HEALTH WORK AND PHYSICAL EDUCATION

BULLETIN, 1932, No. 17

MONOGRAPH No. 28

UNITED STATES DEPARTMENT OF THE INTERIOR
OFFICE OF EDUCATION

NATIONAL SURVEY OF SECONDARY EDUCATION

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UNITED STATES DEPARTMENT OF THE INTERIOR
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COMMISSIONER

HEALTH WORK AND PHYSICAL EDUCATION

BY

P. ROY BRAMMELL

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NOTE

P. Roy Brammell, the author of this monograph, is specialist in school administration of the NATIONAL SURVEY OF SECONDARY EDUCATION. *William John Cooper, United States Commissioner of Education, is director of the Survey; Leonard V. Koos, professor of secondary education at the University of Chicago, is associate director; and Carl A. Jessen, specialist in secondary education of the Office of Education, is coordinator.*

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LETTER OF TRANSMITTAL

DEPARTMENT OF THE INTERIOR,
OFFICE OF EDUCATION,
Washington, D. C., March, 1933.

SIR: Within a period of 30 years the high-school enrollment has increased from a little over 10 per cent of the population of high-school age to more than 50 per cent of that population. This enrollment is so unusual for a secondary school that it has attracted the attention of Europe, where only 8 to 10 per cent attend secondary schools. Many European educators have said that we are educating too many people. I believe, however, that the people of the United States are now getting a new conception of education. They are coming to look upon education as a preparation for citizenship and for daily life rather than for the money return which comes from it. They are looking upon the high school as a place for their boys and girls to profit at a period when they are not yet acceptable to industry.

In order that we may know where we stand in secondary education, the membership of the North Central Association of Colleges and Secondary Schools four years ago took the lead in urging a study. It seemed to them that it was wise for such a study to be made by the Government of the United States rather than by a private foundation; for if such an agency studied secondary education, it might be accused either rightly or wrongly of a bias toward a special interest. When the members of a committee of this association appeared before the Bureau of the Budget in 1928, they received a very courteous hearing. It was impossible, so the Chief of the Budget Bureau thought, to obtain all the money which the commission felt desirable; with the money which was obtained, $225,000, to be expended over a 3-year period, it was found impossible to do all the things that the committee had in mind. It was possible, however, to study those things which pertained strictly to secondary education, that is, its organization; its curriculum, including some of the more fundamental subjects, and particularly those subjects on which a comparison could be made between the present and earlier periods; its extracurriculum, which is almost entirely new in the past 30 years; the pupil population; and administrative and supervisory problems, personnel, and activities.

The handling of this survey was intrusted to Dr. Leonard V. Koos, of the University of Chicago. With great skill he has, working on a full-time basis during his free quarters

from the University of Chicago and part time during other quarters, brought it to a conclusion.

This manuscript represents an effort to secure information concerning the progress of health and physical education in the schools. It was prepared by P. Roy Brammell of the special survey staff who used both the inquiry form method and personal visiting in the investigation. The inquiry form on health was sent to 851 schools of which 460 schools returned a report in time for incorporation here. Of these, 162 were regular 4-year schools; 147 were junior high schools; and 151 were other reorganized types of schools. Visits were made to about 20 schools well distributed throughout the Nation.

It is to be observed that 50 per cent of the schools launched the health program between 1925 and 1929, and 25 per cent more began it between 1920 and 1924. Therefore it is relatively new. In general, the junior high schools are found to have more highly developed health services than are the other types of schools. In many of them health work apparently came in with reorganization. Health examinations are quite common in the schools studied, especially in the reorganized types. Seven items are included in the examinations given by 70 to 87 per cent of the schools. In the order of frequency these are: (1) The eyes, (2) throat, (3) teeth, (4) ears, (5) nose, (6) heart, and (7) lungs. The teacher of the health work is very frequently the physical education teacher; this is evidence of a rather close integration between these two fields. In other cases the nurse teaches courses in health.

Three-fourths of the schools require physical education; it is most frequently required in grade 9. Classes usually are held twice a week. It is interesting to find that the courses of study which were examined were dated 1929 or later, and that, of 24 announced objectives, the teaching of exercises which would furnish proper and enjoyable recreation for living in later life was most often mentioned. The objectives next in point of frequency were likewise directed toward adult life. Obviously physical education and health are tending toward work which carries over into later life.

I recommend that this manuscript be published as a monograph of the National Survey of Secondary Education.

Respectfully,

WM. JOHN COOPER,
Commissioner.

The SECRETARY OF THE INTERIOR.

HEALTH WORK AND PHYSICAL EDUCATION

CHAPTER I : GENERAL PURPOSE OF THE STUDY AND PRELIMINARY DATA

Purpose of the study.—The general outline of the National Survey of Secondary Education, under the heading of "Special problems of administration and supervision," provides for a study of health work in secondary schools. In accordance with that outline's plan for selecting for study schools with outstanding programs, this investigation aims to summarize the practices among a large number of secondary schools cited to the survey as having promising innovations in the field of health work. Consequently, this is not a study of the status of health work among secondary schools in general. The major purpose of this study is to show the direction in which the schools most active in this field are moving. Schools which have not yet launched definite programs of health work or have only recently inaugurated health programs will probably find in this monograph facts and ideas which will prove useful.

The survey in general has recognized the close relationship in the secondary schools of health work, physical education, and intramural and interscholastic athletics. For purposes of study, however, these fields have been treated as distinct. Interrelationships have been sought and described, however, throughout the studies. In fact, one definite aim has been to discover schools and school systems in which the work in all four fields is coordinated and administered under a single head, with a major objective, namely, health.

The report of the findings concerning intramural and interscholastic athletics constitutes a separate monograph (No. 27) of the general survey. The materials concerning health and physical education will make up the present report.

Preliminary data concerning health work.—A few items concerning health and physical education were included in each of four general inquiry forms sent out during the early stages of the survey to (1) State school officers, (2) city school officers, (3) principals of individual public secondary schools, and (4) principals of individual private secondary schools. The data taken from these forms can be summarized briefly.

(1) State school officers supplied the names and addresses of 104 school systems or individual schools which, in their opinion, exhibited "suggestive or noteworthy developments, significant or promising procedures, or important deviations from usual practice" in the field of health work.

(2) Of 221 city school officers reporting, 45 per cent indicated that records extending over a period of years were available concerning the health of secondary-school pupils in their cities, and approximately 50 per cent indicated that their school system was making significant contribution toward the solution of problems of health supervision. Thirty-four designated 71 individual secondary schools with significant work in the field of health. No city school officer reported that special studies concerning health had been made. The individual schools designated by the State and city school officers formed a significant part of the mailing list of schools to which a special inquiry form respecting health work was sent.

(3) Of the inquiry forms sent to principals of public secondary schools, 2,196 were returned with the information requested. The principals were asked what agency exercised direct control over the health work in their schools. The 7 agencies outstanding in a list of about 20 are shown in Table 1.

TABLE 1.—*Number of public secondary schools, in a total of 2,196, reporting various agencies as exercising direct control over health work*

Agency	Number of schools	Agency	Number of schools
State agency or officer	53	Own school administration	1,196
County agency or officer	385	Parent-teacher association	14
City agency or officer	743	Red Cross	14
City school administration	877		

Of the 2,078 principals reporting on this point, 983 indicated that more than one agency shared in controlling the health work in the school. In cases of this sort the respondents were requested to describe briefly the plan of cooperation between the agencies. Only 47 plans were described. The following are typical:

School nurse appointed by city health department and paid jointly by health department and school district. These nurses come to the school on a schedule and at other times if called.

City board of health provides physical examinations periodically and a nurse part of each day. Our own instructors use board of health findings and work under city school supervision.

School physician and nurse work under the direction of the city board of health.

Doctors and nurses paid by board of education, directed by city department of health, report also to principal.

By law the city board of health is required to make certain inspections, recommendations, and regulations. School board physicians are approved by board of health and details of program are left to individual school.

Medical inspector supplied under control of board of health. Follow-up made by school nurse, paid by board of education. Pupil advisers assist in follow-up.

The school board of education and the city administration have worked out a system of cooperation which gives the schools the benefit of all health laboratories.

(4) Sixty-eight per cent of 761 private secondary schools reporting indicated that guidance concerning health (apart from the guidance presented in the usual subjects of study) is a regular part of their programs. Sixty-five per cent reported that the health work is carried on by persons trained to do this type of work. The same proportion indicated that all pupils receive special instruction in health at some time during their secondary-school career. However, only 36 per cent reported that this instruction is given in special health courses conducted by specially trained teachers of health. In 56 per cent of the schools this instruction is given in connection with other courses (e. g., biology, general science, etc.) conducted by regular classroom teachers.

The varied preliminary data concerning health work in public and private secondary schools indicate that practically

all the schools carry on health work of some sort under some one of a large number of plans of direction and control. Definite instruction in health is commonly given, but among the private secondary schools this instruction is given by trained teachers in special courses in only one school in three.

Preliminary data concerning physical education.—State and city school officers were asked to cite schools or school systems in which special investigations and revisions in the field of physical education had been or were being carried on. Respondents for individual schools were asked the same question. Thirty-five per cent of 2,196 public secondary schools reported affirmatively on this inquiry. These responses indicate that the program of physical education is receiving careful study and revision in a large number of schools.

The inquiry form directed to private secondary schools sought to determine whether or not work in physical education was required, elective, or not offered. Among 761 schools, 57 per cent require physical education; in 11 per cent of the schools it is elective; and 12 per cent do not offer it. Thirty-two per cent of these schools indicate that the work in physical education is under the supervision of the director of health.

Subsequent chapters in this report.—The data concerning health work and physical education will be treated independently in this report. The data respecting health work are more detailed and comprehensive than for physical education. After presentation of health and physical education in separate chapters, a brief chapter on trends, conclusions, and problems will draw the materials together and bring out the major implications of the study.

CHAPTER II : HEALTH WORK

1. THE SOURCES OF INFORMATION

Description of inquiry form.—In order that the data for this study might be systematically collected and treated, a special inquiry form on health work was devised. This form, 12 pages in length, provides for the securing of general information about individual schools, as well as information about the organization and administration of health work, health examinations for teachers and pupils, instruction in health, kinds of health service rendered by the schools, special health activities fostered among the pupils, problems of health which had been made the subject of careful study, and miscellaneous items concerning health work. The form was constructed to permit a minimum amount of writing. Following certain items, space was provided for brief descriptions of plans considered effective.

Selection of schools for study.—The inquiry form devised for this study was not sent to secondary schools at random, but to schools which had been cited by State and city school officers as doing promising work in this field, or to the schools which in earlier general checking lists had reported stressing health work. The names and addresses of additional schools were secured from United States Office of Education specialists.

Circulation and return of forms.—In all, inquiry forms concerning health work were sent to 851 secondary schools in all parts of the United States. Of this number, 460, or 54 per cent of the forms, were filled in and returned in time to be included in the tabulations.

Classification of schools.—The 460 schools whose returns are included in this study are grouped under three main

classifications, namely, size of enrollment, geographical region, and type of school organization.[1]

The 460 schools included in this study are grouped in Table 2 under the classifications described in footnote 1. Junior high schools are strongly represented. Fifty-eight of the 86 schools having enrollments of 100 or fewer are regular 4-year high schools. If the senior high schools and the other reorganized schools (mainly 5-year and 6-year undivided schools) are combined to form a single group of reorganized schools other than junior high schools, then the total number of schools is distributed among the three main types of organization as follows: (1) Regular 4-year high schools, 162; (2) junior high schools, 147; and (3) other reorganized schools, 151. Unless significant data appear for the group of senior high schools, the data for types of school organization will be presented in the tables under the three types just indicated.

[1] The enrollment classification is subdivided into five groups, as follows: 100 and fewer, 101 to 300, 301 to 750, 751 to 1,500, and 1,501 and more.

The five regions are New England, Middle Atlantic, South, Middle West, and West. Each of these regions includes several States, as follows:

1. *New England:* Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, and Connecticut.
2. *Middle Atlantic:* New York, New Jersey, Delaware, Pennsylvania, Maryland, and the District of Columbia.
3. *South:* Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Kentucky, Tennessee, Arkansas, Oklahoma, Mississippi, Louisiana, and Texas.
4. *Middle West:* Michigan, Ohio, Indiana, Missouri, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Iowa, and Kansas.
5. *West:* Arizona, New Mexico, California, Colorado, Utah, Wyoming, Nevada, Montana, Idaho, Oregon, and Washington.

In the tables of this report, when regional groupings are included, the following abbreviations are used: N. E. for New England, M. A. for Middle Atlantic, S. for South, M. W. for Middle West, and W. for West.

The third classification of schools, namely, type of school organization, is subdivided as follows: (1) Regular 4-year high schools, (2) junior high schools, (3) senior high schools, and (4) other reorganized schools.

These four types of school organization, when included in the tables of this report, are usually abbreviated as follows: 4-year for regular 4-year high schools, junior for junior high schools, senior for senior high schools, other for other reorganized schools.

In most of the tables in the report the senior high schools and the other reorganized schools are combined and called "other reorganized schools."

TABLE 2.—*Classified summary of 460 returns to the special inquiry on health work in secondary schools*

Classification	N. E.	M. A.	S.	M. W.	W.	Total
1	2	3	4	5	6	7
Regular 4-year high schools of enrollment:						
100 and fewer	5	10	15	20	8	58
101 to 300	1	14	14	15	6	50
301 to 750	5	6	3	5	5	24
751 to 1,500	1	3	3	2	1	10
1,501 and more	4	9	2	4	1	20
Total	16	42	37	46	21	162
Reorganized high schools of enrollment:						
Junior—						
100 and fewer			2		2	4
101 to 300	3	1		5	1	10
301 to 750	9	12	8	20	4	53
751 to 1,500	10	12	4	19	10	55
1,501 and more	3	12		7	3	25
Total	25	37	14	51	20	147
Senior—						
100 and fewer		3	2	5	2	12
101 to 300		1	4	6	2	13
301 to 750	1	1	1	5	1	9
751 to 1,500	6	5	1	4	2	18
1,501 and more	6	8	3	2	2	21
Total	13	18	11	22	9	73
Other—						
100 and fewer		4	1	6	1	12
101 to 300		4	2	17	1	24
301 to 750	2	8	5	5	1	21
751 to 1,500		3	1	4		8
1,501 and more	1	5	1	6		13
Total	3	24	10	38	3	78
Total reorganized schools	41	79	35	111	32	298
Total regular and reorganized schools	57	121	72	157	53	460
Total by enrollments:						
100 and fewer	5	17	20	31	13	86
101 to 300	4	20	20	43	10	97
301 to 750	17	27	17	35	11	107
751 to 1,500	17	23	9	29	13	91
1,501 and more	14	34	6	19	6	79
Total	57	121	72	157	53	460

Respondents.—The special inquiry form on health work was addressed to principals of secondary schools. Of the 460 responses, 388 specified the person who filled in the form. In 294 cases the principal supplied the information. In all but 16 of the 388 cases the form was filled in by either the administrative head of the school or a person identified with the program of health work. Thus it is felt that the data contained in this report have been supplied by persons in authority.

Year in which the program of health work was launched.—Two hundred and seventy-two respondents specified the year in which a definite program of health work was launched in their schools. The trend among the schools, classified according to types, is indicated in Table 3. Clearly, the movement to make health work a major part of the school program has come into full swing since 1920. When it is remembered that the group of junior high schools for the entire study is slightly smaller than either of the other two groups in the table, it appears that this group of schools adopted programs of health work at a somewhat earlier date than the others.

TABLE 3.—*Year in which program of health was launched in 272 secondary schools*

Year	Type of school			Total	Year	Type of school			Total
	4-year	Junior	Other			4-year	Junior	Other	
1	2	3	4	5	1	2	3	4	5
Before 1910	2	1	3	6	1925–1929	48	47	45	140
1910–1914	2	3	4	9	1930	16	5	9	30
1915–1919	4	7	6	17					
1920–1924	20	32	18	70	Total	92	95	85	272

Source of agitation for the adoption of a program of health work.—The data concerning the source of agitation for a program of health, presented in Table 4, show in an impressive way the part local school authorities have played in making health work a part of the regular program of the school. In the detailed tabulations of the data, which can not be reproduced here, two facts stand out. The first of these is the prominence of State and county agencies or officers as sources of agitation among the small schools (with enrollments of 300 and fewer) and among the 4-year high schools. The other fact is the overwhelming extent to which the agitation for health work among the junior high schools came from the local school authorities. Evidently the junior high schools have not waited for State laws to be passed or for localized health units to bring pressure to bear before they adopted programs of health work.

TABLE 4.—*Number of schools designating certain sources of agitation leading to the adoption of a definitive program of health work*

Source	Number of schools	Source	Number of schools
State agency or officer	141	Local school authorities	260
County agency or officer	13	Others	4
Local community	28		
Local health agencies	6	Others	452

Reference materials on health education.—In connection with the study of health work in the schools, a bibliography of more than 400 references has been assembled. This by no means includes all the publications in this field. These references, of course, can not be reviewed here. A few, however, deserve to be mentioned as typical in this field. S. A. Courtis conceives the three types of goals for health education to be (1) perfection of structure, (2) perfection of functioning, and (3) perfection in maintenance.[2] General programs of health work are discussed in such works as those by Hutchinson [3] and Wood.[4]

As regards practices and trends in the administration of health work, reference should be made to studies by the American Child Health Association,[5] Rogers, [6 7 8] Ready,[9] Stetson and Cozens,[10] and Way.[11] Typical in the field of

[2] Courtis, Stuart A. Goals of Health Education. Research Quarterly, 1 :86-99, October, 1930.

[3] Hutchinson, Dorothy. Suggestions For a Program of Health Teaching in the High School. Health education series, No. 15. Washington, U. S. Government Printing Office, 1923.

[4] Wood, Thomas D. What is the Best School Health Program and How Best to Administer it? N. E. A. Addresses and Proceedings, 68 : 507–509, 1930.

[5] American Child Health Association. Principles and Practices in Health Education, from the sixth health education conference arranged by the American Child Health Association and held at Sayville, Long Island, N. Y., June 16-20, 1930. New York, American Child Health Association, 1931. 485 pp.

[6] Rogers, James Frederick, *comp.* School Health Activities in 1930. Summary of information collected for the White House Conference on Child Health and Protection. Washington, U. S. Government Printing Office, 1931. 33 pp. (U. S. Office of Education. Pamphlet No. 21.)

[7] —— Progress and Prospect in School Health Work. School health studies, No. 10. Washington, U. S. Government Printing Office, March, 1931.

[8] —— State-wide Trends in School Hygiene and Physical Education. Washington, U. S. Government Printing Office, 1930. (U. S. Office of Education. Pamphlet No. 5.) 13 pp.

[9] Ready, Marie M., *and* Rogers, James Frederick. Biennial Survey of Education in the United States, 1928-1930. Ch. X, Hygiene and Physical Education. Bulletin 1931, No. 20. Washington, U. S. Government Printing Office, 1931.

[10] Stetson, F. L., *and* Cozens, F. W. The Organization and Administration of Health Education in the Secondary Schools of the United States. Eugene, Oreg., University of Oregon, 1927.

[11] Way, A. B. Administration of Health Teaching in High Schools. High points in the work of the high schools of New York City, 13:508, June, 1931.

the materials of instruction are works by Aldworth[12] and Cairns.[13]

In a publication of the State Education Department in New York, Bauer[14] presents a study of the health and physical education programs in smaller high schools in New York State. Follow-up work is considered by Burton.[15] Health training for teachers is discussed by Leavitt.[16] Hussey[17] and Oberteuffer[18] have studied the principles and methods of teaching health. Jones[19] has investigated housing and equipment in the athletic, health, and physical education departments in 100 high schools.

Other representative studies in the field of health are those by Hoefer and Hardy,[20] Light,[21] Robson,[22] and the White House Conference on Child Health and Protection.[23]

2. ORGANIZATION AND ADMINISTRATION

Acquaintance with State requirements.—The first question concerning the organization and administration of health work was whether or not the law in the State required that

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[12] Aldworth, Eleanore. A Comparison of Principles for Evaluating Health Source Materials with Those Designed for General Textbooks. Master's thesis, New York University, 1931. 107 pp.

[13] Cairns, Laura. A Scientific Basis for Health Instruction in Public Schools. University of California Publications in Education, Berkeley, University of California Press, vol. 2, No. 5, November, 1929.

[14] Bauer, E. A. A Study of the Health and Physical Education Programs in Smaller High Schools of New York State. State Education Department, Albany, N. Y., 1930. 17 pp. MS.

[15] Burton, Arthur Brombacker. The Techniques Used in New York City Schools as Follow-ups to Health Inspection to Guarantee Health Correction. Master's thesis, New York University, 1931. 82 pp.

[16] Leavitt, R. G. Health Training for Teachers. Health education series, No. 8. Washington, U. S. Government Printing Office, March, 1931.

[17] Hussey, Marguerite M. Principles and Methods of Teaching Health. Doctor's thesis, 1931. New York University, New York. 176 pp. MS.

[18] Oberteuffer, Delbert. Two Problems in Health Education. Journal of Health and Physical Education, 2:306, 46–47, February, 1931.

[19] Jones, H. A. Status of Equipment in Athletic, Health, and Physical Education Departments in 100 High Schools in the United States. School Review, 38:55–60, January, 1930.

[20] Hoefer, Carolyn, *and* Hardy, Mattie C. Influence of Improvement in Physical Condition on Intelligence and Educational Achievement. 1928. Elizabeth McCormick Memorial Fund, Chicago, Ill. *In* National Society for the Study of Education. 27th Yearbook. Nature and Nurture, Bloomington, Ill., Public-School Publishing Co., 1928, pp. 371–387.

[21] Light, Alice C. A Study of the Relation of Posture to School Success. Master's thesis, 1930. New York University, New York City. 64 pp.

[22] Robson, J. Stanley. A Study of Health Interests and Behavior of High-School Students. Master's thesis, 1931. University of Southern California, Los Angeles. 220 pp.

[23] White House Conference on Child Health and Protection. Communicable Disease Control. Report of the committee on communicable disease control, George H. Bigelow, *chairman*. New York, N. Y., Century Co., 1931. 243 pp.

secondary-school pupils should receive medical inspection. This question was asked in spite of the fact that information regarding these legal requirements is on file in the United States Office of Education. The responses to this question reveal an interesting situation. In less than half of the States in which schools answering this question are located are the respondents unanimous in answering either "yes" or "no"—this in schools reported to be outstanding in health work. A few examples of States in the number of "yes" and "no" answers are as follows: Michigan, 8 and 13; Ohio, 8 and 15; Virginia, 6 and 6; Missouri, 4 and 5; California, 5 and 13; Massachusetts, 29 and 4; and New York, 27 and 5. Other examples could be cited at length. Apparently one of the first steps in improving health work in the schools is to make school authorities familiar with existing requirements. Probably it is safe to assume that in some of the schools the administrators of which do not know that the State requires medical inspection for secondary-school pupils, no such inspection is carried on.

Units of which the health work in the school is a part.—In about 90 per cent of the 460 secondary schools included in this study the health work is a part of a general program of health which extends beyond the school itself. The unit of organization for health work of which the schools, as a whole, are most frequently a part is the city school system. However, for certain groups of schools other units stand out. For example, the unit of which the small schools (with enrollments of 300 and fewer) are most frequently a part is the State department of education. The county board of health is also prominent for small schools. Health work in the junior high schools is most commonly a part of a program of health for an entire city school system. Data for the schools by size of enrollment and type of organization are presented in Table 5.

TABLE 5.—*Number of schools reporting that their health work is organized as a part of various larger units*

Unit	Enrollment					Type			Total
	100 and fewer	100–300	301–750	751–1,500	1,501 and more	4-year	Junior	Other	
1	2	3	4	5	6	7	8	9	10
State board of health	16	14	7	5	2	21	10	13	44
State department of education	31	31	13	11	11	50	13	34	97
County board of health	21	25	11	6	2	34	8	23	65
County board of education	6	6	2	------	6	8	4	8	20
City board of health	1	6	23	24	21	16	43	16	75
City school system	7	26	80	72	68	54	124	75	253
Independent of any unit beyond school itself	12	17	7	4	3	19	5	19	43
Others	2	3	4	2	1	3	4	5	12

Some respondents reported their schools as being a part of more than one larger unit. In general, the data reveal that the most common unit of organization for health work to which the schools belong is the city school system. However, the frequencies for several other units are so high that one can not say that efficient work in the field of health is dependent upon a certain type of organization. Most of the schools studied here, it should be remembered, were cited as having developed promising programs of health work.

Frequency with which health supervisors visit schools.—When the health work in schools is a part of a larger program, it is inferred that supervisors representing the larger program will oversee the work in the individual schools. Furthermore, the unit which furnishes supervision most frequently may be said to hold certain advantages over other units. According to the data in the right-hand portion of Table 6, the supervisors for city school systems and for individual schools are able to keep in direct touch with the health work much more consistently than either the State or county supervisors. This, of course, is to be expected, and is only the result of circumstance. However, it does mean that the schools which must depend upon State and county officers for supervision are at a disadvantage compared with the schools which are a part of a city school system or which have health officers of their own. Furthermore, as the data reveal, the visits of State and county supervisors are much more irregular than

those of the other officers. Monthly, weekly, or daily visits by them are uncommon, whereas frequent visits are more common for the local school officers.

TABLE 6.—*Number of schools, by types, reporting the frequency with which they are visited by health supervisors, and the number reporting the frequency of visitation of certain types of supervisors*

Frequency of visitation	Type of school			Health supervisor				Total
	4-year	Junior	Other	State	County	For city school system	For school itself only	
1	2	3	4	5	6	7	8	9
Each semester	25	18	27	14	25	17	14	70
Every 6 weeks	6	7	5	1	3	7	7	18
Once a month	6	14	10	----	7	13	10	30
Biweekly	1	14	4	----	----	8	11	19
Weekly	11	29	11	----	7	24	20	51
Semiweekly	3	4	2	----	1	3	5	9
Daily	13	32	22	----	1	23	43	67
Constant	7	10	7	----	----	5	19	24
Irregular	59	44	43	43	37	39	27	146
Yearly	18	1	2	9	6	3	3	21
As requested	4	2	6	1	6	3	2	12
Other interval	4	4	6	2	4	5	3	14

When data for the three types of schools are compared in Table 6, it is evident that the reorganized schools, especially the junior high schools, receive supervision more frequently on the average than the regular 4-year high schools. This is no doubt due to the fact that the health-work in the 4-year high schools is more often supervised by State and county officers than is true of the work in the reorganized schools. If the data in the table are examined as a whole, it is clear that the visits of supervisors of health work to individual schools are most frequently irregular. City and local school health officers are more regular than the State and county officers, and the reorganized schools receive supervision more regularly than the 4-year high schools.

Employment of directors of health work by school systems.—Respondents employed by local school systems indicate that in approximately 70 per cent of the systems there is employed either a full-time or a part-time director of health work who spends part of his time in the schools reporting. This organization and direction of health work for an entire

school system is therefore the more common practice, and, without doubt, is much to the advantage of the individual schools, many of which, if they were not a part of a school system, would not carry on programs of health work at all.

Maintenance of local committees who consult with supervisors or directors.—Less than 40 per cent of the schools maintain committees to cooperate with health supervisors or directors. One might expect that these committees would be in small schools (with enrollments of 300 and fewer) and in 4-year high schools in which the health work is most frequently supervised by State or county officers. This is not the case. More than half of the larger schools and the reorganized schools, especially the junior high schools, have these committees. More than two-thirds of the small schools and 4-year high schools do not have them.

The school officers most frequently serving as members on these committees are indicated in Table 7. These officers, 22 in number, range from the janitor to the administrative head of the school. However, only the seven listed in the table are outstanding in frequency. In general, it may be said that appropriate persons are selected as members of these committees. In some cases they may not be able to give advice concerning health work in general, but they are in a position to carry out health practices among the pupils. Illustrative of this type of committee member is the head of the lunch room, the coach, the matron, and the janitor.

TABLE 7.—*Number of schools reporting various officers as members of committees in local schools to consult with visiting supervisors or directors of health work*

Officer	Number of schools	Officer	Number of schools
Administrative officer	139	School physician	13
Nurse	97	Director of health work	11
Director of physical education	85	Health counselor	11
Teachers	38		

Phases of health work for which schools are independently responsible.—Data concerning the phases of health work for which the schools are independently reponsible are presented in Table 8. If a percentage for a certain phase of health work in this table is low, it means that among the schools of that group the phase of work considered is usually directed

as a part of a unit larger than the individual school. With this in mind, it appears from the data that, in general, the larger schools (with enrollments of more than 750), the schools in New England, and the junior high schools are most frequently favored with having their health work planned and directed as part of a larger program. In certain phases some groups of schools are worthy of special note. For example, only 19 per cent of the schools in the Middle West report that they are independently responsible for health examinations. On the whole, the data indicate that health work as such is more generally organized into units extending beyond the individual schools than are the physical activities.

TABLE 8.—*Percentages of certain groups of schools reported to be independently responsible for certain phases of health work*

Classification	Health conditions in school	Health examinations	Health instruction	Physical activities
1	2	3	4	5
Enrollment:				
100 and fewer	44	28	44	66
101 to 300	44	26	54	70
301 to 750	46	30	50	63
751 to 1,500	34	23	44	53
1,501 and more	26	22	34	44
Average	40	26	46	60
Region:				
N. E	26	25	28	44
M. A	49	34	52	63
S	42	25	43	53
M. W	36	19	48	66
W	40	30	47	62
Average	40	26	46	60
Type:				
4-year	43	28	41	60
Junior	32	20	45	54
Other	44	30	52	66
Average	40	26	46	60

Coordination of health work in secondary and elementary schools.—In 31 per cent of the 460 schools included in this study, one or more of the elementary grades are housed with the secondary school. The highest percentage (43) occurs among the schools of the South. The lowest percentage (17) is in New England. However, although the secondary and elementary grades are more often housed together in

the South than in New England, this does not result in the more frequent coordination of health work between secondary and elementary grades in the South. The percentages of schools in these two regions which foster such coordination are practically equal, and are about the same as the percentage (69) for all the schools included in this study. No certain enrollment group, region, or type of school is outstanding in the portion of its schools which coordinate their health work with that in the elementary schools. However, the percentage (69) of the entire group of schools which foster such coordination is encouragingly high.

3. ORGANIZATION AND ADMINISTRATION IN INDIVIDUAL SCHOOLS

Administrative relationship of the work in health and in physical education.—Up to this point the discussion of health work has had to do primarily with the relation of the health program within individual schools to agencies outside them, or of which they are a part. Attention will be given now to the way in which individual schools are organized for and administer this work.

In order to determine whether or not the health work in the individual schools was organized to include physical education or to be itself a part of the physical education program, the respondents were requested to answer "yes" or "no" to the following questions: "Is the physical education work in your school a part of the general health program?" "Is the health work in your school organized as a part of the physical education program?" Three hundred and thirty-one answered the first question affirmatively and 311 the second. Since only 460 schools are included in this study, it is clear that some schools answered both questions affirmatively. It is difficult to determine, therefore, to what extent health work is a part of or comprehends the work in physical education in the schools. It might not be altogether a guess to estimate that in half of the schools health work is a phase of the work in physcial education and in the other half health work includes physical education. A more significant fact to point out is the large number of schools in which these activities are dovetailed. It is appropriate to mention here that in a preliminary report of the National Committee on Professional Objectives, 10 cardinal

points in the platform of health and physical education were proposed. One point recommends the organization and administration of health and physical education in schools as a single executive department.

The current thought concerning health work in the schools goes definitely beyond health instruction. This is illustrated by a statement published by the Department of Public Instruction in Pennsylvania, as follows: "Not knowledge but doing makes health. The formation of good health habits is the great goal. Conduct counts. All information, therefore, is merely for the purpose of laying a strong foundation on which health habits may be securely built." [24] So far as the work in the school itself is concerned, physical education offers an excellent opportunity to make certain health practices habitual. Furthermore, the physical activities in the school need to be administered with a view to developing and preserving the health of pupils. Consequently, it seems not only logical but necessary that the work in health and physical education be closely coordinated, if not administered under a single head.

Directors or "coordinators" of health work in individual schools.—One hundred and thirty-six, or 29 per cent, of the schools in this study indicated that they have either a full-time or part-time director or "coordinator" of health work. Of this number, 67 are full time and 69 are part time. A third of the 147 junior high schools have directors, 60 per cent of whom are full time. Sixty-four per cent of the directors in 53 schools having more than 750 pupils enrolled are on full time. Twenty-five per cent of the 183 schools having enrollments of 300 or fewer have directors of health, 24 per cent of whom are full-time.

Years' experience.—Approximately 80 per cent of the 136 full-time or part-time directors of health have had less than 10 years' experience in this type of work. Forty-five per cent have had less than five years' experience. The median number of years experience for the directors in 4-year high schools is 4.5; in junior high schools the median is 7; and in other reorganized schools, 5.

[24] Course of Study in School Health. Bulletin 43, Department of Public Instruction, Commonwealth of Pennsylvania, 1927. p. 27.

Degrees.—The number of schools reporting that the director of health holds certain degrees are as follows: B. S., 45; B. A., 41; M. D., 27; R. N., 24; M. A., 5; and Ph. D., 3. Seven other miscellaneous degrees were specified. Thirteen of the 27 directors holding the M. D. degree are directors of health in junior high schools. There is a definite indication that, as a group, the junior high schools are employing directors who are at the same time more experienced and more highly specialized in health work than the directors in other types of schools.

Persons who do health work in the school.—Although the schools specified 30 different official titles of persons doing health work in them, these positions fall conveniently into 14 types. Data for the seven types of workers most frequently reported by the schools are presented in Table 9. The frequency with which seven agencies contribute directly to the financial compensation of these workers is also shown in the table. The seven types of workers not listed in the table are as follows: (1) Regular teacher, (2) athletic coach, (3) matron, (4) guidance teacher or counselor, (5) special nutritionist, (6) teachers' health council, and (7) home-room teacher. None of these, however, was reported by more than seven schools.

TABLE 9.—*Number of schools reporting certain persons as doing health work and the frequency with which certain agencies contribute directly to the support of these persons*

Health worker	Agencies contributing to support								Total number of schools employing worker
	State department of education	State board of health	County board of education	County board of health	City board of education	City board of health	Private agency	Other agency	
1	2	3	4	5	6	7	8	9	10
Director of health work	7	----	6	7	89	10	----	----	119
Physician	8	9	5	12	161	53	5	26	279
Dentist	1	4	1	5	67	14	6	11	109
Nurse	8	11	12	31	174	47	8	31	317
Mental hygienist	1	3	----	2	21	3	----	5	35
Physical education worker	7	1	9	1	217	7	1	39	282
Special health teacher	4	----	----	----	35	----	1	5	45

From the data in Table 9 it is clear that the persons most frequently responsible for actual health work in schools are the nurse, physical education worker, and physician. Two other persons are prominent, namely, the director of health work and dentist. The number of schools employing special teachers of health is as yet small, although a substantial beginning in this practice has been made. It is apparent also that comparatively few schools employ mental hygienists.

A study of the data for the agencies which contribute directly to the compensation of the workers reveals the surpassing extent to which the health workers in the schools of this study are employed by either the city board of education or the city board of health. Twenty-five of the total of 33 cases in which the county board of education contributes to the support of the health workers are in the South. In most cases the other agencies of support not specified in the table are local in character, indicating that the replies were from schools located in small towns or rural areas. For example, local boards of education, township trustees, and district boards were frequently specified. In general, the data indicate that, among the schools studied, the health workers are most frequently compensated by local agencies.

Persons employed to do health work in the schools may or may not devote large portions of their time to this work. In an effort to determine the amount of time the schools were served by the workers, the respondents were requested to indicate the weeks per year and the hours per week that these persons devoted to health work in their schools. These data referring to workers listed in Table 9 are presented in Table 10. It is apparent that all the workers except two, namely, the physician and dentist, are usually at work during each week of the school year. This is not to say that in some schools the physician and dentist are not at work during each week of the school year. When the average hours per week is considered, it is clear that the physical education workers, directors of health work, and special health teachers devote more time to health work in the individual schools than any of the other four types of persons listed. The low number of hours per week for some of the other workers—for example, the physician, dentist, and nurse—is no doubt due to the

fact that they serve several schools and can not spend large amount of time in any one school. On the other hand, it may indicate that the schools are placing a large share of the responsibility for health work upon the physical education workers and health teachers, and employ physicians, nurses, and dentists for only professional and expert services necessary at certain intervals of time.

TABLE 10.—*Average working time in weeks per year and hours per week given to the schools by seven types of health workers*

Health worker	Average weeks per year	Average hours per week	Total number of schools
1	2	3	4
Director of health work	35.0	20.7	119
Physician	25.0	7.9	279
Dentist	23.3	14.5	109
Nurse	34.4	12.5	317
Mental hygienist	35.3	16.7	35
Physical education worker	37.9	25.0	282
Special health teacher	38.9	20.6	45

Sanitation and safety in the school plant.—It is enlightening to learn that the inspection of the school plant to insure sanitation and safety is seldom assigned to persons employed to do health work in the school. Although 26 different persons or agencies are reported as being responsible for this inspection, 2 persons stand out in frequency above all others, namely, the administrative head of the school and the janitor. For the frequency with which the 9 ranking persons were declared to be responsible for this inspection see Table 11. The remainder of the list of 26 persons or agencies, none of which was reported by more than five schools, runs: (1) State officer, (2) county officer, (3) inspector of buildings department, (4) matron, (5) physical director, (6) school board, (7) health education instructors, (8) business manager, (9) safety committee, (10) health council, (11) director of school hygiene (12) student council officers, (13) science department, (14) coach, (15) P. T. A., (16) public health committee, and (17) "everyone."

TABLE 11.—*Number of schools specifying certain persons or agencies as being responsible for the inspection of the school plant to insure sanitation and safety*

Person or agency	Number of schools	Person or agency	Number of schools
Administrative head of school (mainly the principal)	366	Physician	16
Janitor	188	City officer	11
Engineer or building superintendent	22	Teacher	8
Nurse	22	Health director	7
		Medical or sanitary inspector	7

The intervals at which the inspection of the school plant is made vary considerably among the schools. The five most common intervals are: Daily, 273; weekly, 47; irregular, 123; monthly, 9; and annually, 8. These data indicate in general that the task of inspection is a part of the daily routine of the persons who do this work. The comparatively large number of schools which report that inspection is made irregularly might indicate that if the other duties of the persons responsible, mainly the principals, are unusually pressing, the work of inspection is postponed until a more convenient time.

Persons employed to do health work in the schools are more frequently responsible for guarding against harmful effects resulting from participation in interscholastic athletics than for the inspection of the school plant. However, even in this the two greatest frequencies are for persons not directly employed to do health work. The seven persons most frequently specified to guard against these harmful effects and the number of schools reporting each person are as follows: Administrative head of the school, 165; athletic coach, 85; physician, 77; physical education workers, 67; director of health, 28; instructor, 27; and nurse, 11. The principal and coach are responsible especially among the schools having enrollments of 300 pupils or fewer. Among the larger schools and in the junior high schools the physician is more often responsible than in other groups. In 86 per cent of the schools, athletic activities for girls are supervised by women, thus making possible a more effective check on conditions of health.

Fire drills.—Approximately 95 per cent of all the schools in this study report holding fire drills. In 70 per cent of the schools that have such drills the drills are held regularly. In the other schools they are held irregularly. A greater portion of the schools in the larger enrollment groups hold drills regularly than is true of the smaller schools. In only one region, namely, the South, are drills more often irregular than regular. Eighty per cent of the 144 junior high schools which report drills indicate that they are held regularly. This is considerably above the percentage for the schools of any other type.

Measures for physical safety.—In 47 per cent of the schools, measures to insure the physical safety of pupils—for example, the organization of a police squad to direct the traffic of pupils—are taken. Half of these schools are junior high schools, and 75 per cent of them have enrollments of more than 300 pupils. Of course, the need for these precautions is not so often present in the smaller schools as in the larger. Furthermore, when pupils advance beyond the junior high school level they are more capable of looking out for their own safety than are younger pupils.

Groups used to carry on projects, contests, and the like in health work.—Persons who sponsor projects, contests, and the like in health usually make use of regular groups of pupils; that is to say, the pupils are seldom organized into special groups for those activities, except in so far as certain classes, such as hygiene, general science, and others, may be specially organized for this work. The seven groups ranking highest with the number of schools reporting the use of each, are as follows: (1) Physical education classes, 353; (2) regular classes, for example, hygiene, general science, etc., 322; (3) home rooms, 170; (4) clubs, 140; (5) grades, 88; (6) special classes, for example, home nursing, nutrition, rest, etc., 11; and (7) athletic squads or associations, 6. Seven other groups were named. These are school assembly groups, cafeteria groups, playground groups, class teams, interschool teams, scouts, and Campfire Girls.

Cooperation with home in promoting health activities among pupils.—Although 83 per cent of the schools included in this study report that they work cooperatively with the home in

promoting health activities among pupils, it is doubtful that in all cases this cooperation is more than casual. Furthermore, it may mean that the schools merely inform parents of the physical condition of pupils as revealed by examinations made in the school, without enlisting their active cooperation in correcting defects and establishing desirable health habits. A greater percentage of the larger schools report cooperation than the smaller. Among the types of schools, 91 per cent of the junior high schools report such cooperation as compared with 73 per cent of the 4-year high schools. In Addison Junior High School, Addison, Ohio, the following means of securing the cooperation of the home in matters of health are employed:

1. The home project: In both the nutrition and corrective gymnasium work, home contacts are made by means of (1) the program for the underweight; (2) assigned corrective exercises to be performed; (3) schematograph photos sent home, etc.
2. A report of the medical examination is sent to the parents.
3. Home visits are made by the nurse.
4. Home visits are made by the home-room teachers.
5. Health talks are delivered by the nurse and the physical-training instructors before parent-teacher association.
6. School visits are made by the parents.
7. Cooperation is maintained with associated charities and similar organizations.
8. Open-house night: Health education is a part of the program on every open-house night.
9. The school paper contains items of interest concerning the health program.
10. Health contests (healthiest boy and girl) are enthusiastically entered into.
11. The attitude of the school in every case is one of helpfulness.

Health publicity.—Schools can do much to keep the idea of health before the pupils and the community. Three hundred and thirty-two of the 460 schools in this study report that special use is made of published materials and materials produced by pupils in fostering programs of health publicity. Here again the percentage of junior high school (79) and of schools having enrollments of more than 1,500 pupils (83) is high compared with that for other groups. The illustrated "course of study" for the junior high schools in Cleveland, Ohio, is an interesting example of how the work of the school, including health work, is popularized and made attractive.

Health of teachers.—It is considered significant that approximately 70 per cent of the schools in this study report the employment of teachers is in part based on their ability to measure up to certain standards of health. In increasing numbers the schools are taking the attitude that greater emphasis on the health of teachers should accompany greater emphasis on the health of pupils. Of course, in some schools, what is reported as a standard of health for teachers may not be based at all on actual examinations, but may m an that the casual observation and inquiry of the superintendent or employing officer rates the applicant as physically fit. In some States prospective teachers must measure up to certain standards of health before they will be certificated. Only 14 per cent of the schools indicate that new teachers, once employed, are placed on probation as regards their physical condition. This indicates that in most cases the health of teachers is largely a matter given consideration at the time of employment and then dropped.

Some of the probationary plans are interesting. The one mentioned most frequently merely specifies that the health of the teacher must be good enough to permit her to attend classes regularly and do her work competently. The plan employed by the second largest number of schools requires that before teachers in service may be promoted or receive a permanent appointment they must meet certain standards of health. A few of the other plans are as follows: (1) Periodic physical examinations; (2) doctor's certificate for readmittance after an illness; (3) qualification on health standards of life insurance company; (4) contract not valid if teacher is found to be physically unfit; and (5) general probations of 1, 3, and 5 years.

A few more than half of the schools indicate that the health of teachers in service is promoted by the careful attention of administrators to their schedule of work. It is not within the power of all administrators, especially at this time, to adjust at will the size of the teaching staff and the teaching load. Consequently, it is no doubt impossible for many administrators to do as much as they would like to do in this regard. However, it is possible in many cases to conserve the energies of teachers by distributing wisely

throughout the day the recitation periods, equalizing the burden as regards extra curriculum activities, considering the number of classes taught, and the like. The health of teachers affects vitally the quality of classroom instruction. It is important, therefore, that high standards of health among teachers be maintained.

In 104 (23 per cent) of the 460 schools the faculty is organized for physical recreational activities. In numerous cases the respondents specified that this pertained only to the men on the staff. A greater per cent (31) of the schools in the South report such organization than in any other region. A larger percentage of the smaller schools (with enrollments of fewer than 301) report that their faculties are organized for physical activities than of schools with larger enrollments. No appreciable differences occur in the percentages for the types of schools. The writer was privileged to be present at a committee meeting in the Thomas Jefferson High School in Brooklyn, N. Y., in which one of the main items of business concerned the laying of plans for equipping a part of the roof of the building to be used by members of the faculty for rest and play. It is a common belief that the general good health of staff members is improved by regular participation in games or other physical activities.

In the Parker Junior-Senior High School, of Greenville, S. C., the investigator found a practice which contributes to both the teachers' health and professional growth. During the three weeks prior to the opening of school in the fall, the teachers in this school participate in the Parker teachers' summer camp. Here the outdoor life is enjoyed while the plans for the coming school year are laid. Incidentally, during these weeks the director of health work is active, holding conferences with teachers of regular school subjects and devising methods by which the health work of the school can be worked into other courses. The aim is to permeate the entire program of the school with health work instead of maintaining special classes in health. According to the director of health, the plans laid in the summer camp secure results during the school year. It is as common for a teacher of English as for a teacher of science to bring special health cases to the attention of the director of health.

4. HEALTH EXAMINATIONS FOR TEACHERS AND PUPILS

Health examinations for teachers.—Having considered the administrative set-up for health work in the schools, it is appropriate to consider now the activities which are carried on in the health program. The first item to be discussed has to do with health examinations for teachers.

In the foregoing section regarding the health of teachers it was pointed out that in 70 per cent of the schools the employment of teachers is conditioned upon their ability to measure up to certain standards of health. In that connection it was doubted that these standards included actual health examinations. Data for this section show that doubt to be justified. Whereas 70 per cent of the schools make employment dependent on health conditions, only 42 per cent require a health examination at the time of employment, or proper certification from a physician. More than two-thirds of the schools having 1,500 pupils or more enrolled require such examinations when teachers are employed. Only 12 per cent of the schools require examinations periodically after employment. In 14 per cent, examinations are optional when employed; in 11 per cent they are optional after employment. Some of the other health-examination plans are: (1) Required at the end of three years of teaching, (2) required when returning from each leave, (3) required after more than 10 days' illness, and (4) required at the pleasure of the administration. Whatever the plan of health examinations for teachers may be, it should require that these examinations be frequent and thoroughgoing enough to insure the prompt detection of defects which impair competency in instruction.

Medical consultation for teachers.—It is somewhat surprising to find that as many as 61 of the 460 schools in this study report that medical consultation is provided free to teachers. This practice is most common in schools having more than 750 pupils enrolled, in junior high schools, and among the schools in the South. Although such a plan might be very convenient for teachers and not inconvenient for health workers in the schools, vigorous objection no doubt arises, or will arise, from the medical profession in general.

Health examinations for pupils.—The requirements concerning health examinations for pupils vary a great deal among the schools. The requirement reported by the largest number of schools, as indicated in Table 12, specifies that the pupils shall be examined once during the school year.

TABLE 12.—*Number of schools reporting various requirements or plans for health examinations for secondary-school pupils*

Requirement or plan	Number of schools	Requirement or plan	Number of schools
Compulsory on entering school	128	Examined once during school career	18
Compulsory periodically thereafter	165	Examined every other year	17
Optional on entering school	26	Examined whenever necessary	23
Optional at all times	65	Examined before entering competitions	12
Examined once during school year	223		
Examined twice during school year	60		

Health examinations in most cases are compulsory, and not optional, so far as the pupils are concerned, although the complete list of 31 plans or requirements indicates that in many cases local school administrators exercise considerable freedom in setting up regulations in their schools. In 28 per cent of the schools a health examination is compulsory when pupils enter. This practice is common in schools having more than 1,500 pupils enrolled. Fifty-three per cent of these schools have such a requirement. Thirty-five per cent of the junior high schools have a similar requirement. More significant than the detailed requirements is the fact that, when all the data are taken into account in most of the schools included in this investigation, the pupils receive health examinations one or more times, usually more than once, during their secondary-school careers. Schools in which these examinations are thorough and in which effective follow-up is made are doing much to insure not only the present but future health and happiness of the pupils.

Items included in the health examination.—Seven items are included in the health examination administered in from 70 to 87 per cent of the schools. These items, in the order

of their rank, in frequency are: (1) Eyes, (2) throat, (3) teeth, (4) ears, (5) nose, (6) heart, and (7) lungs. Three other items are included in from 31 to 47 per cent of the schools. These, in order, are: (1) Orthopedic condition, (2) speech defects, and (3) nervous system. In all, 29 different items were listed. A few others frequently mentioned are: (1) Skin, skin glands, and lymph nodes; (2) nutrition; (3) posture; (4) hernia; (5) vaccination and hair; (6) goiter; (7) internal parasites; (8) anemia; and (9) abdominal abnormalities. Two schools indicate that a special laboratory test is made if certain mental deficiencies appear to be present in the pupils. A great service is rendered through health examinations in the schools to pupils and families that, without the examinations, would not know of the existence of certain defects, much less have them corrected.

Clinical and corrective work.—In 43 per cent of the schools the pupils are stripped to the waist when receiving the health examination. Girls are more frequently exempted from this practice than boys. Ninety per cent of the schools inform parents of the defects found in their children during health examinations. Fifty per cent offer corrective physical education for pupils found to need it. It is obivous that an opportunity still exists in many schools to make definite and constructive use of the findings of these examinations in meeting the special needs of pupils as regards physical activities. In 76 per cent of the largest schools (those with enrollments of more than 1,500 pupils) such corrective work is offered. Seventy per cent of the junior high schools offer it. This percentage is well above that for the schools of any other type. Corrective physical education is offered in a larger percentage (70) of the schools in New England than in any other region. Slightly more than 40 per cent of the schools in the Middle West and South offer it. The percentages for the 4-year high schools and the schools enrolling 300 or fewer pupils are 34 and 26, respectively.

If the local communities do not maintain agencies for the correction of defects in children, the responsibility and opportunity of the schools in this regard is increased accordingly. Although 60 per cent of the schools report that

public health clinics are available to pupils for treatment, only 28 per cent report that corrective exercises are offered in these clinics. Plainly, the schools have an excellent opportunity of improving the physical fitness of children, especially by offering corrective physical activities. In the Thomas Jefferson High School in Brooklyn, N. Y., a definite effort is made to follow up in the school the results of the health examinations. The pupils are classified for individual health training as follows: (1) Nutrition class, (2) posture class, (3) light-work class (cardiacs, etc.), and (4) physically handicapped class.

Daily health consultation for pupils.—Daily health consultation for pupils is much more common in the larger than in the smaller schools. Sixty-five per cent of the schools enrolling more than 1,500 pupils have such consultation as compared with 13 per cent of those having 300 or fewer pupils enrolled. More than half of the junior high schools and the schools in the Middle Atlantic region report daily consultation. Less than a fourth of the 4-year high schools indicate that this service is daily available to pupils. A little more than a third of all the schools offer it. Of course, this service depends first of all on whether or not health workers competent to give such consultation are employed by the schools.

Person giving consultation.—Daily health consultations are almost always given by the nurse, and in a smaller number of schools by the physician. The widespread use of the nurse for this service is due no doubt to the fact that she is the person most frequently available. Twelve persons other than the nurse and physician were listed by the schools. Some of these, whose qualifications for this service might in general be questioned, are the (1) teacher, (2) principal, (3) physical instructor, (4) matron, and (5) coach.

A few schools report that in addition to the daily consultation by the nurse, the consultative services of a physician are made available to the pupils once or twice a week.

b. HEALTH INSTRUCTION IN THE SCHOOLS

Outline of study.—A second phase of the health program in the schools, and one distinct from health examinations, is health instruction. Considerable care is taken in this in-

quiry to show in more or less detail the program of health instruction among the schools of this study, which, as indicated in Chapter I, were reported to be out in front in the field of health work. In order to do this, numerous items of information have been called for. Data for the items will be presented as concisely as possible.

More than half (248) of the schools indicate that they have outlines of study for health instruction. A third of the schools reporting definite outlines, however, state that the outlines are not in a form available to persons interested in examining them. It may be that some of them exist only in the minds of principals or other persons connected with the schools. The Middle Atlantic region is outstanding in the percentage (74) of its schools which report definite outlines.

Outlines are made mainly under the auspices of two agencies, namely, the city school system and the State department of education. These agencies are reported by about equal numbers of schools. The schools themselves rank third as the source from which the outline comes. Other sources are not mentioned frequently enough to be important, although a few of them are interesting enough to deserve listing. They are (1) the instructor in hygiene, (2) the nurse, (3) the nurses' association, (4) the health officer, (5) the physical director, (6) the county board of health, (7) the critic teacher in nutrition, and (8) supervisors and principals. In general, it is clear that in most cases the schools having outlines of study for health instruction have the outlines supplied by agencies outside the individual school. The small schools (with enrollments of fewer than 301) and the 4-year high schools use, primarily, outlines drawn up by State departments of education. On the other hand, the larger schools and the reorganized schools use, primarily, outlines made for city school systems. This reflects the fact that these types of schools are usually units in city school systems.

Persons giving definite health instruction.—Health instruction is given by an extremely diverse group of people. Twenty-four different types of instructional officers were

listed by the respondents. Data for the 13 types reported by the largest number of schools are given in Table 13.

TABLE 13.— *Number of schools reporting certain persons as giving instruction in health, and the average number of these persons in each school*

Instructor	Number of schools	Number of persons	Average number of persons in each school
1	2	3	4
Special teacher of health	60	168	2.8
School nurse	188	191	1.0
School physician	110	130	1.2
Physical education teacher	314	668	2.1
Science teacher	237	420	1.8
Social science teacher	60	137	2.3
English teacher	27	78	2.9
Hygiene teacher	10	39	3.9
Home economics teacher	48	75	1.6
Guidance teacher	4	6	1.5
Home-room teacher	6	117	19.5
Athletic coach	4	5	1.3
All teachers	21	229	10.9

From these data it is plain that schools most frequently use the physical education workers to give health instruction. Teachers of science rank second, followed by the school nurse and school physician. Sixty schools report that this instruction is given by special teachers of health. These teachers probably should not be distinguished from the hygiene teachers, which were reported by 10 schools. The qualifications as teachers of health of some of the persons listed in the table and others not listed might be questioned. A few of these are as follows: (1) English teacher, (2) social science teacher, (3) home-room teacher, (4) athletic coach, (5) mathematics teacher, (6) music teacher, (7) shop teacher, (8) commercial teacher, and (9) principal. It is obvious that, in almost any course in the school, opportunities arise for instruction in health. However, such instruction may properly be called casual rather than special. If instruction is to be more than casual, some attention should be paid to the special qualifications of persons who are to give it. It may or may not be considered a desirable practice when schools report that all teachers give instruction in health.

The right-hand column in Table 13 shows the average number in each school of certain functionaries giving definite health instruction, among the schools which employ these persons. Thus, among 60 schools employing special teachers of health, the average number of these teachers in each school is 2.8. The average for school nurse is 1, and for school physician, 1.2. These persons may be said to be specially qualified for their work. However, if in the schools employing them they are the only persons who give this instruction, the number of pupils for whose instruction they are responsible is rather large. The average enrollment of the schools in this study is about 740 pupils. Furthermore, the schools having nurses, doctors, and special teachers of health are usually larger than the average school. Again, it was shown in Table 10 that the average numbers of hours a week which the physician and nurse spend in the individual schools are the smallest among seven workers who do most of the health work in the schools. Hence, although a fairly large number of schools report that definite health instruction is given by nurses and physicians, the amount of such instruction, on the average, is necessarily limited.

Of course, when home-room teachers and all regular teachers give instruction in health, the average number in each school is high, and the number of pupils for whom each is responsible is in consequence comparatively small. On the other hand, these persons may or may not be specially prepared for their work. In general, the data impress on one the fact that definite health instruction in the schools may be given by any one of a long list of persons having various amounts of training in this field. Furthermore, in schools which employ specially trained persons for this work, the amount of instruction given by these persons is materially limited by the working time of some of them in the schools. The bulk of instruction is supplied apparently by physical education instructors and regular classroom teachers.

Definite health courses.—Definite instruction in health may be given in special health courses or as a part of other courses taught in the school. Some schools offer a special course and require that all pupils take it at some time during their secondary-school career. Forty-two per cent of the schools in

this study indicate that such a course is offered and required of all pupils. The data by groups of schools are varied enough to be included in a table. These data, presented in Table 14, show that in each of the three major classifications one group of schools stands out in the percentage offering a special course in health instruction which is required of all pupils. These groups are, with their percentages: The largest enrollment group (with enrollments of more than 1,500), 60 per cent; the Middle Atlantic region, 55 per cent; and the junior high schools, 57 per cent. On the other hand, the lowest percentages are: The smallest enrollment group (with enrollments of fewer than 101), 25 per cent; the southern region, 29 per cent; and the 4-year high schools, 30 per cent. The offerings and requirements among the schools in this regard are therefore extremely varied, especially as the size of the schools varies. Certainly more has been done in the way of developing definite courses in health in the large schools than in the small, and more in the Middle Atlantic region and junior high schools than in any other region or type of schools.

TABLE 14.—*Percentages of schools reporting regarding definite courses in health instruction*

Classification	Offered and required	Not required	No report
1	2	3	4
Enrollment:			
100 or fewer (86) [1]	25	58	17
101 to 300 (97)	33	48	19
301 to 750 (107)	47	41	12
751 to 1,500 (91)	47	43	10
1,501 and more (79)	60	33	7
Region:			
N. E. (57)	32	54	14
M. A. (121)	55	35	10
S. (72)	29	53	18
M. W. (157)	43	46	11
W. (53)	41	43	16
Type:			
4-year (162)	30	57	13
Junior (147)	57	31	12
Senior (73)	38	44	18
Other (78)	42	45	13
Total (460)	42	45	13

[1] The figures in parentheses indicate the numbers of schools represented.

By whom courses are given.—Again, it is significant to know who gives the course in health instruction in the schools where it is required of all pupils. This can best be shown in a brief table. Data for the nine types of positions designated by the largest number of schools are presented in Table 15. Among positions reported but not listed in the table are teacher of English, teacher of social science, principal, coach, and home-room teacher.

TABLE 15.—*Numbers of schools reporting certain members of staff as teaching courses in health required of all pupils*

Teacher	Number of schools	Teacher	Number of schools
Physical education teacher	108	Hygiene teacher	8
Science teacher	21	Home economics teacher	4
Regular teacher	21	Principal	3
School nurse	20	Physician	3
Health teacher	19		

Clearly, teachers of physical education and other regular staff members are responsible for a large part of the instruction given pupils in definite health courses. In the schools with enrollments of fewer than 301 the regular teachers give this work more commonly than in the schools with enrollments over 300, whereas in the larger schools the teachers of physical education and health are responsible oftener than in the smaller schools. Special health teachers are reported for a larger percentage of schools in the Middle Atlantic region than in any other region. Although in Table 13 it was shown that 188 schools report that definite instruction in health is given by the school nurse, data in Table 15 show that that instruction is given, in the main, outside definite health courses. Only 20 schools report that the nurse gives the course in health instruction which is required of the pupils. In other words, nurses, primarily, are not instructors, in the sense that instructors are teachers of regularly assembled groups of pupils. Also, and in a more marked degree, the work of the physician in the school is outside the province of instruction, when instruction means the teaching of the courses here under consideration.

A few schools designated more than one person as giving the definite course in health. Two combinations occur

frequently enough to deserve mention. These are: (1) Physical education teacher and nurse, and (2) physical education teacher and science teacher. There is some indication in the data that the duty of the nurse is as frequently to supervise instruction as to do the actual work of teaching.

Name of course.—The nomenclature for the courses in health is extensive. Thirty-seven different names were reported by the schools. These are as follows: (1) Hygiene, (2) health and hygiene, (3) sanitation and hygiene, (4) hygiene and physical education, (5) personal hygiene, (6) community hygiene, (7) general hygiene, (8) physical training and hygiene, (9) hygiene and nutrition, (10) domestic hygiene, (11) domestic hygiene and home nursing, (12) general health and hygiene, (13) hygiene and physiology, (14) home and self hygiene, (15) wholesome living, (16) personal problems, (17) health living, (18) health in home and neighborhood, (19) public health, (20) general health, (21) health, (22) health instruction, (23) health education, (24) elementary public health, (25) science and health, (26) health and physical education, (27) health as physical education, (28) health talks, (29) physiology, (30) home nursing, (31) home nursing and first aid, (32) child care and premedicine, (33) first aid, (34) physical education, (35) science, (36) general science, and (37) biology. The last four of these names lead one to question whether or not the respondents reported them correctly as definite courses in health instruction. Only a few of the names were reported by enough schools to make data for them significant.

Grade in which course is required, number of weeks in course, number of periods in week, and number of minutes in period.—Certain convenient groupings under major headings of some of the courses enumerated in the previous section make possible the assembling of certain data regarding the courses. In Table 16 information is given concerning the grade in which the courses are required, number of weeks in the course, number of periods per week, and number of minutes in the period. Thus hygiene among about 63 schools is required ordinarily in the seventh, eighth, or ninth grade. Courses designated as health, in about 62 schools, are not only required often in these grades, but almost as frequently in

the tenth, eleventh, and twelfth grades. Similarly, for physical education, the number of schools requiring this work does not vary a great deal from the seventh to the twelfth grades. When the column of totals is considered, it is clear that the work in health is required more often during the junior high school grades than in later years.

TABLE 16.—*Data for various numbers of schools concerning the definite course in health instruction*

Grade in which required and time allotment	Hygiene [1] (63 schools)	Health [2] (62 schools)	Physical education (36 schools)	Total (161 schools)
1	2	3	4	5
6 [3]	4	6	3	13
7	37	25	14	76
8	27	28	16	71
9	26	34	20	80
10	8	30	12	50
11	8	27	10	45
12	10	25	15	50
Average number of weeks in course	32.9	31.5	31.4	32.6
Average number of periods in week	1.9	2.1	3.1	2.2
Median number of minutes in period	47.6	49.3	47.5	48.3

[1] Hygiene, personal; hygiene, general; hygiene; hygiene and nutrition; sanitation and hygiene; domestic hygiene; hygiene and physiology; and home and self hygiene.
[2] Health, health education, health instruction, health talks, elementary public health, public health, general health, health in home and neighborhood, and health living.
[3] The lowest junior high school grade in 11-grade systems.

Most of the health courses extend through the entire school year. This is apparent from the data concerning the average number of weeks in the course. There is some variation among the three types of courses in the number of class periods in a week. Although the physical education classes meet oftener than either the hygiene or health classes, it is doubtful that the pupils receive more actual health instruction in them than in the hygiene and health classes which meet less frequently. Physical activity, however healthful it may be, is not here considered as health instruction. Plainly, according to the table, the periods in almost all cases are regular, unabbreviated school periods. Two schools only reported periods less than 20 minutes in length, and only seven indicated periods shorter than 30 minutes.

On the whole, among 161 schools which require courses in health instruction, those courses are most frequently given

during the junior high school years. The courses last throughout an entire school year, and classes meet twice a week for two full periods. It will be possible a little later to compare the time devoted to health instruction when this work is given in regular courses with the time given when this work is presented in connection with other courses.

Health instruction in connection with other courses.—It has already been pointed out that definite health instruction in the schools may be given by any one of a large number of persons. One would expect, therefore, to find that health instruction is included in a large variety of courses other than health courses as such. This proves to be the case. Twenty-eight different courses were listed by the schools into which health instruction is introduced. The 12 courses designated by the largest number of schools are included in Table 17. The data are self-explanatory. Not much variation in the order of the courses exists among the separate groups of schools, except that for the smallest schools (with enrollments of fewer than 101) the frequencies for general science and biology exceed those for physical education.

TABLE 17.—*Numbers of schools indicating that health instruction is introduced into certain courses*

Course	Number of schools	Course	Number of schools
Physical education	322	Chemistry	90
General science	300	Physics	64
Home economics	284	History	60
Biology	237	Sociology	58
Civics	180	English	51
Physiology	122	Agriculture	27

Data not given in the table reveal that among the 4-year high schools the frequency for physical education is surpassed by those for home economics, general science, and biology. Among the other schools the frequency for physical education is in the lead. The courses not included in the table, although they are reported by small numbers of schools, are interesting enough to list. They are as follows: (1) Hygiene, (2) auditorium classes, (3) clubs, (4) citizenship, (5) guidance, (6) nursery, (7) home making, (8) beauty culture, (9) trade ethics, (10) manual training, (11) botany, (12) zoology, (13) psychology, (14) art, (15) vocations, and (16) "all courses."

Time devoted to health instruction in other courses and percentages of pupils enrolled in these courses.—The time devoted to health instruction when it is given in connection with other courses has been computed from data supplied by the respondents. These data may or may not be meaningful, according as one accepts as accurate the information supplied in the inquiry forms. The data are presented in Table 18, and in all items, except the number of schools, are close approximations.

TABLE 18.—*Data for seven grades concerning the courses, not including special health courses, in which health instruction is given*

Grade	Average number of courses, not including special health courses, in which health instruction is given	Average length of courses in weeks	Average minutes a week for combined courses in column 2	Percentage of time in in combined courses in column 2 devoted to health instruction	Average number of minutes a week devoted to health instruction	Percentage of pupils enrolled in courses in column 2	Number of schools represented
1	2	3	4	5	6	7	8
6[1]	1.7	33	110	66	73	94	29
7	2.2	33	194	50	97	92	108
8	2.0	33	215	36	77	87	127
9	2.2	33	230	43	99	87	204
10	2.0	35	243	42	102	79	126
11	1.8	33	213	47	100	76	100
12	1.4	33	229	46	104	75	86

[1] The lowest junior high school grade in 11-grade systems.

The percentage of pupils in the separate grades enrolled in these courses (Column 7) may seem high at first, but will seem more reasonable when one remembers that most of the schools report that health instruction is given in connection with physical education. Similarly, the percentage of time in the courses said to be devoted to health instruction seems high. This, too, may be due largely to the fact that not only health talks but physical activities during the physical education work are reported as health instruction. If the data be accepted as meaningful, it appears that, on the average, health instruction is given in each grade in about two courses other than special health courses. Most of these courses run throughout the school year (average 33 weeks),

and average among the grades about 200 minutes a week. About 45 per cent of this time, according to the respondents, is devoted to health instruction; that is to say, a total of about 90 minutes a week is devoted in two courses to health instruction. If this instruction is given daily, and if these courses meet five times a week, then health instruction comes to the pupils in bits of about nine minutes each. Of course, this instruction is not always given daily, but may constitute a period of weeks set aside for this purpose. Similarly, not all classes meet five times a week.

If the data in Table 18 are compared with those in Table 16, it will be seen immediately that the minutes per week devoted to health instruction in special health courses exceeds the minutes a week devoted to such instruction in other courses by approximately 15. Furthermore, the instruction received in the special courses is concentrated into approximately two class periods given over solely to health instruction, whereas the instruction received in other courses is given in about two courses, which may include short periods of instruction as high as 10 times a week or may reserve a period of weeks for this work only. It is impossible to say whether or not the instruction in one case is more efficient than in the other. It might be safe to assume that teachers of special courses in health are, on the whole, better prepared to give health instruction than teachers of other school subjects.

Extent to which certain courses are required.—A few courses in the program of studies in the schools are generally understood to offer greater opportunity for instruction in health than other courses. The extent to which seven of these courses are required in the schools of this study is indicated in Table 19. The grade in which the courses are required is also shown. The number of schools indicating that home economics is required for boys may at first seem large. However, this number probably includes some schools which require of boys general camp craft, including cooking. These courses may have been reported as home economics. There is some chance also that the respondents for these schools erred in checking the inquiry form, intending to check home economics for boys as elective instead of required. These

data show clearly that in general the subjects most likely to include instruction in health are most often required during the junior high school years. Also, the data in Table 16 showed that in schools which offer and require a special course in health, this course is most often required during the seventh, eighth, or ninth grade. That is to say, health courses, or courses most likely to include health instruction, are required most often during the junior high school years. On the other hand, the courses most likely to include instruction in health are most frequently *elective* during the ninth grade or following. Of course, if pupils in these grades have not had health work previously, they will receive it only in case they elect courses containing it.

TABLE 19.—*Numbers of schools indicating that certain subjects related to health are required or elective, and grade in which they are required*

Subject	Required		Elective		Grade in which required						
	Boys	Girls	Boys	Girls	6[1]	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12
Biology	112	116	136	130	2	4	5	60	66	9	6
Physiology	54	54	17	20	3	7	15	17	7	7	14
Personal hygiene	61	66	8	7	5	28	27	35	26	17	15
General hygiene	86	87	7	11	8	47	44	58	19	16	14
General science	213	212	102	99	8	51	93	121	15	1	------
Home economics	30	154	46	150	9	86	95	77	80	14	11
Physical education	302	310	56	40	17	141	151	241	147	123	104

[1] The lowest junior high school grade in 11-grade systems.

One other comparison is of interest here. It was shown earlier (in Table 17) that rather large numbers of schools introduce health instruction into physical education, general science, home economics, and biology. Data concerning the number of schools introducing health instruction into these courses and the number requiring these courses, as shown in Table 19, are summarized in Table 20. These data indicate that in almost all the schools reporting, even though special health courses are not offered, pupils are required to take courses, especially physical education, which include definite instruction in health.

TABLE 20.—*Numbers of schools introducing health instruction into certain courses and numbers requiring same courses*

Subject	Number of schools introducing health instruction into course	Number of schools requiring course
Physical education	322	302
General science	300	213
Home economics	284	[1] 154
Biology	237	112

[1] Girls.

Special classes for defective children.—Information of a less detailed nature was secured for a few items concerning health instruction in general. The data for these items can be presented briefly. The first has to do with special classes.

Special classes in this case were illustrated to the respondents as sight-saving classes, classes for tuberculous children, etc., and not including ordinary corrective physical education. Sixty-four (14 per cent) of the 460 schools report that such classes are maintained. Eight respondents indicate that their individual schools do not maintain such classes, but that the city does. Exactly one-half of the schools maintaining classes are junior high schools and approximately two-thirds of them have more than 750 pupils enrolled. Twenty-five per cent of the schools in New England maintain such classes, as contrasted with 8 per cent of the schools in the South.

The nine classes most frequently maintained, with the number of schools reporting them, are as follows: Sight-saving, 25; defective speech, 24; tuberculosis and open-air, 16; lip-reading, 15; nutrition and under and over weight, 13; orthopedic, 7; hearing, 6; mentally defective or retarded, 6; and cardiopathic, 3. Three respondents report that a special school for defective children is maintained in a separate building.

Special teaching aids.—According to the returns for this item, health instruction in most of the schools is more than the mere presentation of textbook materials. In almost three-fourths of the schools use is made of such special teaching aids as skeletons, casts, lantern slides, moving pictures,

charts, laboratory demonstrations, and the like. To be sure, not all the schools have all these facilities. No doubt in many of the schools a series of charts constitutes the special equipment. In the Centennial High School in Pueblo, Colo., the investigator visited a miniature hospital in which training in home nursing and care of the sick is demonstrated and practiced. Additional numbers of schools are emphasizing that the work in health must be practical.

Library facilities.—Almost half of the schools report that the library is not specially equipped with books and magazines on health. Only 32 per cent of the schools in New England report such equipment. Although this region ranked highest in the percentage of schools using special health teaching aids, it ranks lowest in the percentage having libraries specially equipped with reference materials on health. The senior high schools surpass all other types in the percentage (62) having such equipment, and the largest schools (with enrollments of more than 1,500) rank first (63 per cent) among the enrollment groups. Sixty-two per cent of the schools in the Middle West report such equipment. Clearly, many of the libraries in the schools need to be strengthened in this field.

Noon lunches in the health-teaching program.—Whereas noon lunches are served in 277 of the 460 schools in this study, in only about half of this number, or 134 schools, are these lunches used for health-teaching purposes.

Promotion of home projects in health.—Slightly more than half of the schools report that they promote home projects in health. This is not to say that in all cases this work is carefully planned and effective; at times it may involve merely the casual presentation to parents of certain information secured in the schools. There is a slight tendency, as the schools increase in size, for this work to decrease. Sixty-four per cent of the smallest schools (with enrollment of fewer than 101) report home projects, compared with 50 per cent of the largest (with enrollment of more than 1,500). Certainly, the more successful health teachers are in making habitual in the home the health practices taught in school the more effective the instruction may be said to be. The home project may be thought of as an aid in habituation.

Studies of health habits of pupils.—Health instruction may or may not suit the individual needs of pupils. In order that it may do so, special study must be made of the health habits of pupils, such as their diet, sleeping habits, care of mouth, and the like. This means instruction in actual living. Sixty per cent of the schools indicate that such studies are made and that special suggestions for the improvement of undesirable practices are given. Here, again, it may or may not be that these schools are doing this work in a thoroughgoing manner. The junior high schools are well ahead of the other groups in the percentage of schools which carry on such work. Following is a copy of the score sheet on health habits used in East High School in Salt Lake City, Utah:

EXHIBIT B

HEALTH HABITS

Score Sheet

Name ----------

1. *Bathing habits:*
   Do you take a cold bath every morning? ---------- Do you take a cold splash or sponge every morning? ----- Do you take a warm cleansing bath every night? ------ When? ------ How often? ------
2. *Care of teeth:*
   Times brushed per day? ------ Powder? ------ Paste? ------ Dental floss? ------ Do you see a dentist or dental hygienist every six months? ------ Have you any tooth cavities now? ------ Are your gums in good condition? ------ Is your toothbrush clean? ------
3. *Care of hair:*
   How often do you wash it? ------ Do you brush it daily? ------ Do you wash your brush and comb once a week? ------
4. *Diet:*
   Do you eat at regular intervals? ------ Three meals a day? ------ Hastily? ------ Really chew your food? ------ How many cups of coffee a day? ------ How many cups of tea a day? ------ How many glasses of water a day? ----- (You need at least eight.) How often do you eat meat (including fish and fowl)? ------ Do you eat much candy and sweets? ------ Between meals? ------ Are you eating—
   1. Green leafy vegetables twice a day (in addition to root vegetables)? ------
   2. Bread and cereals made from whole wheat or other whole grains? ----

Diet—Continued.

Are you eating—

3. Butter, milk, cheese, and eggs? ------

4. Fruit: Raw? ------ And stewed? ------

5. *Sleep:*

How many hours do you sleep? ------ Are your windows open? ------ Do you sleep out of doors? ------

6. *Elimination:*

How often do you pass urine through the day? ------ At night? ------ Do your bowels move regularly each day? ------ Are you constipated? ------ Is there often an interval of several days? ------ Have you a regular time for bowel movement, morning and night? ------

7. *Menstruation:*

Is it regular? ------ Have you pain? ------ Just before? ------ First day? ------ Entire time? ------ Do you have to go to bed? ------ Lose time from your work? ------ Do you take a tub bath or a warm sponge bath of entire body at least every day during the menstrual period? ------

8. *Clothing:*

Are you comfortable in your usual clothing? ------ Are your muscles strong enough to keep you straight? ------

9. *Posture:*

Wouldn't you like to stand as well as the straightest, best-poised person you know? ------ Do you? ------ Do you walk easily with feet pointing straight forward and without getting tired? ------ Do you sit well back in your chair and up straight and never slide down and slump? ------ Do you walk upstairs straight and tall like a gay young thing and never go stooping over like a tired woman? ------ If you looked at yourself in a mirror would you see yourself with head high and neck straight? ------ Chest broad and high? ------ Abdomen flat and firm? ------ Back straight and strong? ------ Shoulders level? ------ Do your feet ever get tired or ache? ------ Are the toes beginning to look pinched and pointed like the fashionable shoes? ------ Is the joint of your big toe beginning to get large or red, or painful? ------

10. *Shoes:*

Is the toe so broad that your toes will not be crowded? ------ If you put your shoes side by side, do the inner edges touch all the way from the heel to the toe? ------ Is the heel low? ------ (1¼ inches.)

11. *Exercise:*

Do you exercise one hour out of doors every day? ------ Are you familiar with any game or sport (tennis, basket ball, swimming, skating, etc.)? ------ How often do you do it? ------ Do you belong to any gymnasium or dancing class? ------

12. *Leisure time:*
How many hours a week do you devote to home duties? ------ Movies? ------ Dancing? ------ Reading? ------ Clubs? ------ Outdoors? ------

13. *Attitude of mind:*
Do you make companions of your parents? ------ Of your brothers and sisters? ------ Have you confidence in yourself? ------ Are you shy? ------ Do you get blue? ------ Do you worry about things? ------ Are you getting pleasure out of books, music, pictures? ------ Do you get along with most people? ------ Are you really happy? ------

Administration of tests to determine health knowledge, habits, attitudes, etc.—Whereas 278 schools reported that studies were made of the health habits of individual pupils and suggestions made for the improvement of certain practices, only 179 schools indicate that tests are administered to determine the health knowledge, habits, and attitudes of pupils. It appears, therefore, that some of the so-called "studies" are merely observations, or are based on casual inquiry. Among the classifications of this study, the practice of administering tests is most common in the largest schools (with enrollments of more than 1,500), the Middle Atlantic region, and the junior high schools.

Measurement of the results of health instruction.—In almost three-fourths of the schools in this study no definite effort is made to measure the results of health instruction. It will be remembered in this connection that practically all the schools indicated that health instruction is given, either in special courses or in connection with other courses. Less than 20 per cent of the schools in New England attempt to measure results. The highest percentage (40) is among the schools in the Middle Atlantic region. On the whole, 27 per cent of the schools attempt such measurement. Perhaps some of these reports were made on the assumption that course examinations would satisfy this point of inquiry. In many of the schools the continuance of health instruction is based more on the momentum of interest or popular demand than on favorable results discovered through appraisal.

Methods of measuring the results of instruction.—When a school indicated that a definite effort was made to measure the results of health instruction, the method of such measurement was called for. The responses show that in most

schools this measurement more often seeks to ascertain the extent of improvement in health habits than in the accumulation of health facts. The list of methods of measurement, with the number of schools reporting each method, is as follows: Frequent physical examinations and check-up in the number of defects corrected, 50; individual charts and follow-up work, 26; tests and records, 23; periodic weighing or measuring, 17; relation of health to absence or scholarship, 12; health-knowledge tests, 9; follow-up work by nurse, 6; self-rating on health habits by pupils, 3; check-up on personal health habits, 3; check-up between instruction in school and health habits in home, 2; daily inspection of teeth and hands, 1; health-habit questionnaire, 1; comparison with other schools, 1; check-up with physicians on corrections made by pupils, 1; statistical studies by coaches and physicians, 1; comparative report each month by medical inspector, 1; visitation of classes and inspection report, 1; and reports on improvement among pupils by every instructor, 1.

6. *A PROGRAM OF HEALTH EDUCATION PROPOSED FOR THE SECONDARY SCHOOLS OF ONE STATE*

At this point it may be helpful and more concrete if an example is given of the way in which the elements of health work are drawn together in one State and issued in outline form for use in the secondary schools of the State. The entire content of the pamphlet [25] containing this material is not reproduced here. Furthermore, the materials have been rearranged to avoid certain repetitions and to bring related materials together, but the text remains unaltered. The materials are highly practical and suggestive to schools having or planning to have programs of health work.

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF PUBLIC INSTRUCTION, HARRISBURG

A comprehensive program in health education for schools would include the following items:

I. Health protection:

A. The healthful school environment—

1. Hygiene of building, equipment, and grounds.
2. Hygiene of instruction and administration.

[25] A Tentative Health Education Program for Secondary Schools. Department of Public Instruction, Commonwealth of Pennsylvania, Harrisburg.

I. Health protection—Continued.
  A. The healthful school environment—Continued.
    3. Control of communicable diseases—
      (a) Periodic inspection.
    4. Provisions for safety.
  B. Health examination and follow-up—
    1. Clinics—dental, habit, psychiatric, etc.
  C. Motor activities (certain phase of the physical education program).
  D. Special classes—speech correction, open air, etc.
II. Health training and instruction:
  A. Instruction during the health-class period.
  B. Other situations for health instruction—
    1. Correlated material in other classes.
    2. Health examination and follow-up.
    3. Situations arising out of the nature of the school environment—excessive temperature, safety hazards, etc.
    4. Situation related to the motor activity program (physical education).
    5. Other home, school, and community situations.

A minimum program in health education for secondary schools in Pennsylvania

I. Specific aims:

In the elementary school the purpose of the health education program is to develop personal health habits. In the intermediate grades the personal health habits are continued and the community aspect is introduced. The following specific aims are presented as the bases for the health education program in secondary schools:

1. Appropriate habits related to the different aspects of health—personal, racial, home and community, mental and emotional, and social.
2. Ability to adapt health practices to meet the demands of a given situation.
3. Appropriate attitudes related to all aspects of health.
4. A social conscience—an attitude of social responsibility for a personal part in maintaining and improving the healthful condition of his surroundings, for protecting other persons from unnecessary exposure to infectious diseases, and for maintaining a high standard of personal health.
5. A high standard of health ideals.
6. An awareness to the point of recognition of the qualities of a situation or activity which are unfavorable to health.
7. A body of scientific knowledge related to health in all its aspects.

I. Specific aims—Continued.

Bases for health education program in secondary schools—Con.

8. A reading and speaking vocabulary related to the different aspects of health.
9. An appreciation of the need for high standards of personal, racial, home and community, mental and emotional, and social health.
10. Discrimination in the choice and evaluation of certain materials, practices, or activities.

II. Distribution of time allotment:

Two periods of physical education and one period of health instruction each week are required of all pupils throughout the secondary-school course.

A. Extensive plan: One period a week per pupil throughout the secondary-school course.

or

B. Concentrated plan: A minimum of three periods a week in the entrance year to senior high school, or the ninth year of the junior high school in addition to one period in the seventh and eighth years.

C. In addition to this time allotment, correlation of health education with other subjects and situations is recommended.

D. The following suggestions are offered as possible adjustments in providing time for health education in a crowded schedule:

1. Since the requirement for most subjects is on a basis of 120 clock hours (Carnegie unit), it is often possible to release time from a 5-period week of 45-minute class periods by extending the period to 50 minutes or more and operating on a 4-period week. This will release one period a week, which may be assigned to health education. If 200 days are included in the school year, exclusive of institute session, holidays, etc., a 45-minute period on a 4-period-a-week basis will satisfy the 120 clock-hour requirement.
2. In some situations it may mean the elimination of certain elective subjects. Many schedules are complicated by attempting to include too many free electives in a small high school. Before electives are offered it is necessary that the subjects set up as a core curriculum, and constituting the minimum program accepted by the Commonwealth for classification as a high school, have been placed in the schedule.
3. In schools where an activities period is scheduled throughout the week it is often possible to release one period from this time for health education.

II. Distribution of time allotment—Continued.

D. Suggestions for health education—Continued.

4. Time may be taken from each or several periods in the day where 55 and 60 minute periods are scheduled and a period added if the 5-period week is favored. The time should not be cut so that less than 120 clock hours are assigned to a subject.

5. In schools where small sections are scheduled in the same subject, two sections may be combined on one day a week if the total number does not exceed 35 pupils.

6. The school day may be lengthened and a period added. Other factors should be carefully considered before this step is taken. In no case should the luncheon hours be reduced to less than 30 minutes. In most situations more time is necessary, particularly if pupils go home for their luncheon.

III. Organization of the program:

A. The schedule of classes.

Scheduling pupils who are taking irregular courses necessitates many adjustments. The required subjects should be scheduled first, and the subjects in which they have failed, are irregular, or are electing, scheduled last. Small sections in a given year may be combined for health education if the number does not total more than 35. Two different years may be combined where such classes do not exceed the standard of 35. In this case the combined class should pursue the material assigned to the lower grade during one school year and to the upper grade the following year. Small schools may permit three grades to combine and not exceed the standard size of a class. A 3-year cycle of graded material would be necessary in such a situation.

Scheduling of pupils is made less difficult if they are scheduled first to classes in the special fields requiring specifically trained teachers and specialized classrooms. The generally trained teachers are greater in number and will permit more adjustments in scheduling than will the teachers in the newer and more specialized fields.

The classes for health education should be scheduled to meet regularly at least one period a week and should not depend on weather conditions. This practice will assure proper preparation by pupils and teacher and permit the organization of this phase of the health program.

B. Progression of materials.

Progression should be based on the following principles:

1. The topics should coordinate with the material presented in the natural and social sciences and other subjects in the same year when possible.

III. Organization of the program—Continued.

B. Progression of materials—Continued.

2. The essential material should be placed in the lower levels, so as to serve the boys and girls who discontinue school attendance in the earlier secondary years.
3. The material should be graded to the enlarging responsibility of the child for self-determination.
4. The expanding social outlook of the pupil should be utilized.
5. The material should meet the changing health needs of high-school pupils.
6. The material should be increasingly more difficult and compare favorably with science courses.
7. The material should coordinate with specific community or national activities—"clean-up week," "swat the fly week," etc.

C. A definite plan for correlating health education with other subjects.

IV. Content:

A. Content selected from modern textbooks and reference material.

B. The following units of material to be included (the figures indicate the number of sessions, arbitrarily assigned, which might profitably be spent on each topic):

Seventh year

Tuberculosis and the health of the respiratory tract	18
Selection of foods	7
Hygiene of the home	6
Safety education	4

Eighth year

Hygiene of occupation	10
Big-muscle activities	6
Care of the injured	8
Stimulants and narcotics	5
The health of the skin and its appendages	6

Ninth year

The choice and care of clothing	6
School hygiene	4
Community hygiene	3
Home care of the sick	12
Social health	10

Tenth year

The control of infections	12
Nutrition and health of the digestive system	18
Care of the organs of the special senses	5

Eleventh year

Hygiene of the circulatory system	8
Mental and emotional health	10
Sleep and rest	6
Child care	11

Twelfth year

Science and health	10
Professional health service	10
Preparation for parenthood	8
Racial health	7

This grade placement of units is only suggestive. In other plans of organization—8–4; 8–3, 8–2—or where a program is being introduced in a 4-year high school, an adjustment of the placement of material will be necessary.

In schools where combined classes are not in excess of 35 pupils it is possible to establish the above units on a cyclic basis. The material assigned to the eleventh grade might be given to the combined junior and senior classes one year and the units for the twelfth grade given the following year.

IV. Content—Continued.

In some 3-year high schools it will be possible to operate on a 3-year cycle. In other situations it will be advisable to schedule the freshman class alone where, if combined with the sophomore, it would exceed 35 pupils in the class. The three upper classes may then be combined and scheduled for the units of material on a 3-year basis. Under no circumstances should the cycle basis of scheduling the units of material be used in situations where a number of sections in each year are irregularly scheduled, as, for example, a combined group of sophomores and seniors, while other classes contain sections of juniors and seniors or sophomores and juniors. The absence of proper grading of groups for health instruction is to be condemned, and the practice can not be approved where found to exist.

V. Methods of instruction:

A. Direct method—in health-instruction class—

1. Outside preparation of lesson assignment.
2. The prepared material to serve as a basis for discussion.
3. Pupil activity emphasized.
4. An assignment notebook required.

B. Indirect method in other subjects and school situations—

1. Correlations with other subjects, particularly the social sciences and the natural sciences.
2. Evidence of utilizing the school situation for health instruction and training.

VI. The teacher of health instruction:

The teacher on the faculty with the best personal and professional qualifications for teaching this subject.

The teacher of health instruction should be as well prepared to teach this subject and should possess the same qualifications necessary for a successful teaching experience in this field as is required of a teacher of any other subject. The professional preparation should include courses in personal and community health, training in methods of health education, practice teaching, or equivalent experience in health teaching, and completion of courses in fundamental sciences—biology, chemistry, physiology, and bacteriology. The personal qualifications should be the exemplification of abundant health, a critical attitude toward his own health practices, and possessing a disposition conducive to a happy, working atmosphere in the classroom.

On the professional side the teachers on a high-school faculty who are best prepared to teach this subject are the natural science teachers, physical education teachers, and the home economics teachers. (See Manual for Junior High Schools. Bulletin No. 14, 1925, pp. 64–65.) The physical education teachers may be expected to have a better command of the science preparation underlying health but may not know

VI. The teacher of health instruction—Continued.

acceptable methods of instruction. This is not true of the more modernly trained physical education teachers from the larger universities.

In the larger high schools, health counselors should be employed who are specifically trained in health education. This teacher will also coordinate all of the health activities in the high school and teach health education.*

VII. Health standards:

A. The pupil—

1. The usual pupil load should not exceed 20 periods of prepared recitation work weekly, exclusive of health, music, and activities. Exceptions: Pupils free from health defects as certified by school physician and who give evidence of participating in outdoor recreative activities at least 1 hour each day.
2. Health examination before participation in the athletic program.

B. The school environment and equipment—

1. Water for washing purposes. Liquid or dry soap in dispensers, and paper towels. (Minimum of one towel a pupil a day.)
2. Satisfactory toilet facilities—sanitary, well ventilated, and in good working order.
3. Sanitary drinking-water supply—storage and dispensing.
4. Healthful heating and ventilating.
5. Satisfactory lighting—window shades adjusted and in working order.
6. Sanitary, clean, and tidy condition of school environment.
7. Sanitary cleaning methods.

C. Hygiene of the school program—

1. Minimum luncheon period of 30 minutes if luncheon is eaten at school; 1 hour if luncheon is eaten at home.
2. No program of vigorous games or athletic activities during the luncheon period.
3. Place assigned for eating luncheons at school, and evidence of utilizing this situation for health instruction.

VIII. The selection of textbooks and reference materials. (These references are omitted from this quotation. Only the comments on use of the textbooks and references are retained.)

The practice of lecturing to pupils in the classes for health instruction is usually without adequate returns for the time and energy invested. The pupils are placed in a rôle of passive listeners, the auditory channel is relied upon almost entirely, and the

*Health Trends in Secondary Education. New York City, American Child Health Association, 1927. 152 pp.

VIII. The selection of textbooks and reference materials—Continued.

factual side of the program overemphasized. Likewise, the practice of attempting to use a discussion type of class activity without providing adequate sources of material for preparation is to be adversely criticized. A pupil must come to a class session with prepared material to be used as a basis for discussion. Discussion without refined information is likely to result in uncritical expression of opinion in the absence of knowledge on a given subject.

In some school districts the financial burden of providing individual copies of health textbooks for every pupil would make the introduction of the health instruction program prohibitive. It is not essential in many situations that every pupil be provided with a textbook in health. One book may be used by five pupils in a week, so that textbooks numbering about 20 per cent of the entire enrollment need be provided. The textbooks may be exchanged according to any administrative plan which is found practicable. Another plan which is found effective where a study hall is provided is to place a number of different health textbooks and reference material on shelves where it is easily accessible to the pupils. The responsibility is given the pupils for preparation from the reference material and texts provided. This reference plan of preparation necessitates carefully organized assignments by the teacher. The pupils should be urged to prepare the advance assignment as soon after the recitation as possible. It is advisable for them to review the assignment rapidly before reporting to the class.

Having fewer textbooks than the entire enrollment has the advantage of permitting newer health texts as they are published to be added without excessive expense to the school district. The plan of placing several different textbooks in the high school, equally distributed in any given year, seems to be advisable. This will necessitate the organization of the program on the basis of grade placement and progression of topics or units of material. Having more than one text widens the scope of material and presents the viewpoints of several different authors.

IX. Supervision of the health education program:

The following outline will suggest the factors to be observed in evaluating the health training and instruction procedure:

A. Environmental factors—

1. Ventilation.
2. Light.
3. Orderliness of arrangement of material.
4. Cleanliness.
5. Seats and desks.
6. Mental and emotional atmosphere.

IX. Supervision of the health education program—Continued.

B. Organization of class—
   1. Seating.
   2. Routine responsibilities detailed to pupil.

C. Standards—
   1. Posture.
   2. Participation—all pupils.
   3. Criticizing and evaluating responses of members of the class.
   4. English.
   5. Responses directed at class or teacher.
   6. Order.
   7. Courtesy and cooperation.

D. Content—
   1. Consecutive page textbook assignment.
   2. Gradation or progression.
   3. Based on pupils' needs.
   4. Scientific worth.
   5. Subordination of nonessential material.
   6. Objectives.

E. Class activities (recitation)—
   1. Review of essentials of last lesson.
   2. Introduction of new material and relating the old to the new presentation of problem.
   3. Presentation of new material (period for teaching).
   4. Demonstrations or experiments.
   5. Assigned and voluntary reports and discussion.
   6. Selection and recall of essentials.
   7. Application.
   8. Assignment.
      (*a*) General survey—including value.
      (*b*) Suggested method for preparation.
      (*c*) Inspiration.
   9. Pupil activity versus teacher activity.
   10. Questions—type and use.

F. Devices and activities—
   1. Visual education material.
   2. Weighing and measuring.
   3. Experiments and demonstrations.
   4. School journeys, visits to dairies, water-supply sources, etc.
   5. Problem-solving.
   6. Individual and socialized reports.

G. Teacher—
   1. Preparation for lesson.
   2. Clothing.
   3. Posture.
   4. Checking pupils' evaluation of responses.
   5. Skill in presenting problems as to challenge interest.

IX. Supervision of the health education program—Continued.
G. Teacher—Continued.
6. Voice.
7. Activity.
8. Instruction given.
9. Resourcefulness.
H. Pupils—
1. Appearance.
2. Posture.
3. Attitudes.
4. Neatness.
5. Industry and application.
6. Study habits.

X. School situations which should be utilized to further health training and instruction.

Many teachers feel that the health instruction program is rendered ineffective because of inadequate provisions for coordinating the health instruction with home activities. It is essential that the interest and cooperation of parents be enlisted in order to make for a more complete realization of the health aims and objectives. There is a tendency, however, to be oblivious to the opportunities and responsibilities provided by the school situation which should be utilized to further the aims and objectives of the health-education programs. Disregarding the incidental situations which arise in the school, such as bleeding noses, sprained ankles, disciplinarian outbreaks, etc., there are a number of situations which are to be found in almost any high school which should be used to give health instruction. Some of these situations are the following:

1. The school luncheon—cafeteria, luncheons brought from home, accessory hot dishes, milk feeding, etc.
2. Program of physical education activities.
3. The use of the toilet and washing facilities.
4. Going to and from school.
5. Removing and putting on wraps.
6. Sitting, standing, and walking.
7. Studying and reciting.
8. Changing classes.
9. Program of extracurricular activities.
10. Methods of heating and ventilating the building.
11. Using the drinking fountains.

7. KINDS OF HEALTH SERVICE

In listing the kinds of health service rendered the respondents were requested to include services other than those already reported, namely, health instruction and health

examinations. A suggestive list of five services was given in the inquiry form. This was increased to 25 by the respondents. The list is highly suggestive of what schools may do in a practical way to improve health conditions and health habits and to disseminate the health ideal in the school and into the community. The complete list of services deserves to be reproduced here: (1) Free immunization for pupils—for example, against diphtheria, smallpox, etc.; (2) free milk for malnourished pupils; (3) lectures on health education for parents and community; (4) health instruction for parents; (5) home instruction for invalid children; (6) free lunches; (7) health talks by experts during assembly periods; (8) free dental work; (9) clinics; (10) free eyeglasses for poor children; (11) distribution of literature on health; (12) periods of rest for underweight children; (13) visits in homes by nurse; (14) Red Cross seal contributions to send needy children to summer health camps; (15) free summer vacations for needy pupils; (16) toothbrushes and tooth paste furnished at low cost; (17) use of local newspapers for health programs; (18) instruction in sex hygiene; (19) moving pictures during winter for parents and children; (20) inspection by nurse after two days' absence; (21) sale of milk at school; (22) cots furnished for resting; (23) free clothes; (24) free goiter-prevention treatment; and (25) crippled and defective children sent free to special schools.

The first two services listed were reported by many more schools than the other services, the first by 251 schools and the second by 183. The next three services were reported by 88, 69, and 65 schools, respectively. The sixth service was reported by 18 schools. Not more than seven schools reported any one of the remaining services listed. The junior high schools and the schools having enrollments of 301 to 750 pupils stand out in the percentage which renders the first five services listed. The junior high schools stand out especially for the first, second, and fifth services.

Some schools are attempting to meet special needs growing out of the present economic situation. For example, one respondent says, "At present serving breakfast to undernourished children of unemployed families." Another says, "Breakfast and lunch are provided for needy children." It would be an incalculable safeguard to the Nation as a whole

if the schools could be privileged now, through uncurtailed appropriations, to maintain at par the physical and mental efficiency of their pupil populations.

In some localities, especially in districts suburban to large cities, it is difficult to bring the needy children into easy reach of clinical service. In at least one city (Los Angeles, Calif.) this order has been reversed, and clinical service is brought to the children by means of the "healthmobile." This is a van equipped with a complete dental office, a desk for the nurse who assists the dentist, and a room for testing the vision of pupils. The estimated cost of one of the vans, fully equipped, is $4,739. It has been found in Los Angeles that the health standards of pupils, parents, and teachers have been raised as a result of the work carried on by means of this ingenious means. Furthermore, this type of health service has become so popular that the vans are in constant demand.

Another kind of health service developed for high-school pupils in certain parts of the country consists of field activities during the summer in national parks or camping expeditions into the outlying countryside. In some places, notably in San Francisco, effort is being made to work out a method whereby high-school pupils participating in the educational activities of the national parks would be given school credit. This work might or might not be in the field of health. However, at least two of the reasons given for recommending this work have a definite reference to health. They are: (1) Some of the features that lead to ill health among city school children can be overcome by spending the summer in the open, and (2) the great urban centers do not provide enough facilities for summer recreation. It is interesting to observe also that special mention is made of children whose parents, because of economic conditions, can not afford to provide them with summer camping facilities. One of the specific objectives is to provide an opportunity for the development of physical hardihood.

8. SPECIAL HEALTH ACTIVITIES FOSTERED AMONG PUPILS

Eight different special health activities are fostered among the pupils of enough of the schools included in this study to be presented in a brief summary. These activities, with the number of schools reporting them, are as follows: (1) Health

poster making, 308; (2) health plays and programs, 260; (3) physical safety measures—for example, pupil traffic police, 218; (4) hikes and excursions, 194; (5) health contests and awards, 126; (6) health clubs, 114; (7) 4-H clubs, 86; and (8) modern health crusade, 29.

The junior high schools and the schools having enrollments of 301 to 750 are again outstanding in the percentages which carry on these special activities, with the exception of the seventh activity. The 4-H clubs are most common among the smaller schools (with enrollments of fewer than 301), in the South, and in the 4-year high schools. However, more than half of the schools reporting health clubs are junior high schools.

The remaining 11 activities listed by the schools may contain suggestions for persons interested in this work. They are scouts; athletic clubs; first-aid work; Junior Hi Y; home hygiene and care of the sick; special general health week celebration; special foot health celebration; health motion pictures; Campfire Girls; sale of Christmas seals; and physical education programs, such as play, dance dramas and programs, demonstrations, and play days.

9. ADDITIONAL FEATURES OF THE HEALTH PROGRAM

In order that special features of the health program in the schools might be discovered, space was set aside for, and respondents were urged to give descriptions of, whatever phases of health work they had carried on and had not already reported. These contributions, it was thought, might contain helpful suggestions to schools wishing to expand their health programs. Thirty schools contributed to the list. Some of the features described, however, have been previously listed among the kinds of health service rendered by the schools and the special health activities fostered among pupils. Thirteen of unusual interest are: (1) Health cards kept which follow child through all grades and all schools; (2) intramural program of sports conducted as a positive health measure; (3) health program crowned with a feature event called the "Lowell Olympics"—every pupil in gymnasium suit on athletic field for "setting-up" exercises, contests, awards of merit, and crowning of health king and queen; (4) effective use of assemblies—lectures

and talks on safety by pupils and outside speakers; (5) personal interviews with pupils absent five or more times during the six weeks' period; (6) maintenance of nutrition and rest classes—underweight and malnourished children kept out of all extracurriculum activities that tend to hinder recovery; (7) effort to make health education the basis for other studies and activities—coordination of the work of the nurse, regular and corrective work in physical education, nutrition work, and instruction in science; (8) health instruction given according to the individualization plan; (9) health programs given by home rooms once each semester; (10) home-room teachers made responsible for health corrections; (11) annual physical education and health demonstrations; (12) a well-equipped playground provided by the local P. T. A.; and (13) the out-of-door movement—all games in the open air.

10. HEALTH PROBLEMS MADE THE SUBJECT OF CAREFUL STUDY

Eighty-six schools report health problems which have been made the subject of careful study. Many of these problems, however, are merely routine matters in physical education or health work, and are not special problems in health. A few schools reported more than one problem. The studies have been grouped under 13 headings, with the number of schools reporting studies under each, as follows: (1) Health habits, 21; (2) diseases (tuberculosis, epidemics, etc.), 21; (3) physical handicaps (eyes, ears, etc.), 21; (4) nutrition, 18; (5) posture, 8; (6) health instruction, 5; (7) corrective physical education, 4; (8) cripples, 1; (9) effect of health supervision on attendance, 1; (10) types of wells, 1; (11) sex education, 1; (12) strain on athletes, 1; and (13) correlation between school standing and defective sight and hearing, 1.

A few of the problems which indicate by the manner of stating them that answers to specific questions are sought are given here: Effect of rest on the health record of the underweight child, study of the relation of flat foot to adolescence, effect of definite routine on the health of girls, the fatality rate of tuberculosis among "teen"-age boys and girls, what to do with the child who has been excused from gymnasium work, and posture as related to malnutrition.

Inquiry was made also to determine to what extent the schools carry on studies of community health in order that their health programs might serve the particular needs of the localities. From these returns it is evident that in most of the schools the program of health is primarily a school and not a community project. Only 17 per cent of the schools indicate that studies of local conditions are made in order that the instruction and activities in the school can be suited to the health needs of the community.

II. WHO APPRAISES THE HEALTH PROGRAM

Only about half of the schools included in this study specified the person who makes the final evaluation of the entire health program in the school. It may or may not be the case that in the schools for which no response was given no evaluation is made. Furthermore, in the schools specifying that an evaluation is made, this evaluation may or may not be more than casual. The interest here, however, is in the answer to the question of who makes the evaluation. Several schools, in answering this question, named more than one person. The 17 different persons specified by the schools, with the number of schools reporting each, are as follows: (1) Administrative head of the school, 138; (2) director of physical education or health, 51; (3) county or school nurse, 24; (4) school physician, 22; (5) city or county health officer, 16; (6) instructor, 14; (7) director of hygiene, 6; (8) State health officer, 2; (9) supervisor of nurses, 2; (10) physical education instructor, 2; (11) director of child welfare, 1; (12) board of superintendents, 1; (13) school committee, 1; (14) board of trustees, 1; (15) director of medical inspection, 1; (16) dean of girls, 1; and (17) coach, 1.

No certain person in the foregoing tabulation is outstanding for any particular group of schools, except that in the reorganized schools, especially the junior high schools, and the larger schools (with enrollments of more than 300) the school physician and the director of physical education or health are more often responsible for this evaluation than in other groups. In the smaller schools (with enrollments of fewer than 301) and the 4-year high schools, this evaluation is almost always made by the administrative head of the school. In the same groups, more than in most of the

other groups, a county health officer is responsible for this evaluation.

In a few cases the respondents were frank to say that although health work has been carried on in the school, no definite evaluation had been made. Routine records have been kept, but the task of determining the effectiveness of the health program has not been assumed. It is logical to expect that in schools where the health program has been well tried out, evaluative studies will be made.

12. *HINDRANCES AND AIDS TO HEALTH WORK*

One of the last questions in the inquiry form on health work was, "Do local conditions tend to help or hinder health work in your school?" Respondents who answered that health work was hampered by hindrances were asked to indicate what the hindrances were. Similarly, in instances in which it was reported that certain conditions tended to aid health work, the respondents were requested to describe them. In 163 schools local conditions were reported to be a help to the health program. Local conditions were reported to be hindrances by 113 schools. Two groups of schools stand out above the others in the percentages which report local conditions to be favorable. These are the junior high schools (45 per cent) and the schools having enrollments of 301 to 750 pupils (47 per cent). The groups in which more schools report hindrances than helps are the 4-year high schools and the schools having enrollments of 300 or fewer pupils.

A study of the helps reported by the junior high schools and of the hindrances reported by the 4-year high schools is interesting. When the conditions reported helpful by the junior high schools are tabulated, three occur more frequently than any others. These are (1) cooperative community, (2) good home conditions, and (3) cooperative parents. Two other conditions deserve mention, namely, good facilities at school and cooperation on the part of community agencies. The local conditions hampering health work, which are reported most frequently by the 4-year high schools, are (1) lack of facilities at school, (2) lack of cooperation by parents, (3) ignorance and superstition of parents, and (4) lack of funds. These returns show, as will also

subsequent data, that, in the minds of the respondents, the success of a program of health work depends not only on the attitudes of school authorities and the activities carried on in the school, but to a great extent on local conditions, especially conditions in the homes of pupils and the attitudes of parents.

The complete list of hindrances to health work in all types of schools, with the number of schools reporting each hindrance, is as follows: (1) Lack of cooperation by parents, 32; (2) lack of facilities at school, 26; (3) ignorance and superstition of parents, 12; (4) poor home conditions, 10; (5) foreign homes, 9; (6) poverty, 9; (7) poor community conditions, 9; (8) lack of funds, 5; (9) limited faculty, 4; (10) lack of trained workers and leaders, 3; (11) isolation, 3; (12) lack of time in the curriculum, 2; (13) crowded building, 2; (14) antagonism of medical doctors, 2; (15) shifting population, 2; (16) inadequate clothing and food for pupils due to the depression, 1; (17) lack of clubs, 1; (18) unemployment in families of pupils, 1; (19) houses of ill repute, 1; (20) poor doctor, 1; (21) opposition of chiropractors, 1; and (22) lack of opportunity in homes to practice habits learned in school, 1.

Many more hindrances than helps were described by the respondents, although more schools reported that local conditions were favorable to health work than reported that they were unfavorable. The numbers of schools reporting certain conditions as helpful are given here: (1) Cooperation and encouragement of parents and community, 16; (2) cooperation of city or community agencies, 9; (3) healthful conditions in the community, 7; (4) good home conditions, 5; (5) good facilities at school, 5; (6) good leadership (director, etc.), 4; (7) highly intelligent pupils, 1; and (8) absence of foreign families, 1.

It should be pointed out again that the effectiveness of the health program in the schools is influenced greatly by the degree of cooperation received from the parents of pupils. A study of the hindrances and helps reported by the schools emphasizes this fact. Another noticeable fact in the replies concerning hindrances is the general effect of the present difficult economic situation on health work. This is reflected in such answers as poverty, poor home conditions, lack of clothing and food, lack of funds, unemployment, and the

like. The present emergency tends at the same time to render conditions in the home less healthful and to lower the ability of the community, especially certain families, to support a health program in the school. This inability to pay results in a lack of funds, which, in turn, makes curtailment seem necessary. It seems unwise to curtail the work in health at a time when greater numbers of children have greater need for it than during less trying times. If health deserves the uppermost rank in the cardinal principles of secondary education, then it is not illogical to expect that it will be among the last of the schools' activities to suffer curtailment.

Only one other observation will be made. It has been seen in this section that conditions in the home and community can, to a great extent, render effective or ineffective the program of health work in the schools. In the section dealing with health problems, which have been made the subject of careful study in the schools, it was shown that only 17 per cent of the schools indicate that studies of local conditions are made so that the instruction and activities in the school can be suited to the health needs of the community. It may be that greater cooperation on the part of the community and parents could be secured if the program of health in the school could be made to go beyond the routine work among pupils and take corrective notice of certain undesirable conditions found, through investigation, to exist in the community.

18. *PRINCIPALS' ESTIMATES OF HEALTH PROGRAMS IN THEIR SCHOOLS AND THE CHANGES PROPOSED*

Health programs reported as satisfactory or unsatisfactory.—Thirty-five per cent of the schools in this study report that the present plan of health supervision and teaching is satisfactory. Forty-two per cent state specifically that it is not. The remaining schools did not report. By far the highest percentage for any one group of schools is for the junior high schools, 60 per cent of which report that the present program of health work is satisfactory. The next highest percentage (52) is for the schools having enrollments of 1,500 pupils or more. The lowest percentages are for the 4-year high schools (20 per cent) and the schools having

enrollments of 300 or fewer pupils (22 per cent.) If the judgments of principals are to be depended upon, it appears that health work is more often carried on satisfactorily in large schools and in junior high schools than in schools of any other size or type.

Changes proposed by the schools.—The most common needs for effective health work among the schools are reflected in the responses of principals to the request that they describe the changes in or additions to the present health program which they would make if it were possible. These responses have been tabulated for the three types of schools in this study, namely, 4-year high schools, junior high schools, and other reorganized schools. Data for the 13 changes mentioned most frequently by the schools are presented in Table 21. Some respondents proposed more than one change.

TABLE 21.—*Number of schools reporting as desirable certain changes in or additions to the general health program*

Proposed change or addition	4-year high schools (91 schools)	Junior high schools (67 schools)	Other reorganized schools (71 schools)	Total (229 schools)
1	2	3	4	5
Additional facilities	26	15	16	57
Full-time or part-time nurse or physician	12	18	12	42
Corrective work	11	8	8	27
Definite courses in sanitation, health, etc.	14	6	6	26
More teachers	6	8	8	22
More follow-up work in homes	4	12	5	21
More comprehensive and definite program	9	4	5	18
Regularly required health examinations	8	----	9	17
Trained health teachers interested in work	6	2	7	15
Health director	6	5	1	12
Uniting of work in health and physical education into one program	2	4	3	9
More time for health work (in the curriculum)	1	5	3	9
Better organization	4	----	4	8

The proposals not included in Table 21 are considered interesting and suggestive enough to be listed roughly according to rank in the frequency with which they are mentioned: Supervision of playground on Saturdays and during summers and evenings; more dental work; better supervision of present activities; compulsory or free immunization; free milk for malnourished pupils; more individual work; required physical instruction; trained teachers of physical

education; better checking and testing; full-time counselors for pupils; better records; more clerical help; lectures, movies, slides, demonstrations, etc.; better house service; real non-political physician; injection of civic problems into school course; closer cooperation between athletic and health departments; health tests for teachers; free medical service for teachers; coordination with work in elementary school; more uniformity among schools of city; more outside help; coordinated school-community program; coordination with other subjects in the school; more health education, less standardized exercises; faculty organized for recreational activities; and sex education.

Special mention should be made of the responses from two junior high schools. One reported that a special health education building had been planned and, unless circumstances intervened, would soon become part of the school plant. The other referred to a need for teachers of hygiene who are trained in health sports. The first response suggests a program which is thoroughgoing and comprehensive enough to require separate facilities. The second suggests a type of health work which aims at health through healthful activities rather than, or in addition to, health instruction.

14. THE CHILDREN'S CHARTER

It is impossible to present the final goals of health work in general in any way better than they are presented by President Hoover's White House Conference on Child Health and Protection in the children's charter. It is fitting at the close of the report on health work to reproduce the charter, which ought to be the common knowledge of and a motivating influence to all persons engaged in health work in the secondary schools.

PRESIDENT HOOVER'S WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION, RECOGNIZING THE RIGHTS OF THE CHILD AS THE FIRST RIGHTS OF CITIZENSHIP, PLEDGES ITSELF TO THESE AIMS FOR THE CHILDREN OF AMERICA

1. For every child spiritual and moral training to help him to stand firm under the pressure of life.

2. For every child understanding and the guarding of his personality as his most precious right.

3. For every child a home and that love and security which a home provides; and for that child who must receive foster care, the nearest substitute for his own home.

4. For every child full preparation for his birth, his mother receiving prenatal, natal, and postnatal care; and the establishment of such protective measures as will make childbearing safer.

5. For every child health protection from birth through adolescence, including periodical health examinations and, where needed, care of specialists and hospital treatment; regular dental examination and care of the teeth; protective and preventive measures against communicable diseases; the insuring of pure food, pure milk, and pure water.

6. For every child, from birth through adolescence, promotion of health, including health instruction and a health program, wholesome physical and mental recreation, with teachers and leaders adequately trained.

7. For every child a dwelling place safe, sanitary, and wholesome, with reasonable provisions for privacy, free from conditions which tend to thwart his development; and a home environment harmonious and enriching.

8. For every child a school which is safe from hazards, sanitary, properly equipped, lighted, and ventilated. For younger children nursery schools and kindergartens to supplement home care.

9. For every child a community which recognizes and plans for his needs, protects him against physical dangers, moral hazards, and disease; provides him with safe and wholesome places for play and recreation; and makes provision for his cultural and social needs.

10. For every child an education which, through the discovery and development of his individual abilities, prepares him for life, and through training and vocational guidance prepares him for a living which will yield him the maximum of satisfaction.

11. For every child such teaching and training as will prepare him for successful parenthood, home making, and the rights of citizenship; and for parents, supplementary training to fit them to deal wisely with the problems of parenthood.

12. For every child education for safety and protection against accidents to which modern conditions subject him—those to which he is directly exposed and those which, through loss or maiming of his parents, affect him indirectly.

13. For every child who is blind, deaf, crippled, or otherwise physically handicapped, and for the child who is mentally handicapped, such measures as will early discover and diagnose his handicap, provide care and treatment, and so train him that he may become an asset to society rather than a liability. Expenses of these services should be borne publicly where they can not be privately met.

14. For every child who is in conflict with society the right to be dealt with intelligently as society's charge, not society's outcast; with the home, the school, the church, the court, and the institution when needed, shaped to return him whenever possible to the normal stream of life.

15. For every child the right to grow up in a family with an adequate standard of living and the security of a stable income as the surest safeguard against social handicaps.

16. For every child protection against labor that stunts growth, either physical or mental, that limits education, that deprives children of the right of comradeship, of play, and of joy.

17. For every rural child as satisfactory schooling and health services as for the city child, and an extension to rural families of social, recreational, and cultural facilities.

18. To supplement the home and the school in the training of youth and to return to them those interests of which modern life tends to cheat children, every stimulation and encouragement should be given to the extension and development of the voluntary youth organizations.

19. To make everywhere available these minimum protections of the health and welfare of children, there should be a district, county, or community organization for health, education, and welfare, with full-time officials, coordinating with a state-wide program which will be responsive to a nation-wide service of general information, statistics, and scientific research. This should include—

(*a*) Trained, full-time public-health officials, with public-health nurses, sanitary inspection, and laboratory workers.

(*b*) Available hospital beds.

(*c*) Full-time public-welfare service for the relief, aid, and guidance of children in special need due to poverty, misfortune, or behavior difficulties, and for the protection of children from abuse, neglect, exploitation, or moral hazard.

For EVERY child these rights, regardless of race or color or situation, wherever he may live under the protection of the American flag.

CHAPTER III : PHYSICAL EDUCATION

METHODS OF INQUIRY

A separate inquiry form was not devised for the study of physical education in secondary schools. However, a number of items concerning this work were included in the form dealing with health work in the schools. It will be remembered that 460 schools filled in and returned the health forms. Consequently, the returns for the items in that form having to do with physical education may be said to be representative of schools with better programs in this field. In addition to the information secured through the inquiry form, the general programs of physical education in about 20 schools were studied at first hand through visitation. The data gathered during these visits were systematically recorded and tabulated.

1. OBJECTIVES OF PHYSICAL EDUCATION

Before presenting data gathered through inquiry forms and visitation it is appropriate to speak about the objectives of physical education. It was pointed out in Chapter I that investigations and revisions in the field of physical education were reported to the survey as having been made in 35 per cent of 2,196 public secondary schools. It is helpful to know what the objectives in these revised programs are. Eighteen revised courses of study in physical education for secondary grades were drawn from the files of the National Survey of Secondary Education and a composite list of the general objectives, aims, or purposes was made. Almost all the courses are dated 1929 or later. An interesting assortment of objectives resulted. However, the frequency with which a few objectives appear makes them outstanding in the complete catalogue of objectives. The number of courses of study including each objective is indicated in Table 22.

TABLE 22.—*Frequency of mention of specific objectives in 18 recent courses of study in physical education*

Objective	Number of courses
To teach games and exercises that will furnish proper and enjoyable recreation for leisure in later life	13
To establish desirable and applicable habits of health conduct	9
To develop citizenship and upright character	8
To improve posture, and to prevent, detect, and correct physical defects	7
To develop and promote normal growth and organic development	7
To coordinate effectively mental and motor activity	6
To learn to know and play large numbers of recreative sports	5
To satisfy the demand for and secure the benefits of big-muscle activity	4
To develop and maintain for present and future needs a maximum of helpful living	3
To provide opportunity for play and relaxation, and for immediate enjoyment in physical activities	3
To teach the advantages of outdoor life	3
To develop social ideals and habits of conduct through participation in physical activities	3
To initiate the desire for physical preservation through life	3
To create an interest in the physical welfare of others	2
To impart knowledge that will result in an intelligent appreciation and care of the body	2
To utilize the game as a learning process	1
To achieve physical and personality development essential to vocational efficiency	1
To aid pupils in discovering activities best suited to their abilities	1
To develop hygienic expression	1
To develop an interest in self-testing activities	1
To establish the habit of periodical physical and medical examinations	1
To develop the habit of recreation	1

To develop such physical qualities as—

Objective	Number of courses	Objective	Number of courses
Correct posture	10	Quickness	2
Muscular coordination	7	Physical efficiency	2
Vigor	6	Precision	2
Skill	5	Equilibrium or balance	1
Endurance	5	Sense of rhythm	1
Strength	3	Nerve power	1
Grace	3	Flexibility	1
Motor control	3		

To develop such mental and moral qualities as—

Objective	Number of courses	Objective	Number of courses
Cooperation (teamwork)	10	Followership	2
Good sportsmanship	8	Wholesome attitude toward play	2
Leadership	7	Correct outlook on life	2
Loyalty	7	Resourcefulness	1
Initiative	5	Decisiveness	1
Control of emotions	5	Patriotism	1
Alertness	4	Friendliness	1
Courage	4	Self-sacrifice	1
Social consciousness	4	Democratic spirit	1
Ability to make social adjustments	4	Reliability	1
Accurate and quick response	3	Respect for authority	1
Sense of fairness	3	Obedience	1
Courtesy	3	Self-confidence	1
Honesty	3	Enthusiasm	1
Self-subordination	2	Poise	1
Perseverance	2	Love of exercise	1
Sense of justice	2	High social ideals	1
Aggressiveness	2	World-mindedness	1
		Best effort	1

Occasionally a school is found in which the objectives are distributed by grades. Illustrative of this is the course of study for the secondary grades in Harrisburg, Pa. The distribution of objectives in this city are as follows:

Seventh grade: To teach good sportsmanship.

Eighth grade: To teach teamwork.

Ninth grade: To develop leadership; to teach games and activities to be used by those pupils who do not enter senior high school.

Tenth grade: To develop skill in control of the body.

Eleventh grade: To teach the advantage of outdoor life.

Twelfth grade: To teach games and activities which will be used by pupils whose school life ends with high school.

The ranks (as determined by frequency of mention) of the objectives in the list presented in this section reveal clearly that, among the schools whose programs of physical education have been recently revised, there is little concern about the values that may be derived from formalized drill, but much concern about the development of a broad program that will launch pupils on life careers with habits, exercises, and attitudes which insure proper development and enjoyment for the present and proper preservation, conduct, and

that will launch pupils on life careers with habits, exercises, and attitudes which insure proper development and enjoyment for the present and proper preservation, conduct, and enjoyment in the future. In other words, physical education in the schools seems to be thought of more and more as the base from which are launched the activities and ideals which enrich childhood and which render adulthood stronger, happier, and better.

Additional evidence of the expanding and changing program in physical education is found in the courses of study in the permission and encouragement which are given to teachers in this field for individual initiative and experimentation. For example, in the revised (1930) course of study in physical education for grades 1 to 12, inclusive, of the public schools of Lansing, Mich., appears the following statement:

> An attempt has been made [in the course of study] to give the teacher every opportunity for the display of individuality and initiative. In case a teacher deems it advisable in his or her particular work to depart radically from the outline herein suggested, he or she should consult with the supervisor of physical education in charge of the department as to the advisability and practicability of the change. Every encouragement will be given to the teachers to try out problems and investigations that promise to have equal or greater educational value than the contents herein contained.

The 1930 course of study in physical education for girls in the tenth, eleventh, and twelfth grades of the Oakland, Calif., public schools contains the following statement:

> Also it is desired through this procedure [of teachers participating in the development of the curriculum] to afford as many teachers as will avail themselves of this means of professional growth an opportunity to reexamine from time to time the general and specific objectives which they set up for themselves in their classroom work, and the principles which they apply in the selection and organization of subject matter.

Occasionally the course of study in physical education contains a request that the teachers do not depart too far from the proposed procedure until the prevailing program has had opportunity to be tried out and evaluated. However, the general trend is toward a studied expansion and inclusion of activities which will make possible the attainment of the enlarged objectives.

The general trend in the aims of physical education is also reflected in a list of 16 objectives of the American Phys-

ical Education Association. These objectives have been approved and adopted by the White House Conference on Child Health and Protection. They are as follows:

1. A medical examination for every school child.
2. Health habits that endure.
3. A class period in physical education each day for each pupil.
4. A gymnasium and playground for every school
5. The teacher fully trained and accredited.
6. The coach a member of the faculty.
7. A graded and scientific curriculum.
8. Standardized physical achievement tests.
9. Academic credit for physical education work.
10. Education for leisure.
11. An intramural program for after-school hours.
12. An athletic program for girls planned and administered by qualified women, stressing—
    (*a*) Girls' rules for girls' activities.
    (*b*) Games and types of competition adapted to age, capacity, and interest.
13. A program that stresses sportsmanship and ethical conduct.
14. Opportunities for scouting and camp craft.
15. Equipped and supervised summer playgrounds.
16. Provisions for wholesome adult recreation.

In reference to the matter of evaluating a program of physical education, it may be helpful to give the eight criteria set up for judging the efficiency of departments of physical education in the secondary schools of Oakland, Calif., and listed in the revised course of study (1930) in physical education for girls, grades 10, 11, and 12. The criteria are as follows:

(1) Is normality being promoted by surrounding the students with an atmosphere of joy and wholesome interests?

(2) Are students grouped for instruction as the result of information obtained through the medical examination, physical examination, and functional tests?

(3) Is the program of games and sports universal throughout the school?

(4) Do the intramural games promote good sportsmanship?

(5) Is there a continued improvement in the posture of the students in the classes?

(6) Is there an interest on the part of students in their own health habits?

(7) Are available time, space, and equipment used to their fullest capacity at all times?

(8) Is the program well balanced as to a variety of activities?

8. PHYSICAL EDUCATION IN 460 SECONDARY SCHOOLS

Administration.—Throughout the following pages data concerning physical education will be presented in as concise a manner as possible. On account of the lack of space, discussions must be curtailed and certain items omitted. A statement of trends at the close of this chapter will indicate the conclusions drawn from the detailed data.

A suggestion similar to the one made at the beginning of Chapter II dealing with health work may be made here; that is, physical education in general in the schools would be more effectively administered if all school administrators would become acquainted with the requirements in their States in this field. In answer to the question of whether or not "the law in your State requires that *secondary-school* pupils shall receive physical education," the respondents in 22 States fail to agree unanimously either affirmatively or negatively. For example, the "yes" and "no" answers, respectively, for a few States are as follows: Massachusetts, 27 and 8; Michigan, 17 and 5; Washington, 4 and 5; North Carolina, 5 and 4; and Pennsylvania, 48 and 6.

Although many topics could be discussed under the heading of the administration of physical education, this report will limit itself to four, namely: Physical education as related to health work in the schools; extent to which physical education is required; grades in which physical education is required or elective, number of class periods a week, and length of periods; and provisions for the supervision of playgrounds.

Physical education in relation to health work.—One of the notable trends revealed by this investigation is the tendency to administer under a single head all the health and physical activities in the school. It matters little whether or not the person in charge of these activities is designated as the director of health or the director of physical education. The data for this study are impressive in the extent to which the work in these two fields is integrated. Furthermore, a single teaching staff often does the work in both fields. A few specific items drawn from the data for health work in the schools will illustrate the close relationship of the two fields among the schools studied. Two hundred and eighty of the 460 schools report that physical education workers do health work. This num-

ber is exceeded only by the number of cases where health work is done by the school nurse.

Classes in physical education are used oftener than any others in carrying on health projects, contests, etc., in the schools. Eighty per cent of the schools report the use of these classes for this type of health activity. When health instruction is considered, more schools (314) report that this instruction is given by teachers of physical education than by any other persons connected with the school. The person reported by the second largest number of schools (237) is the science teacher. Also the instructors in *definite courses* in health are more often teachers of physical education (in 108 schools) than any other person. The three persons ranking next to the teacher of physical education, with the number of schools reporting them are as follows: Science teacher, 21; regular teacher, 21; and school nurse, 20. Finally, the courses other than the definite health course, into which health instruction is introduced, are physical education in 322 schools, general science in 300 schools, and home economics in 284 schools. Other courses are mentioned by smaller numbers of schools. The close relationship of the work in the fields of physical education and health are therefore apparent. Consequently, the trend toward placing all these activities under a single head seems not only logical but necessary. This trend is in line with one of the objectives found to be uppermost in the revised courses of study in physical education which were analyzed, namely, to establish desirable and applicable habits of health conduct. In the course of study for the Houston, Tex., junior high schools the general health program is divided into three phases, namely, health service, health instruction, and health activities. Physical education is declared to be synonymous with the third phase.

Extent to which physical education is required.—Approximately three-fourths of the 460 schools report that physical education is required. This has no reference to whether or not the work must be taken throughout the entire secondary-school career or during only a part of it. Data bearing on this item will be presented. Nevertheless, it is clear that physical education has become fixed in the curriculum of

the secondary schools, not merely as an elective but as a required subject.

Grades in which physical education is required or elective.—The data concerning the grades in which physical education is required or elective have been tabulated for regular 4-year high schools and reorganized schools. These data are presented in Table 23. The tendency for this work to be required during the junior high school years more frequently than later in the secondary-school career is indicated in the data. There is a slight tendency among the schools to make this work elective during the senior high school years, although the number of schools reporting such election is small. The practice of withdrawing the requirement in physical education during the last years of high school, when the strain of school work and extracurriculum activities is often most dangerous to health, is probably not a wise procedure.

TABLE 23.—*Numbers of schools reporting physical education as required or elective in seven grades*

Grade	Regular 4-year high schools		Reorganized schools		Total	
	Required	Elective	Required	Elective	Required	Elective
1	2	3	4	5	6	7
6[1]			64	1	64	1
7			179	4	179	4
8	33	2	179	7	212	9
9	97	10	223	10	320	20
10	93	12	113	9	206	21
11	80	17	90	14	170	31
12	70	16	70	17	140	33

[1] The lowest junior high school grade in 11-grade school systems.

Number of class periods a week.—The data in Table 24 show the numbers of class periods per week in physical education. The lowest third of the table gives the total for all the schools which supplied this information. A hasty examination shows that, with the exception of the sixth grade, classes are most frequently held twice a week. For the sixth grade more schools report five periods a week than report two or any other number. The totals for all grades combined give a clear idea of general practice among the schools in this

regard. Plainly, two periods a week are most common, followed in order by five, three, one, and four periods. The general practice falls far short of the third objective in the list of objectives of the American Physical Education Association, namely, a class period in physical education each day for each pupil.

TABLE 24.—*Number of schools reporting certain numbers of class periods a week in physical education in seven grades*

Type of school and number of periods a week	Grades							Total for all grades
	6[1]	7	8	9	10	11	12	
1	2	3	4	5	6	7	8	9
Regular 4-year high schools:								
1	----	----	2	6	7	7	7	29
2	----	----	10	63	64	60	57	254
3	----	----	9	21	20	21	15	86
4	----	----	----	3	3	2	2	10
5	----	----	13	25	25	21	17	101
Reorganized schools:								
1	4	20	20	22	8	4	4	80
2	21	86	91	114	59	53	44	468
3	5	28	29	44	30	22	20	178
4	1	4	3	4	2	2	1	17
5	33	49	49	50	30	23	20	254
All:								
1	4	20	22	28	13	11	11	109
2	21	86	101	177	123	113	101	722
3	5	28	38	65	50	43	35	264
4	1	4	3	7	5	4	3	27
5	33	49	62	75	55	44	37	355

[1] The lowest junior high school grade in 11-grade school systems.

Length of class periods.—In Table 25 the data concerning the length of the class period in physical education in seven grades are given. The differences between the medians for the regular and reorganized schools are not remarkable except in the case of the eighth grade, in which the median length of the class period in the regular 4-year high schools is 33 minutes, as compared with 51 minutes in the reorganized schools. When a summary computation is made for all grades combined, the median class period in physical education in the reorganized schools is found to be five minutes longer than in the unreorganized schools. This, of course, is probably merely an indication that class periods for all subjects in reorganized schools are in general about five minutes longer than in 4-year schools.

TABLE 25.—*Median length of class period in physical education in seven grades in regular and reorganized secondary schools*

Grade	Regular 4-year high schools		Reorganized schools	
	Median length of class period	Number of cases	Median length of class period	Number of cases
1	2	3	4	5
6[1]			46	63
7			51	189
8	33	35	51	192
9	46	118	50	233
10	46	117	49	123
11	45	111	48	105
12	46	97	48	90
Total	45	478	50	995

[1] The lowest junior high school grade in 11-grade school systems.

Supervision of playgrounds after school, on Saturday, and during summer.—It is perhaps proper to contend that if the present trend in physical education, namely, the fostering of free play and the development of healthful games and physical activities which will become habitual and carry over into later life, is a fortunate one, then the schools which have adopted this objective ought to provide opportunities for such play and for the establishment of such habits. The classes in physical education during the school day do not afford this opportunity. In the first place, they are too short. Again, as seen in Table 24, they are too infrequent. Consequently, many schools have given special attention to the problem of recreation during out-of-school hours. However, the data in Table 26 show that only a small percentage of the schools are solving this problem to the extent that they supply supervisors for playgrounds after school, on Saturdays, and during summers. A higher percentage of schools supplies such supervision after school and during summers than on Saturdays. The junior high schools are outstanding in the percentage which supplies supervisors. The percentages for the smallest schools (with enrollments of 100 and fewer pupils) and the 4-year high schools are very low. It is to be expected that so long as the present trend continues the number of schools which provides supervision for out-of-school physical activities will increase.

TABLE 26.—*Percentages of schools specifying that playground supervisors are furnished for after-school hours, on Saturdays, and during summers*

Classification	After school	On Saturday	During summer
Enrollment:			
100 and fewer (97)	13	1	2
101 to 300 (87)	18	4	10
301 to 750 (107)	28	7	30
751 to 1,500 (91)	33	7	27
1,501 and more (79)	38	5	20
Region:			
New England (57)	35	5	21
Middle Atlantic (121)	24	4	20
South (72)	24	5	7
Middle West (157)	22	3	22
West (53)	34	9	15
Type:			
4-year (162)	13	3	8
Junior (147)	45	6	31
Other reorganized (151)	20	5	17
Total (460)	26	5	18

Physical activities fostered by the schools—The physical activities fostered by the schools make up a list of 17. The numbers of schools reporting each activity range from 1 to 366. The six activities reported by the largest numbers of schools are listed in Table 27. Eleven other activities were reported, as follows: Random games; dancing; swimming; rhythm; camping, hiking, etc.; supervised outdoor play; military training for Boy Scouts; home-room activities; May Day programs and winter exhibitions; leaders' corps; and clubs—for example, sports, swimming, apparatus, etc. Several of these activities are such as will contribute through their carry-over value to recreation in adult life. Special mention should be made of camp-craft and hiking activities. The need for this type of activity to offset the emphasis on competitive games was stressed by several workers in physical education interviewed. It is fitting here to refer to a movement under way in San Francisco, described in Chapter II, to grant school credit for work done by secondary-school pupils in the summer camps in the national parks.

TABLE 27.—*Number of schools reporting certain activities as being included in the program of physical activities*

Activity	Number of schools
Intramural athletics	366
Interscholastic athletics	365
Gymnastics	330
Organized activities (for instance, "organized" recess)	257
Corrective physical education	247
Military training	29

The data in Table 27 need no comment, except to note that intramural athletics ranks first in the list of physical activities. In the monograph of the survey dealing with intramural and interscholastic athletics, it is pointed out that 70 per cent of the schools reported to the survey to be outstanding in their programs of athletics have intramural activities. This study shows that 80 per cent of the schools cited for their program of health work have intramural athletic activities. In other words, a program of intramural sports is even more nearly universal among schools reported to be well organized for health work than among those reported to have outstanding programs of athletic activities.

The data for the fifth item in Table 27, namely, corrective physical education, show that this phase of physical education is yet to be developed in about half of the schools. The writer encountered numerous schoolmen during visitation who felt that their efforts in physical education were not fully effective because corrective work had not been superimposed upon well-executed programs of activity, instruction, and examination. Data in the chapter on health work show that 50 per cent of the schools offer corrective work in physical education for pupils found during the health examination to need it.

The administration of physical performance tests.—Twenty-five per cent of the 460 schools report that physical performance tests are administered to secondary-school pupils. Three groups of schools are ahead in the percentage which administers such tests. These, with their percentages, are: (1) Schools with enrollments of 1,501 and more, 37 per cent; (2) schools in the Middle Atlantic region, 36 per cent; and (3) junior high schools, 36 per cent. The schools which administer these tests were requested to give the name of the

test used. Approximately three dozen different types of tests were listed, ranging from standardized scientific tests in this field to ordinary participation in games. A few of those mentioned most frequently include (1) athletic ability tests, (2) tests developed by Frederick Rand Rogers, (3) tests devised by local teachers, (4) Seaver strength test, (5) standard tests issued by State department of education, (6) American playground badge test, (7) posture tests, (8) apparatus tactics tests, (9) local decathlon, and (10) junior Olympics. The large variety of tests mentioned, the absence of any tests which are used by large numbers of schools, and the evidence in the data showing that many of the tests are of local origin support the conclusion that the testing program (if any) in physical education in most of the schools is still largely in the stage of local experimentation. Few schools have tests of physical performance in use which are used in preference to the ordinary health tests in grouping pupils for their work in physical education. Such a practice, however, is found in a small number of schools.

Probably the best-known tests in the field of physical education are those developed by Frederick Rand Rogers. In a recent book [1] Rogers outlines specific procedures to be followed in administering spirometer tests, manumeter tests, back and leg dynamometer tests, push-up tests, and pull-up tests. These four measures of physical capacity are considered significant as measures of the physical educator's "tools," as measures of physical fitness, as measures of physical activity habits, as measures of endurance, as indices of general systemic conditions, as measures of power to carry academic burdens, as measures of individual progress and educational efficiency, and as measures of unstable conditions.

Fifteen general suggestions for increased accuracy in testing are outlined as follows:

1. Testers should review all procedures before beginning any program of testing. The standard order of tests should be followed in all cases. Trained student assistants may be used as testers of height, weight, and lung capacity, as recorders, and in calculating indices. Adults should administer all other tests and check pupil assistants continually.
2. Apparatus should be calibrated for accuracy annually or oftener.

[1] Rogers, Frederick Rand. Physical Capacity Tests. New York, A. S. Barnes & Co. 1931. 80 p.

3. If any individual administers tests steadily for more than an hour, he should rest for five minutes every half hour to refresh his powers of concentration.

4. The goal of every tester should be to achieve the maximum score from each subject tested.

5. A final check on testing technique is desirable. The procedure should be followed of retesting a group of 60 to 80 individuals and correlating the results of the two series of tests, which should occur not more than two weeks apart. The correlation coefficient between the two series of tests, when computed by the Pearson product-moment formula, should be not less than 0.94. It may even rise to 0.99. If it is below 0.90 the tests have been conducted inefficiently, and the results thereof should not be used administratively.

6. Testers should advance steadily their ideal of precision in measurement. Just as the physician is no longer content with thermometer readings in degrees but now measures blood temperature in tenths of degrees, so must the physical educator improve the accuracy of his own testing technique.

7. Much time may be saved, particularly in initial tests, by preliminary demonstrations before groups of subjects of correct procedures and common errors.

8. Test scores will be more accurate and subsequent programs will be more effective if the purposes of tests are explained to subjects before testing begins.

9. Subjects should be stimulated to maximum efforts by (*a*) vocal encouragement by the testers, (*b*) explanations of the purposes of tests, and (*c*) daily bulletin-board announcements of results.

10. Testers will be greatly aided by careful examinations of illustrations, which show correct positions.

11. There is no adequate substitute for observation of the work of competent testers.

12. Those undertaking testing and organization programs for the first time should be content to move forward very slowly. . . . It is safer to confine testing and reorganization for the first year to a group of 50 to 100 pupils than to attempt wholesale testing at the outset.

13. It will be apparent to experienced testers that certain subjects are impossible to test accurately because of anatomical, nervous, or other conditions. Difficulties are often experienced in securing proper adjustments of apparatus. Arms may be too long, which will make it difficult to test leg strength. Physical deformities may prevent the subject from completing the evolution of push-ups and pull-ups. In these cases the records should be secured, but a circle should be drawn around the final results to indicate that the score does not do justice to the subject's true condition. "Circled indices" will be necessary for from 1 per cent to 3 per cent of any group tested.

14. Medical examinations should precede physical capacity tests, and medical examiners should certify to pupils' fitness to undergo tests. Pupils subject to hernia, with any cardiac defects, or recovering from recent illness or operations should be barred from all lifting tests.

15. Since the object of testing is to determine maximum capacities, retests should be given immediately whenever any question arises concerning the test record. The best performance score is recorded.

Rogers points out that "the propriety of physical capacity tests in physical education has been established by research, but their value in any practical school program depends on the men and women who administer them." Furthermore, "the *tests* are *administrative preliminaries* to actual programs. They never should become *the* program."

As was indicated before, a few schools use tests such as those developed by Rogers in preference to ordinary physical examinations, in grouping pupils for class work. For example, such a system was observed by the writer in one of the secondary schools in Buffalo. The course of study in physical education for the senior high schools of Denver recommends that the Rogers physical capacity tests be used as a basis for classifying pupils in physical education. At any rate, a significant, although small, beginning has been made in physical education in developing and using tests of physical performance and capacity.

Special training of directors of physical education.—The data regarding the special training of the directors of physical education are summarized briefly in Table 28. The percentages do not include the schools whose reports were not definite. For example, statements of training, such as "four years in college," "B. S. degree," "must have master's degree," and the like, may or may not mean that the training includes special work in physical education. No doubt in many cases it does mean that. Consequently, if all the reports could be clearly understood, the percentages in Table 28 would no doubt be higher. These data indicate that directors of physical education are in general specifically

TABLE 28.—*Percentages of schools designating certain special qualifications of the director of physical education*

Special qualification	Men (308 schools)	Women (78 schools)
(1) Degree, graduate work, or teacher's certificate in physical education	25	44
(2) Special training in physical education (includes those listed under (1) above)	58	69

prepared for their work, many of them having made it their major field of preparation. Women directors are more often specifically prepared for this work than men directors. This is probably due in part to the fact that athletic coaches in the schools frequently become directors of physical education for boys, although their training in that field may be meager or altogether lacking. However, among the 306 schools citing the special qualifications of men directors, only 4 per cent make specific mention of coaching ability or membership on college athletic teams as special qualifications. This indicates that leadership in the field of physical education is being selected more on the basis of special preparation in this field than on the record of past physical performance. Only 1 of the 78 schools reporting for women directors cites coaching ability as a special qualification. The experience of directors of physical education goes as high as 15 years for men and 13 years for women.

Use of shower baths after periods of exercise in physical education.—There is no doubt a genuine danger that the benefits derived from the activities carried on during the class period in physical education will be counteracted after the period is over unless special precautions are taken. In many schools pupils are not required to change to gymnasium suits during the class period. Very often pupils who wear ordinary clothes for physical education work perspire freely in them and, after the period of exercise is over, pass immediately to another class or to a study room and sit for a considerable time in damp clothing. It is doubtful whether physical education carried on under such conditions is at all helpful. It may even be dangerous. One way to make the physical education period beneficial to pupils is to require that at the end of the period they shall take rightly tempered shower baths. However, only 34 per cent of the 460 schools require that baths be taken. A much higher percentage of the schools in the western and middle western regions have such a requirement than in the southern, Middle Atlantic, and New England regions. The percentages in the five regions are as follows: West, 55; Middle West, 45; New England, 26; Middle Atlantic, 22; and South, 21.

Schools which do not require pupils to take baths at the close of these periods of exercise were asked to specify how often shower baths were taken. The most frequent response was "not at all; no facilities." Other plans or frequencies, roughly in the order of the number of times mentioned, include optional; irregularly; at least once a week; two or three times a week; after athletic training and games; before entering swimming pool; when necessary; not required, but urged; optional for boys, no equipment for girls; when requested; about every two weeks; at least once out of three periods; "don't know"; and others. One school reports that extra credit is given to pupils who take showers. There is considerable indication in the returns that in some schools the privilege of taking shower baths accrues largely to members of athletic squads. On the whole, facilities for showers after work in physical education are more often available to boys than to girls. There is no doubt that the installation and use of these facilities, provided proper adjustments in time schedules can be made, is desirable as a means of making physical activities most beneficial.

4. DATA SECURED DURING VISITATION

Representativeness of schools.—The data secured from approximately 20 schools visited can be presented only in briefest summary. Topics will be indicated, followed by condensed presentations of materials.

The schools visited in connection with the study of physical education were scattered over an area cornered by, and including, Massachusetts, Utah, Texas, and Florida. They ranged in size from 472 to 4,800 pupils, the average enrollment being 1,918 pupils. Typically, the schools visited are large schools.

Extent to which program of physical education reaches all pupils.—In [illegible] of the [illegible] schools for which data on this item were secured, all pupils except those excused by a physician are enrolled in physical education. In two schools one year of physical education is required, and may be taken whenever the pupil chooses. In another school all the boys take this work, and in another about a third of the entire student body.

General nature of activities in physical education.—In general, among the schools visited, the work in physical education is primarily a program of games, and not one of calisthenics or formal drill. In only 2 schools of 16 visited, in which the type of work was investigated, is the work primarily of the formal nature. In most of the schools, however, some work in calisthenics is given. These are usually as warming-up exercises at the beginning of the class periods, and are usually of short duration. Of course, in schools where corrective work is offered, formal activities constitute a large part of the program for pupils enrolled in these courses. In schools whose programs are made up primarily of games, the main problem which arises, and to which special attention is given, seems to be one of proper supervision.

Outdoor equipment.—The size of grounds at the schools visited ranged from practically none to 57 acres. The average was 15 acres. One school enrolling 1,900 pupils makes use of the sidewalks and neighboring vacant lots for outdoor activities. The general layout and condition of the grounds also vary. Some schools rate very high in this regard, while in others the grounds are rough and poorly equipped. The sports most frequently provided for on the grounds are basket ball and tennis. Baseball fields are also frequent, as well as space for ordinary occasional games. One school has a golf course. The most frequent arrangement concerning golf is for pupils participating in this sport to use municipal courses. In three schools the pupils are permitted to use these courses free of charge. In one city the fees are reduced for pupils. Golf as a physical activity in the schools is on the increase.

Indoor equipment.—Most of the schools visited have indoor gymnasiums. These are variously situated, as follows: (1) Basement of main building, (2) top floor of main building, (3) side basement to main building, and (4) separate building. Some schools have separate gymnasiums for boys and girls. Where this is the case the gymnasium for girls is usually smaller than that for boys. The size of these indoor floors varies from 28 by 60 feet to 100 by 100 feet. In one case the ceiling was found to be very low. In general, the

cleanliness, lighting, and ventilation of the gymnasiums are satisfactory. One school was observed to have very poor janitor services. In a few cases activity on the floor resulted in a dusty atmosphere. In one school the odor from the shoe room was distinctly unpleasant.

In one State a school was visited where the building cost $1,000,000, and nevertheless contained no facilities for indoor physical activities. A survey of the schools of the State made a short time previously concluded that gymnasiums were not needed—that on account of the climatic conditions all work could be done out of doors. The building was erected with the recommendation of the investigators in mind, but the lack of indoor facilities for physical education was much regretted by the directors of that work at the time the school was visited.

It should be stated here that not all schools which seem to have well-thought-out programs of physical education are outstanding in the completeness of their equipment for this work. In these schools adequate equipment would no doubt strengthen the work, but it is not to be supposed that equipment alone makes a program effective.

Locker service.—Locker space for boys in physical education is more frequently inadequate than adequate in 14 schools visited. In one school no separate lockers for gymnasium equipment are supplied. These outfits must be kept with books and other materials in the regular school lockers. Another situation frequently encountered is one in which lockers are supplied for members of athletic squads only.

Lockers for girls are also frequently inadequate. Private dressing rooms for girls are rare, but not unknown.

Facilities for shower baths.—In about half of the schools visited facilities for shower baths for boys are considered adequate. In a few cases showers are not available at all, and no baths are taken after workouts. Two schools were visited which employ "gang" showers.

Showers for girls were more frequently inadequate than adequate. Here, again, in some schools they are not available at all.

Only a few schools furnish towels for the use of pupils in physical education. In one school towels are furnished, but

pupils are required to pay a yearly fee for this service. In another school no charge to pupils is made unless a towel is lost or destroyed.

Laundries.—Only two of the schools visited have outfits for laundering towels, gymnasium suits, athletic suits, and the like.

Apparatus in gymnasiums.—Generally the apparatus in the gymnasiums is as much as is wanted or needed, although little is needed in the majority of the schools on account of the unformalized nature of the program of physical education. Directors, when interviewed, would say frequently, "as much as we want," "ample," "used only incidentally by those who wish it," and similar statements.

When questioned as to whether or not the apparatus is tested annually for safety, the answer of the directors was usually in the affirmative, although the inspection was more often said to be casual than thoroughgoing. One director in a school where the program is largely formalized complained that the apparatus was not tested at all. A potential physical hazard is recognized by some of the directors in the fact that only incidental use of pieces of apparatus is likely to result in improper care.

Size of classes in physical education.—The classes in physical education in the schools visited ranged in size from 25 to 150. One school which offered military training reported a drill group of 300 boys. In general, directors do not complain about large classes. A more frequent complaint is that not enough room is available. The general aim of maintaining a staff large enough to keep indoor classes down to 40 pupils does not seem to cause much concern to the workers in this field.

Training of personnel.—In almost all the schools visited the instructors in physical education and the directors are required to have had at least two years of special work in physical education or to have majored in that field as undergraduates. In a few schools the aims as to the training of the personnel are high, although no definite requirements have been set up. The practice of drafting for work in the physical education department men and women teaching in other

departments of the school or coaching athletic teams is passing, at least in the larger schools.

Assistants to instructors of physical education.—In about half of the schools visited the instructors in physical education have assistants. These assistants are most commonly pupil leaders of groups. Where these leaders are used, they are usually trained in a special class for leaders where they are taught specifically how to do and what to do. Usually only upper classmen or pupils with exceptional qualities of leadership or ability in physical activities are selected to receive training in the special class for leaders. It was pointed out to the investigator during visitation that the plan of using pupil leaders makes possible the handling of large numbers of pupils in a program of physical education devoted largely to the "games" theory, an advantage often claimed for the formalized type of work.

Other assistants to the instructors in physical education include practice teachers from higher institutions and regular classroom teachers. In one school the help of the other classroom teachers is confined entirely to their work in clubs. In the school where practice teachers from higher institutions are used a regular instructor of physical education is always on hand to supervise.

Coaches and their training in physical education.—In two schools visited the coaches of athletic teams are trained in physical education and work under the supervision of the director of physical education. In four schools they are neither trained in this field nor work under the supervision of the director. In five schools the physical educators are the coaches of athletic teams. A discussion of the question of the certification of athletic coaches in physical education and health work is found in the monograph of the survey dealing with intramural and interscholastic athletics.

The coaching of girls' teams and the work in physical education for girls are in charge of women in all the schools visited.

Classification of pupils.—The classification of pupils for work in physical education is effective in half of the schools visited. It should be said immediately, however, that in some of the schools classification means only the taking

notice of cases which are shown through physical examinations to be unfit for ordinary physical activities. On the other hand, classification in some schools is made on the basis of the results obtained from thoroughgoing tests. These results are used to group pupils according to their physical capacity or performance and not according as they are declared fit or unfit for physical activities by ordinary health examinations administered by physicians or nurses. In one school the girls are classified for physical activities, while the boys are not. In three schools the pupils are not classified, but the leaders indicate that such a practice is their "crying need."

In the East High School in Salt Lake City the girls are grouped for physical education as follows: (1) Additional activity; (2) regular program; (3) modified program; and (4) rest, or special corrective. All groups are required to meet. No girl is excused. If a girl can not take physical education, she must rest.

On the whole, classification of pupils in physical education, beyond the taking notice of pupils unable to carry on an ordinary program, is comparatively rare. It might be added that those declared unfit for ordinary activities are in many cases excused from all activities in physical education. These same pupils are often permitted by school authorities, under the urge of parents, to take other work in place of physical education, and the demands of school on the nervous energies of pupils are thereby increased. However, sentiment against this practice seems to be growing. The expressed opinions of directors were frequently to the effect that if pupils are weak or incapacitated to the extent that ordinary activities are impossible, then they deserve to and should be required to rest or take special corrective work, rather than be permitted to substitute other work for physical education.

Out-of-school activities.—It was shown in the data derived from 460 schools that only 26 per cent of those schools provide supervisors for playgrounds during after-school hours and only 5 per cent make such provision for Saturdays. This proportion is borne out almost exactly among the schools visited. In one school visited, supervisors are provided for girls' activities after school, but not for boys. There was an

inclination among the schools to designate the after-school coaching activities of the coach of interscholastic teams as supervision of activities in physical education. It may be, therefore, that in a good share of the 26 per cent of 460 schools which reported in inquiry forms that supervisors for playgrounds after school are provided, the supervisors are coaches of athletic teams and the activities are those engaged in by members of squads. Playground activities under the direction of supervisors are rarely made available to pupils on Saturdays. One school was visited in which considerable time is given after school and on Saturdays by instructors in physical education to pupils who merely wish to play, who want to make up lost time in physical education, and who want to improve their performance in certain events. There is a definite feeling among directors that until ample provision is made by the schools for supervised physical activities after school, on Saturdays, and during summers the objective of physical education which seeks to establish in pupils habits of recreation and the learning of games suitable for playing in later life will remain largely unrealized.

Miscellaneous observations.—Many interesting practices in carrying on work in physical education were observed during visitation. Only three illustrations of such practices, some of which may be suggestive, can be cited here.

In the Germantown High School in Philadelphia a "meritorious rating" system for pupils is maintained, in which physical education counts on a par with other subjects offered in the school. In this school pupils who have rated high in all other subjects have been refused the meritorious rating because they were low in physical education. Their standing in physical education is determined not necessarily by excellent performance but by attitudes and effort, and chiefly upon the basis of *improvement*. All work in physical education which is missed must be made up; consequently, there is negligible effort on the part of the pupils to be excused by the school nurse.

An interesting plan for saving time and expediting the passing of pupils and use of facilities in physical education has been worked out in the East High School in Buffalo. The period of physical education is 90 minutes in length,

45 minutes of which is devoted to actual physical activities. The remaining time is consumed in taking the roll and giving instruction in hygiene (10 minutes), changing to gymnasium suits (15 minutes), and taking shower baths and dressing in street clothes (20 minutes). While one group is engaging in the last of these activities the group to take the floor next is passing, receiving certain instructions, and preparing for actual physical activities. In other words, the periods are staggered so that more periods of physical education are possible, and the passing of groups of pupils in opposite directions in the corridors and on the stairs is avoided.

The third practice to be outlined has to do with activities which may be substituted for the regular work in physical education. In John H. Reagan Senior High School in Houston, Tex., six substitutes for the regular work in physical education were outlined to the writer. The substitute of work and how work cards are secured may or may not be suggestive. The list of substitutes is as follows:

1. Military science (boys).
2. Drill squad (girls).
3. Participation on regular athletic teams, *during sport season.*
4. Swimming (not required, but may be elected as a part of physical education).
5. Statement of head school physician excusing pupil, which is often a statement by the family physician.
6. Work card. Procedure in obtaining a work card:
   - (*a*) Statement of parent that pupil must work for own or family support.
   - (*b*) Signature of employer.
   - (*c*) Signature of principal.
   - (*d*) Signature of high-school director or "coordinator."
   - (*e*) Signature of superintendent of schools.
   - (*f*) Home-room teachers, who keep same pupils during four years, investigate each case. If satisfied the request is worthy, they sign the work card.

Health work.—Among 460 secondary schools included in this study the health work carried on has been launched as a definite program mainly since 1920. Agitation for these programs of health originated usually among the local school authorities. Among the smaller schools and the 4-year high schools the source of agitation was most frequently the State or county health agencies or officers. In about 90 per cent of the schools the health work is part of a general program of health which extends beyond the school itself. This larger unit is most frequently the city school system, except in the case of the small schools, where it becomes the State or county organization. Certain plans of organization seem to be more suitable than other plans for certain types of schools. In approximately 70 per cent of about 300 individual schools full-time or part-time directors or "coordinators" of health work are employed. Sixty-nine per cent of the schools report that health work is coordinated with that in the elementary grades.

In the individual schools there is usually a close administrative relationship between the health work and the work in physical education. The schools specified 30 different types of workers who do health work. The three persons mentioned by the largest numbers of schools are: (1) Nurse, (2) physical education instructor, and (3) physician. Inspection of the school plant for sanitation and safety is left in most cases to the administrative head of the school or the janitor. Persons employed to do health work in the school seldom make these inspections. Measures to insure the physical safety of pupils—for example, pupil traffic police—are taken by 47 per cent of the schools.

The groups used by the largest numbers of schools in carrying on health projects are: (1) Classes in physical education; (2) regular classes—for example, general science, biology, etc.; (3) home rooms; and (4) clubs. Schools are giving increased attention to the health of teachers, both at

the time of employment and after tenure has begun. Health examinations for pupils are almost universal among the schools. Usually pupils receive these examinations once a year, but in some schools only once during the secondary-school career. Other intervals are also frequent. Examination is most frequently made of eyes, throat, teeth, ears, nose, heart, and lungs. Ninety per cent of the schools inform parents of the defects found in their children during the health examination. Only half of the schools offer corrective work to take care of remediable defects discovered during the health examination.

A little more than half of the schools have definite outlines of study for health instruction. Many schools report, however, that these outlines are not available for inspection or examination, which suggests that these outlines may sometimes exist merely in the memories of supervisors or teachers. In most cases the outlines are prepared by either the city school system or the State department of education. Twenty-four different types of workers are reported to give health instruction in the schools. The teacher of physical education, teacher of science, and nurse are reported by more schools to give this instruction than anyone else. Thirteen per cent of the schools report that special teachers of health are employed. A special health course is offered and required of all pupils in 42 per cent of the schools. This course is more often taught by the teacher of physical education than by any other person. It is most frequently required in the seventh, eighth, ninth, or tenth grade. This course usually runs throughout the school year and meets twice a week for full-time school periods.

Health instruction in connection with the work in courses other than the special health course is offered in almost all the schools. These other courses are most frequently physical education, general science, home economics, biology, and civics. Computations of time show that, on the average, pupils receive more instruction in health (in minutes) when this instruction is given in special health courses than when it is given in connection with the work in other courses. The subjects most likely to include instruction in health are most frequently required in the junior high school

grades and elective in the senior high school grades. Nineteen per cent of the schools maintain special classes for pupils having certain defects. The five kinds of classes reported by the largest numbers of schools are: (1) Sight-saving, (2) defective speech, (3) tuberculosis or open-air, (4) lip-reading, and (5) nutrition.

Half of the schools report that the library is *not* specially equipped with books, magazines, etc., to supplement the health work done in the school. Only a little more than half of the schools indicate that home projects in health are carried on. The health habits of pupils are studied specifically in about 60 per cent of the schools, and suggestions made for the improvement or change of practices considered undesirable. Tests intended to determine the health knowledge, habits, and attitudes of pupils are administered in slightly more than a third of the schools, which indicates that the study of the health habits of individual pupils reported to be made by 60 per cent of the schools is probably often of a cursory nature.

In only one-fourth of the schools is any effort made to measure the results of health instruction. Among the schools reporting some type of measurement, three methods are mentioned most frequently, namely: (1) Frequent physical examinations and check-ups in corrections made, (2) individual charts and follow-up work, and (3) tests and records. Some of these may or may not apply strictly to the measurement of health *instruction*.

Twenty-five different kinds of health services were reported to be rendered by the schools. Chief among these are free immunization for pupils—for example, for diphtheria and smallpox—and free milk for malnourished pupils. A few schools are attempting to meet special needs growing out of the present difficult economic situation. Among 19 special health activities fostered among the pupils, 4 are reported by larger numbers of schools than any of the others. These four are: (1) Health poster making, (2) health plays and programs, (3) physical safety measures, and (4) hikes and excursions. Summer camps in the outlying countryside and excursions in national parks are becoming more and more popular among the schools.

Only 86 schools reported problems in health which had been made the subject of careful study. These problems are most frequently concerned with four things, namely: (1) Health habits of pupils, (2) diseases (tuberculosis, epidemics, etc.), (3) physical handicaps of pupils, and (4) nutrition. Only 17 per cent of the schools indicate that studies of health conditions in the communities are made in order that the health program in the school may be made to serve the needs of the community

The entire health program in the schools is most frequently evaluated by the administrative head of the school. This person was designated almost as many times as all the 16 other persons combined. The three others reported by the largest numbers of schools are: (1) Director of physical education or health, (2) county or school nurse, and (3) school physician.

Many hindrances to health work were enumerated by the schools, chief among these being (1) lack of cooperation by parents, (2) lack of facilities at school, (3) ignorance and superstition of parents, and (4) poor home conditions. Fewer helps than hindrances to health work were enumerated. The four helps mentioned by the largest numbers of schools are: (1) Cooperation and encouragement of parents, (2) cooperation of city or community agencies, (3) healthful conditions in the community, and (4) good home conditions. The fact that a close tie-up with the home is essential to a successful program of health in the school is outstanding in the data supplied by the schools.

Only about a third of the schools are satisfied with their present health programs. The six desired changes in or additions to the present program mentioned by the largest numbers of schools are: (1) Added facilities at school; (2) full-time or part-time nurse or physician; (3) corrective work; (4) definite course in health, sanitation, etc.; (5) more teachers; and (6) more follow-up work in the home. One junior high school reported a need for, and a prospect of getting, a health-education building. Another junior high school cited the need for teachers who are trained in health sports.

Physical education—Only a few trends in physical education, based on the data gathered for this study, can be given

here. In the first place, the trend in the type of work offered in physical education has been for some time, and still is, away from calisthenics and formalized drill and toward games and free play. Consequently, in matters of equipment, this changes the chief interest from heavy apparatus in the gymnasium to sufficient space and facilities for games, both indoor and outdoor.

The requirement concerning the training of workers in this field is coming to be more and more specialized. It is not uncommon at present for schools to require that all instructors in physical education must have majored in that field. Numerous States require certification in physical education the same as in other school subjects. In many schools instructors in physical education are assisted by pupils who act as group leaders. These leaders are usually trained for their work in a special class.

The trend in the size of classes in physical education is toward large groups. Instructors frequently stated during visitation that the size of the class caused less concern than the size of the gymnasium or the playing field. In many schools instructers are solving the problem of numbers through the use of pupil leaders.

Physical education in general has not yet been subjected to a thorough program of testing. However, there is a strong move in the direction of administering not only physical examinations, such as those given by a nurse or physician, but tests of physical capacity. Results from the latter type of tests are being used in some cases as a basis for a thoroughgoing classification of pupils into groups for instructional purposes. Grouping for class work in a majority of cases does not go beyond the segregation into separate groups of pupils found during the ordinary physical examination to be unfit for a normal program of physical activity.

Increasing interest is being shown by the schools in the physical activities of pupils during out-of-school hours. The objective of making healthful recreation habitual to children, of developing desirable traits of character, and of learning games which can be played during adult life has led the schools in increasing numbers to supply playground super-

visors after school in the evenings, on Saturdays, and during summers.

Finally, schools in general are giving more attention to corrective and follow-up work in physical education. There is a definite feeling that the work of examining and instructing should be carried to its logical and fruitful conclusion.

General.—It has been notable throughout this investigation that, among the types of schools, the group of junior high schools is distinctly in the lead in the scope and effectiveness of the work done in both health and physical education. In almost every phase of this inquiry this group of schools has been out in front, and when unusual or innovational features have been called for, more responses were received from these schools than from those in any other group. The objective of health in secondary schools is being made an effective part of the educational program, especially at the junior high school level.

In a similar way, when schools of various sizes are compared, the larger schools have more effective programs of health work than the smaller. If any one of the five regions is outstanding in this work, it is, without doubt, the Middle Atlantic region. In general, the small schools and the 4-year high schools have made the least progress in developing effective programs of health and physical education.

An outstanding trend among the schools is the tendency to unite under a single administrative head all the physical activities fostered. This includes health work, physical education, intramural athletics, and interscholastic athletics. Health work is plainly understood in most schools to include more than health examinations and health instruction. Health *habits* are fundamental. Actual health can not be taught. It can be developed only by participating in healthful activities. Hence, in many schools the physical activities are considered a vital part of the health program, and must contribute to the health ideal. This attitude in some schools is leading to a serious examination of the activities in interscholastic athletics engaged in and of the manner in which these activities have been allowed to become unduly prominent in the general program of extracurriculum activities.

Two shortcomings were reported by workers in health and physical education more frequently than any others. These probably indicate the trend which work in this field will take in the future. They are the tasks which lie ahead. One of these shortcomings is the lack of effective programs of correction in physical education and of proper follow-up to facts brought to light through various tests and physical examinations. The other shortcoming is the failure to measure the effectiveness of the general programs in this field, the methods of instruction, and the materials used. The work in health and physical education, comparatively new so far as occupying a definite place in the secondary-school curriculum is concerned, has made large gains, even while other more traditional subjects were losing in prominence. What is done in this field should be rendered indispensable because of the fact that it has been guided and tested in its progress.