the gradually decreasing immunity status to this disease in the higher grades.

The third factor reflecting the health of the school-child is the communicable-disease incidence, the majority of which are childhood infections. In the 1948–49–50 period there were major increases in chicken-pox, measles, mumps, and rubella, with definite upward trends in scarlet fever, septic sore throat, and rheumatic fever. Many of these infections recur with a cyclic epidemic periodicity as new susceptible groups enter the school, and as the period under consideration ended, evidence was at hand indicating that the peak incidence had passed and that future incidence would likely be downward toward a cessation of the present cycle. This seemed particularly evident in chicken-pox and measles.

TABLE II.—COMMUNICABLE-DISEASE INCIDENCE

(Rate per 100,000 population.)

	1949	1950
Conjunctivitis	25.8	24.6
Chicken-pox	661.6	439.5
Diphtheria	1.1	5.5
Influenza	4.2	40.4
Measles	966.3	498.3
Mumps	387.3	758.7
Poliomyelitis	20.2	6.4
Rheumatic fever	1.7	2.9
Rubella	50.9	697.3
Scarlet fever	44.1	76.5
Septic sore throat	9.2	16.1
Tick paralysis	0.2	0.1
Pertussis	19.2	152.9

Poliomyelitis showed a moderate incidence during 1948–49 with a rate of 20.2 per 100,000 population, but was definitely improved in 1949–50, when the rate was only 6.4 per 100,000 population. Diphtheria, already mentioned, had a minor incidence somewhat lower than in previous years.

In general, the health of the school-child during the 1948–49–50 period was better than in past years. Although an average number of minor communicable diseases was recorded, the incidence of major infections was absent or insignificant, while the immunity status on the whole was satisfactory and the physical status excellent.

STATISTICS

During 1948–49 there were 137,536 children enrolled in the grades examined, which had decreased to 128,724 children in 1949–50. Of this number, 39.8 per cent were examined in that first year and 35.0 per cent in the second. This indication of the percentage examined is admittedly low, but is explained upon the basis that medical examinations are concentrated in Grades I, IV, VII, and X. Indeed, study of the results of the medical examinations by grades reveals a much more reassuring situation in the fact that 85.0 per cent and 92.2 per cent of the Grade I were examined in consecutive years, with lesser but corresponding majorities in the selected subsequent years. The results are presented in detail in the various statistical tables.

Table III.—Physical Status of Total Pupils Examined in the Schools for the Years Ended June 30th, 1946 to 1950

	1945–46	1946–47	1947–48	1948–49	1949–50
Total pupils enrolled in grades examined	88,588	106,311	121,542	137,536	128,724
Total pupils examined	39,131	47,671	43,662	54,682	45,049
Percentage of pupils enrolled examined	44.2	44.8	35.9	39.8	35.0
Physical status—percentage of pupils examined—					
A	38.8	36.7	39.5	42.2	38.8
Ad	48.3	51.8	49.6	48.9	52.5
Ae	0.9	0.9	0.9	0.8	0.6
Ade	2.4	1.7	1.7	1.4	1.3
Bd	7.6	6.7	6.7	5.6	5.6
Be	0.3	0.3	0.2	0.2	0.1
Bde	1.1	1.3	0.9	0.6	0.8
Cd	0.5	0.4	0.3	0.1	0.1
Ce	------	------	------	0.1	------
Cde	0.1	0.2	0.2	0.1	------

Table IV.—Physical Status of Total Pupils Examined in Grades I, IV, VII, and X for the Years Ended June 30th, 1946 to 1950

	1945–46	1946–47	1947–48	1948–49	1949–50
Total pupils enrolled in grades examined	61,974	72,612	76,624	50,519	41,688
Total pupils examined	44,809	53,642	53,244	38,377	30,515
Percentage of pupils enrolled examined	72.3	73.9	69.5	76.0	73.2
Physical status—percentage of pupils examined—					
A	33.6	34.9	37.6	40.6	38.7
Ad	53.1	53.1	52.4	50.7	53.3
Ae	0.7	0.9	0.7	0.7	0.6
Ade	2.0	1.7	1.4	1.3	1.0
Bd	8.3	6.9	6.6	5.8	5.6
Be	0.4	0.4	0.1	0.1	0.1
Bde	1.2	1.4	0.6	0.5	0.5
Cd	0.4	0.4	0.2	0.1	0.1
Ce	0.01	0.02	0.01	0.01	0.01
Cde	0.2	0.2	0.3	0.1	0.01

TABLE V.—SUMMARY OF PHYSICAL STATUS OF PUPILS EXAMINED, ACCORDING TO SCHOOL GRADES, 1948–49

	Total Pupils, All Schools	Examined via Grades			
		Grade I	Grades II–VI	Grades VII–IX	Grades X–XIII
Total pupils enrolled in grades examined	137,536	17,735	70,274	31,225	18,302
Total pupils examined	*54,682*	*16,346*	*19,638*	*11,987*	*6,711*
Percentage of enrolled pupils examined	39.8	92.2	27.9	38.4	36.7
Physical status—percentage of pupils examined—					
A	42.2	34.6	44.1	45.0	49.8
Ad	48.9	55.5	46.3	46.4	44.8
Ae	0.8	0.7	0.9	0.9	0.2
Ade	1.4	1.1	1.9	1.6	0.7
Bd	5.6	7.2	5.4	5.1	3.9
Be	0.2	0.2	0.2	0.1	0.1
Bde	0.6	0.5	0.8	0.6	0.3
Cd	0.1	0.1	0.2	0.2	0.1
Ce	0.1	------	0.1	------	------
Cde	0.1	0.1	0.1	0.1	------

TABLE VI.—PHYSICAL STATUS OF TOTAL PUPILS EXAMINED, ACCORDING TO SCHOOL GRADES, 1949–50

	All Schools	Grade					
		I	II	III	IV	V	VI
Total pupils enrolled in grades examined	128,724	16,796	15,080	14,057	12,986	12,050	11,444
Total pupils examined	45,049	14,280	2,430	2,036	6,216	1,465	1,428
Percentage of pupils enrolled examined	35.0	85.0	16.1	14.5	47.9	12.2	12.5
Physical status—percentage of pupils examined—							
A	38.9	32.5	32.6	39.6	43.4	36.2	47.2
Ad	52.5	57.9	56.2	50.2	48.5	53.7	43.8
Ae	0.8	0.9	1.2	1.1	0.7	1.3	0.9
Ade	1.2	1.1	1.6	1.8	1.4	1.3	1.2
Bd	5.6	6.7	6.9	6.0	5.1	5.3	5.5
Be	0.1	0.1	0.2	------	0.1	0.5	0.3
Bde	0.8	0.7	1.2	1.1	0.7	1.5	1.0
Cd	0.1	0.1	------	0.2	0.1	0.1	0.1
Ce	------	------	------	------	------	------	------
Cde	------	------	0.1	------	------	0.1	------

	Grade						
	VII	VIII	IX	X	XI	XII	XIII
Total pupils enrolled in grades examined	11,114	9,682	9,369	6,933	4,831	3,903	479
Total pupils examined	8,730	1,123	1,000	5,574	389	358	20
Percentage of pupils enrolled examined	78.5	11.6	10.7	80.4	8.1	9.2	4.2
Physical status—percentage of pupils examined—							
A	40.1	40.3	47.0	44.6	53.4	56.1	80.0
Ad	52.1	50.4	43.6	49.3	41.6	36.6	15.0
Ae	0.6	0.4	0.8	0.4	0.3	------	------
Ade	1.5	2.5	2.2	0.6	0.5	------	------
Bd	4.9	5.6	5.3	4.4	3.9	6.4	5.0
Be	0.1	0.1	0.2	0.1	0.3	0.3	------
Bde	0.7	0.4	0.8	0.5	------	0.3	------
Cd	------	0.3	0.1	0.1	------	0.3	------
Ce	------	------	------	------	------	------	------
Cde	------	------	------	------	------	------	------

Table VII.—Physical Status of School Personnel, Organized and Unorganized Territory, 1948–49

	Total	Organized	Unorganized
Total personnel employed in grades examined	3,929	3,465	464
Total personnel examined	253	221	32
Percentage of personnel employed examined	6.4	6.4	6.9
Physical status—percentage of personnel examined—			
A	93.7	96.8	71.9
Ad	4.0	0.9	25.0
B	2.0	1.8	3.1
Bd	0.3	0.5	------
C	------	------	------
Cd	------	------	------

Table VIII.—Physical Status of School Personnel, Organized and Unorganized Territory, 1949–50

	Total	Organized	Unorganized
Total personnel employed in grades examined	4,639	3,161	1,478
Total personnel examined	285	185	100
Percentage of personnel employed examined	61.4	58.5	6.7
Physical status—percentage of personnel examined—			
A	91.9	100.0	77.0
Ad	6.7	------	19.0
B	0.4	------	1.0
Bd	1.0	------	3.0
C	------	------	------
Cd	------	------	------

Table IX.—Immunization Status of Total Pupils Enrolled, According to School Grades, 1948–49

	Total Pupils Enrolled by Grades	Percentage Immunized				
		Diphtheria	Scarlet Fever	Smallpox	Pertussis	Typhoid
Total, all grades	137,536	76.5	23.4	76.4	20.9	18.0
Grade I	17,735	77.1	17.1	72.4	41.2	12.8
Grade II	16,022	78.3	20.0	74.6	36.0	16.3
Grade III	14,832	77.7	22.7	76.0	28.5	17.4
Grade IV	13,758	79.0	24.9	77.5	22.2	18.3
Grade V	13,058	78.4	26.9	79.1	17.6	19.0
Grade VI	12,604	78.0	27.0	79.0	13.7	20.0
Grade VII	11,614	75.4	27.3	77.4	11.8	20.0
Grade VIII	10,434	75.3	26.8	77.4	9.9	20.4
Grade IX	9,177	74.2	23.4	76.6	8.0	19.8
Grade X	7,412	71.4	22.1	75.1	6.6	18.3
Grade XI	5,399	72.2	24.1	77.5	6.1	20.7
Grade XII	4,284	70.4	21.4	75.8	6.5	19.1
Grade XIII	1,207	72.4	19.1	75.6	7.3	15.0

TABLE X.—IMMUNIZATION STATUS OF TOTAL PUPILS ENROLLED, ACCORDING TO SCHOOL GRADES, 1949–50

	Total Pupils Enrolled by Grades	Percentage Immunized				
		Diphtheria	Scarlet Fever	Smallpox	Pertussis	Typhoid
Total, all grades	128,724	78.7	19.3	74.2	24.4	20.6
Grade I	16,796	77.8	11.6	67.7	46.3	15.2
Grade II	15,080	80.7	14.2	73.0	41.3	16.7
Grade III	14,057	81.4	17.4	75.0	36.0	19.0
Grade IV	12,986	81.7	18.9	76.7	29.0	21.6
Grade V	12,050	77.6	20.2	77.7	21.6	22.7
Grade VI	11,444	84.0	22.3	79.2	18.3	22.3
Grade VII	11,114	79.4	21.2	74.1	12.3	24.4
Grade VIII	9,682	77.3	21.7	74.8	9.8	23.4
Grade IX	9,369	68.1	22.5	69.2	7.6	20.2
Grade X	6,933	75.5	25.7	73.9	6.7	23.2
Grade XI	4,831	77.8	26.3	77.6	5.0	22.4
Grade XII	3,903	76.9	26.0	76.4	4.7	23.1
Grade XIII	479	73.1	37.8	76.4	3.3	38.8

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