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# A survey of sanitary conditions in the high schools in the vicinity of Boston

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A SURVEY OF SANITARY CONDITIONS  
IN THE  
HIGH SCHOOLS IN THE VICINITY OF BOSTON

Submitted by

Ruth E. Trull

(B.S. in Phy. Ed., B. U., Sargent 1941)

In partial fulfillment of requirements  
for the degree of Master of Education

1950

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TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION . . . . .	1
Purpose of the study . . . . .	2
Method of procedure . . . . .	2
II. RESULTS OF THE SURVEY . . . . .	4
III. DISCUSSION OF THE DATA . . . . .	19
IV. SUMMARY AND RECOMMENDATIONS . . . . .	26
Summary . . . . .	26
Recommendations . . . . .	28
BIBLIOGRAPHY . . . . .	30
APPENDIX . . . . .	31

LIST OF TABLES

TABLE	PAGE
1. Dispensing of Drinking Water . . . . .	5
2. Handwashing . . . . .	7
3. Toilet Rooms . . . . .	9
4. Lunchroom and Kitchen Sanitation . . . . .	12
5. Construction and Location of Dressing and Locker Rooms, and Showers . . . . .	16
6. Gymnasium . . . . .	18

## CHAPTER I

### AN INTRODUCTION TO THE STUDY

The sanitation of school buildings represents one of the most important considerations of the school health program. Good sanitation will do much to help develop sanitary habits by aiding and reinforcing good instruction. Poor sanitation tends to work just the reverse.

This survey was conducted to give consideration to eight aspects of the school plant which are believed to play an important role in determining the sanitary condition of public schools. The eight aspects as set forth in the sanitation evaluation schedules of the American School Health Association and the American Public Health Association are listed as follows:

- 1/ 1. Drinking Fountains
2. Lavatories
3. Toilet Facilities

1/ American School Health Association, Appraisal Form For Evaluating School Health, pages 10-11.

- 2/ 4. Lunchroom Facilities
5. Dressing Rooms
6. Locker Rooms
7. Showers
8. Gymnasiums

The purpose of the study-- The specific purpose of this survey is (1) to investigate the sanitary conditions in thirty high schools in the vicinity of Boston, (2) to tabulate the positive findings in terms of accepted standards, (3) to tabulate the negative findings in terms of accepted standards, (4) to show areas which need immediate attention, and (5) to show areas which may be taken care of by long term planning.

Much of the data in this paper concerning school sanitation may prove of service to administrators of high schools at some future time in connection with the sanitary evaluation of buildings.

Method of procedure of this survey-- A group of thirty high schools was selected within a thirty mile radius of Boston. Two schools were added to the original list since two contacted during the survey did not wish to be included.

1/ A check list was used by the writer who visited the schools and interviewed the personnel involved. By personal

2/ American Public Health Association, Sanitation Evaluation Schedule, page 27

1/ Grout, R. E. Health Teaching In Schools, Philadelphia W. B. Saunders Co., 1948, pages 285-293

visitation and careful observation the writer was able to secure one hundred percent response to the questions listed.

The check list contained six main topics with detailed questions in each area. The main topics included on the list were drinking fountains, lavatories, toilet rooms, lunchrooms, dressing rooms, locker rooms, and shower rooms (grouped), and gymnasiums.

The writer discussed the items on the list with principals, superintendents, deans, dietitians, and men and women physical education teachers. This procedure made the writer the recipient of helpful suggestions concerning items on the list. It eliminated confusion concerning data, since the same items were checked and observed in each school plant. It also enabled the writer to add pertinent items to the list after the first two visits.



## CHAPTER II

### RESULTS OF THE SURVEY

Table I shows the result of the check list items on sanitary conditions concerned with the dispensing of drinking water. One hundred percent of the schools have fountains with an opening through which the water is ejected (nozzle) above the edge of the bowl. In seventy percent of the schools there are fountains without guards to protect the nozzle, however, and in only thirty-three percent of the schools is the water from the fountains ejected at an angle. The bowls are kept clean in eighty-three percent of the buildings and three percent of the schools have one fountain for each twenty-five pupils. In only forty-three percent of the schools is there one fountain on each floor.

TABLE I  
Dispensing of Drinking Water

Conditions	P e r c e n t	
	Yes	No
Is the opening through which the water is ejected (nozzle) above the edge of the bowl? .....	100	-
Is there a guard to protect the nozzle? .....	30	70
Is the water ejected at an angle? .....	33	67
Is water pressure always sufficient so that lips need not touch any part of the fountain? .....	100	-
Is the bowl kept clean? .....	83	17
Is there one fountain for each twenty-five pupils? .....	3	97
Is there one fountain on each floor? .....	43	57

Seventeen percent of the schools have one lavatory for every twenty-five pupils. In one hundred percent of the schools running water is available for washing hands. Liquid or powdered soap is provided in forty-seven percent of the buildings, while in only thirty-seven percent of them is soap provided in sufficient quantity so that it is always available. Hot water and paper towels are provided in one hundred percent of the schools but the quantity of paper towels is limited to the extent that in only thirty-seven percent of the buildings are they always available. In thirty-seven percent of the schools pupils observed wash their hands on returning from using the toilets. In ten percent of the schools pupils observed wash their hands before eating. Hands seem to be washed at other times when needed in one hundred percent of the schools.

The data on hand washing frequency was secured as a result of the writer making two ten minute routine visits to the school lavatories during the course of the morning programs. The information gathered as a result of these short visits was reinforced by a careful check of lavatories both before and after lunch periods with the help of the men and women physical education teachers.

TABLE II  
Handwashing

Conditions	P e r c e n t	
	Yes	No
Is there at least one lavatory for every twenty-five pupils? .....	17	83
Are hands washed under running water? .....	100	-
Is liquid or powdered soap provided? .....	47	53
Is soap provided in sufficient quantity so that it is always available? .....	37	63
Is hot water available? .....	100	-
Are paper towels provided? .....	100	-
Are paper towels supplied in sufficient quantity so that they are always available? .....	37	63
Do pupils wash hands:		
On return from the toilet? .....	37	63
Before eating? .....	10	90
At other times when needed? .....	100	-

In forty-seven percent of the schools surveyed toilet and wash rooms are well lighted. Seventy-seven percent of the toilet rooms are adequately ventilated and free from odor. None of these rooms are screened as far as windows are concerned. One hundred percent of the doors are screened. The toilet and wash rooms are always clean in thirty-seven percent of the schools. They are in good repair in fifty-seven percent of the buildings and thirty-seven percent of the schools provide mirrors in their toilet and wash rooms.

One hundred percent of the schools provide toilet paper but it is supplied in sufficient quantity so that it is always available in only thirty-seven percent of the buildings. There is one toilet seat for every fifteen girls and every twenty-five boys in only thirteen percent of the schools visited. There is one urinal for every fifteen boys in twenty percent of the buildings. Toilet fixtures are clean in forty-seven percent of the buildings and they are free from cracks in sixty-seven percent. Pupils seem to use the toilets in a sanitary manner in all of the schools.

TABLE III  
Toilet Rooms

Conditions	P e r c e n t	
	Yes	No
Are the toilet and wash rooms:		
Well lighted? .....	47	53
Adequately ventilated and free from odor? .....	77	23
Screened:		
Windows? .....	-	100
Doors? .....	100	-
Always clean? .....	37	63
In good repair? .....	57	43
Provided with mirrors? .....	37	63
Is toilet paper provided? .....	100	-
Is it supplied in sufficient quantity so that it is available at all times? .....	37	63
Is there:		
One toilet seat for every fifteen girls? .....	13	87
One toilet seat for every twenty-five boys? .....	13	87
One urinal for every fifteen boys? ....	20	80
Are toilet fixtures (bowls and urinals):		
Clean? .....	47	53
Free from cracks? .....	67	33
Do pupils use toilets in a sanitary manner? .....	100	-

Twenty-three percent of the schools have kitchens located entirely above ground. Ten percent have no kitchens. Fifty-seven percent of the kitchens appear to be of sufficient size. All of the kitchens are kept clean but only three percent of them are screened.

Eighty percent of the lunchrooms are kept clean. Thirteen percent of the schools have no lunchrooms. Fifty-three percent of the lunchrooms are well lighted and sixty-three percent are adequately ventilated. Ninety percent of the schools exercise some method of control over flies, rats, roaches, and mice. The ninety percent really represents all of the schools since ten percent have no kitchens. Perishable foods are kept in refrigerators maintained at fifty degrees F. or lower in all of the kitchens. In eighty-three percent of the cases dishes are stored so as to be kept clean and sanitary. All of the schools store garbage in water-tight, rodent-proof containers with tight fitting covers. Fifty-three percent of the kitchens dispose of liquid wastes into properly covered and located absorption pits. In all of the kitchens dishes are scraped and soaked, or scraped and pre-rinsed. They are then washed in clean water 110-120 degrees F. with plenty of soap or detergent. Following this procedure eighty-seven percent of the kitchens rinse all dishes thoroughly and disinfect them in clean water at 170 degrees for two minutes or boiling water for thirty seconds. Only forty-three percent of the kitchens drain dishes dry without the use of towels. Seventy-seven percent of the

schools store all cleansed dishes and utensils in closed cupboards.

Just forty percent of the schools have complete hand-washing facilities readily available for kitchen and lunchroom workers. Kitchen and lunchroom workers meet health standards set by health and school authorities in eighty-seven percent of the schools. In three percent of the schools no standards are set. Eighty-three percent of all the schools are favored by kitchen and lunchroom workers who follow hygienic practices. They handle dishes and silver properly and they refrain from handling food.

Eighty-three percent of the schools report that workers keep away from the lunchroom and kitchen when having a cold or other illness. There are no regulations regarding this practice. The same number of schools report that kitchen workers wash their hands with soap and hot water after coughing, sneezing, and handling handkerchiefs. Observation bears out this figure.

All of the schools use pasteurized milk and the individual servings are in original small sized containers with straws.

Sixty percent of the schools give their lunchroom and kitchen workers special instruction. Eighty percent of the schools have student groups that cooperate in keeping the lunchroom clean.



TABLE IV  
Lunchroom and Kitchen Sanitation

Conditions	Percent		<u>No Kitchen</u>
	Yes	No	
Is the kitchen entirely above ground?	23	67	10
Does it appear to be of sufficient size? .....	57	33	10
Is the kitchen:			
Kept clean? .....	90	-	10
Screened? .....	3	87	10
Well lighted? .....	63	27	10
Adequately ventilated? .....	63	27	10
	Percent		<u>No Lunchroom</u>
	Yes	No	
Is the lunchroom:			
Kept clean? .....	80	7	13
Screened? .....	7	80	13
Well lighted? .....	53	33	13
Adequately ventilated? .....	63	23	13
			<u>No Kitchen</u>
If there is evidence of flies, roaches, rats, mice, etc., are any methods of control used? .....	90	-	10
Are all perishable foods kept in a refrigerator the temperature of which is maintained at 50 degrees F. or lower? .....	90	-	10
Are dishes stored so as to be kept clean and sanitary? .....	83	7	10
Is garbage stored in water-tight, rodent-proof containers with tight fitting covers? .....	90	-	10
Are the liquid wastes disposed of into a properly covered and located absorption pit? .....	53	37	10
Are dishes washed as follows:			
Are dishes scraped and soaked or scraped and pre-rinsed? .....	90	-	10

TABLE IV  
Lunchroom and Kitchen Sanitation  
(continued)

Conditions	Percent		No Kitchen
	Yes	No	
Are dishes washed in clean water 110-120 degrees F. with plenty of soap or detergent? .....	90	-	10
Are all dishes rinsed and thoroughly disinfected by being submerged in clean water at 170 degrees for two minutes or boiling water for 30 seconds? .....	87	3	10
Are dishes drained dry without the use of towels? .....	43	47	10
Are all cleansed dishes and utensils stored in closed cupboards?	77	13	10
Are complete handwashing facilities readily available for kitchen and lunchroom workers? .....	40	50	10
Do the kitchen and lunchroom workers meet health standards set by health and school authorities? .....	87	3	10
Does each kitchen and lunchroom worker follow hygienic practices? .....	83	7	10
Handle dishes and silver properly?	90	-	10
Refrain from handling food? .....	90	-	10
Keep away from lunchroom and kitchen when having a cold or other illness? .....	83	7	10
Wash hands with soap and hot water after coughing, sneezing, and handling handkerchief? .....	83	7	10
Is all milk used for the lunch pasteurized or cooked before using? .....	90	-	10
Is the milk for drinking served in original, small sized containers with straws? .....	90	-	10
Are all lunchroom and kitchen workers given special instruction? .....	60	30	10

TABLE IV  
Lunchroom and Kitchen Sanitation  
(continued)

Conditions	Percent		<u>No Lunchroom</u>
	Yes	No	
Do pupils cooperate in keeping the lunchroom clean and sanitary? .....	80	7	13

Dressing and locker rooms are located adjacent to the gymnasium in sixty-seven percent of the schools. In only twenty-three percent of the buildings are they located adjacent to the athletic fields. Three percent of the schools visited have none of these facilities.

Seventy-three percent of the schools provide toilet facilities for each sex adjacent to the dressing and locker rooms. At the time of maximum load there is one toilet for each twenty girls in thirty-three percent of the schools. There is one toilet and urinal for each thirty boys in forty percent of the schools and there is one bowl for each thirty pupils in thirty percent of the schools.

Shower baths are provided for each sex in eighty-three percent of the buildings and they are supplied with both hot and cold water in eighty percent. At the time of maximum load only forty-three percent of the schools have a shower for each twenty pupils. Only thirty-seven percent of the schools provide soap at all times. In three percent of the cases the soap provided is liquid while in seventy-seven percent cake soap is provided. Seventy-three percent of the schools have foot baths both at the entrance to and exit from the showers. In all of these schools the foot bath is supplied with 0.3 to 0.6 percent of available chlorine, or (15 percent sodium thiosulphate).

TABLE V  
Construction and Location of Dressing  
and Locker Rooms, and Showers

Conditions	Percent		No Facilities
	Yes	No	
Are there dressing and locker rooms located adjacent to the:			
Gymnasium? .....	67	30	3
Play fields? .....	23	73	3
Are toilet facilities provided for each sex adjacent to the dressing and locker rooms? .....	73	23	3
Is there, at time of maximum load:			
One toilet for each twenty girls? .....	33	63	3
One toilet and urinal for each thirty boys? .....	40	57	3
One bowl for each thirty pupils? .....	30	67	3
Are shower baths provided for each sex? .....	83	13	3
Are they supplied with both hot and cold water? .....	80	17	3
Is there a shower for each twenty pupils at time of maximum load? .....	43	53	3
Is soap provided at all times? ...	37	60	3
Is liquid soap provided? .....	3	93	3
Is powdered soap provided? .....	-	97	3
Is cake soap provided? .....	77	20	3
Is there a foot bath? .....	73	23	3
Is there one at entrance to showers? .....	73	23	3
Is there one at exit from showers? .....	73	23	3
Is it supplied with 0.3 to 0.6 percent of available chlorine, or (15 percent sodium thio-sulphate)? .....	73	23	3

Thirty-three percent of the gymnasiums visited are located entirely above ground. Eighty-seven percent of them have floors that are hard and durable and that seem to be wearing evenly. Thirty-seven percent of the floors are attractive and uniform in color and free from stains and moisture. The wood of the floors is protected against warping in eighty-seven percent of the gymnasiums.

In only twenty percent of the gymnasiums is the floor free from dust and dirt. Perhaps this accounts, in part, for the sixty percent of sticky floor surfaces. Seven percent of the gymnasiums have a floor surface that is slippery. Forty-three percent have lines that stand out clearly.

Thirty-three percent of the gymnasiums are adequately ventilated and well lighted.

Just twenty percent of them have walls that are easily cleaned.

TABLE VI  
Gymnasium

Condition	Percent		<u>No Gymnasium</u>
	Yes	No	
Is the gymnasium entirely above ground? .....	33	63	3
Is the floor hard and durable? .....	87	10	3
Does the floor surface seem to be wearing evenly? .....	87	10	3
Is the floor attractive and uniform in color? .....	37	60	3
Is the floor free from stains and moisture? .....	37	60	3
Is the wood of the floor protected against swelling and warping? .....	87	10	3
Is the floor free from dust and dirt? .....	20	77	3
Is the floor surface sticky? ....	60	37	3
Is the floor surface slippery? .....	7	90	3
Do the lines stand out? .....	43	53	3
Is the gymnasium adequately ventilated? .....	33	63	3
Is the gymnasium well lighted? .....	33	63	3
Are the walls easily cleaned? .....	20	77	3

### CHAPTER III

#### DISCUSSION OF THE DATA

Turner states that <sup>1/</sup> safe and sanitary water dispensing facilities should meet the following requirements:

- (1) Minimum of one fountain for each twenty-five children and at least one on each floor.
- (2) Fountain should be constructed of impervious material such as vitreous china or porcelain.
- (3) The jet of the fountain should issue from a nozzle of non oxidizing, impervious material set at an angle from the vertical. The nozzle and every other opening in the water pipe or conductor leading to the nozzle should be above the edge of the bowl, so that such nozzle or opening will not be flooded in case a drain from the bowl of the fountain becomes clogged.
- (4) The end of the nozzle should be protected by nonoxidizing guards to prevent the mouth and the nose of persons using the fountain from coming in contact with the nozzle.

The materials of which the school fountains are constructed meet the above specifications as do the openings through which the water is ejected. The points on which they seem to deviate most markedly are in the failure of fountains in seventy percent of the schools to have protective guards for the nozzles, and in the failure of water to be ejected at an angle from fountains in sixty-seven percent of the schools. This constitutes a

<sup>1/</sup> Turner, G. E. "School Health and Health Education"  
St. Louis, G. V. Mosby Co. 1947 page 188



serious condition because water may fall back on the opening from the mouths of people drinking at the fountains and there is nothing to prevent their mouths from contacting the nozzle.

The number of fountains and their locations leaves much to be desired. Ninety-seven percent of the schools do not meet the recommended ratio of one fountain for each twenty-five pupils. Fifty-seven percent of the schools fail to have one fountain located on each floor.

As used here, the term lavatory refers to provisions for washing the hands. It is generally agreed that acceptable lavatories feature clean facilities, good lighting, hot and cold running water, liquid or powdered soap kept in easily operated containers, sanitary towels, and mirrors. In all of the schools pupils may wash their hands with soap under hot running water and dry them with paper towels. The main difficulty in this area seems to be in the spasmodic lack of availability of soap and towels in thirty-seven percent of the schools. These items seem to be available at all times in some areas of all the schools. The trick lies in finding the right area. Pupils usually haven't the time nor the inclination to seek soap and towels when they are not at hand. They are more apt to resort to a makeshift arrangement. They may substitute toilet paper for towels which tends to use up an undue amount of toilet paper or they may not bother to wash their hands.

Additional supplies and a few more minutes after class and before lunch might improve the percentage of pupils who wash their hands before eating, providing the time allotted is used for this specific purpose.

The construction and maintenance of toilet rooms poses numerous problems. Among them are illumination, ventilation, repair, and the provision of such necessary supplies as toilet paper. There is room for tremendous improvement in this area as indicated by fifty-three percent of the schools that do not have well-lighted toilet rooms, twenty-three percent that fail to provide adequate ventilation, and forty-three percent that have facilities in need of repair. Repair would improve the ratio of toilet facilities per pupil, because at present it is necessary to keep toilet rooms locked to prevent the use of toilets that fail to function properly. This situation crowds the remaining rooms and dislocates the pupil population more than is otherwise necessary.

All toilet room doors are screened but none of the windows are screened. It is possible that screened windows may provide temporary relief in twenty-three percent of the buildings where toilet room ventilation is a problem.

Lack of a sufficient supply of toilet paper in sixty-three percent of the buildings seems to be a financial problem in most instances. There is no indication that the supplies are wasted. They are simply meager. In other words, the money set aside for supplies does not seem to be ample.

Of the thirty schools only twenty-three percent have kitchens located entirely above ground. Added to this is another ten percent having no kitchens. These figures seem significant when the writer views the present day trend <sup>1/</sup> to eliminate the use of basement areas for other than storage and mechanical equipment as a step toward more sanitary buildings.

Over half of the kitchens appear to be of sufficient size. All of the kitchens are kept clean but only three percent of them are screened. In all of the cases except one the people in charge feel that spraying is more effective than screening because of the traveling in and out which tends to keep doors open for lengthy periods of time. However, it seems as though screening would give added protection. It is also interesting to note that in two areas it is believed that the fly and insect problem is alleviated by mass spraying in the community.

The methods of control most commonly used against flies, roaches, rats, and mice are spraying and exterminating services. Whether or not monthly exterminating service is provided, ninety percent of the schools exercise some method of control over these sanitary nuisances. The ninety percent really represents all of the schools visited since ten percent have no kitchens.

Seven percent of the schools need adequate storage space for dishes and utensils. This would facilitate clean and

1/ Turner, C. E. "School Health and Health Education"  
St. Louis, C. V. Mosby Co. 1947 page 185

sanitary storage of dishes. Additional shelf space in forty-seven percent of the kitchens would also make it possible to drain dishes dry without the use of towels.

In many of the schools the kitchens and lunchrooms are makeshift arrangements. For this reason most of the sixty-seven percent of them that are located entirely or partly below ground level will have to wait for building programs for correction. Along with this will go the improvement of lighting and ventilation in twenty-seven percent of the kitchens and in thirty-three percent of the lunchrooms.

Modern programs of health and physical education stress the importance of sanitary locker, dressing, and shower rooms. It facilitates matters to have these units on the ground floor, adjacent to the gymnasium and athletic field or with easy access to them. While thirty percent of the schools have dressing and locker rooms that are not adjacent to the gymnasiums an even greater number; namely, seventy-three percent, have dressing and locker rooms that are not adjacent to athletic fields. This added distance and time may interfere with proper cleansing showers following activities. In the case of play fields, distance may limit types of activity as well as limiting the use of the fields. It may eliminate their use entirely for all, except those who are on varsity teams.

Eighty-three percent of the schools provide showers for each sex. It is a bit difficult to reconcile this figure with the seventeen percent which require that showers be taken. In

some instances pupils take showers where they are not required. The percentage taking them voluntarily would probably be comparatively high among boys and low among girls.

Seventy-three percent of the schools visited provide foot baths. The general feeling seems to be that <sup>1/</sup> a footbath of good antiseptic solution should be a part of the installation in showers since all bathers use the same limited space, thus increasing foot hazards. By the same token it is interesting to note that in nearly one third of the schools those in charge feel that the mere presence of foot baths creates a false sense of security. It is their belief that thorough cleansing and scouring of the shower room with strong chlorine solutions two or three times a day is far more effective. Because of the initial expenditure and the faith people have in foot baths these schools continue to use them.

For location, the gymnasium should be <sup>2/</sup> in a wing, at one end of the school building, or in a separate structure. This facilitates proper sanitation and sanitary maintenance of the area. It makes possible community use of facilities without opening up the entire school building. It facilitates adequate ventilation and good lighting which are needed in sixty-three percent of the school gymnasiums.

Dust and dirt on the floors of gymnasiums in seventy-seven percent of the buildings constitutes a definite hazard.

<sup>1/</sup> Lee, Mabel "The Conduct of Physical Education"  
New York, A. S. Barnes, 1937 page 144

<sup>2/</sup> Williams, J. F. and Brownell, G. L. "The Administration of Health and Physical Education", Philad., W.B.Saunders, '39, p.363

It gets into the mouth, nose, throat, and eyes, aggravating upper respiratory disorders. It grinds into the skin during participation in floor work and creates a feeling of distaste for physical education. Here is an area where improvement may result from a little more time, thought, and effort on the part of custodians, pupils, and the community. This is a difficult problem to solve in most of the schools visited because the gymnasiums are used for a great many activities in addition to physical education even during the school day.

Today most states require that plans for school buildings be approved by the State Department of Education, the State Department of Health, or a state architect. Their object is to secure proper sanitary conditions and to eliminate hazards.

It is doubtful whether many schools included in this survey would meet the above requirements, which are far from all inclusive. In addition to this, about seventy percent of the administrators interviewed feel that major improvements must wait for building programs. Meanwhile, minor repairs and make-shift arrangements are made in the hope of meeting rising standards. This seems to lead to the assumption that the age of the schools visited has some bearing on the hygienic aspects of these particular plants.

CHAPTER IV  
SUMMARY AND RECOMMENDATIONS

Having once provided a building with maximum sanitary features school authorities may not consider their work done. On the contrary, this is just a beginning, because, in the future, the job is to maintain, at all times, a maximum degree of sanitation in school buildings and on school premises. This entails periodic inspections throughout the school year in cooperation with the board of education, the board of health, or both.

School administrators should attempt to determine the extent to which the healthful school environment of pupils is being maintained and improved or jeopardized.

It is a foregone conclusion that one of the great problems confronting school authorities is how to increase the sanitary features of existing buildings. Some school buildings no longer suitable for school purposes because of age must be modified as best they can until such time as the city or town is financially able to replace them. According to this report many of the problems in old buildings are likely to be sanitary in nature. Among the problem areas in school

sanitation covered in this study are the following:

1. Drinking fountains
2. Lavatories
3. Toilet facilities
4. Lunchroom and kitchen facilities
5. Locker, dressing, and shower rooms
6. Gymnasiums

This study was carried on between January and March of 1950. It was a survey of the sanitary conditions in thirty high schools within a thirty mile radius of Boston. It came at a time in the school year when school facilities were taxed to the utmost due to the entire student body being indoors for all activities throughout each school day.

A study of this sort would be more effective if it covered a longer period of time. This might allow for seasonal inspections of school plants.

1. Fall
2. Early Winter
3. Late Winter
4. Spring

Five of the schools included in the study were visited a second time.



RecommendationsDRINKING FOUNTAINS

Installation of at least one fountain on each floor in fifty-seven percent of the schools.

Installation of protective guards on fountain nozzles.

LAVATORIES

Additional soap and paper towels in sixty-three percent of the schools.

Provision of either liquid or powdered soap in place of cake soap in fifty-three percent of the schools.

TOILET ROOMS

Repair of toilets in forty-three percent of the schools.

Provision of sufficient quantity of toilet paper so that it is always available in sixty-three percent of the schools.

Provision of mirrors in toilet and wash rooms.

Screening of windows.

More thorough cleaning of toilet rooms and toilet fixtures.

LUNCHROOMS AND KITCHENS

Improved lighting and ventilation in twenty-seven percent of the kitchens.

Screening of windows in eighty-seven percent of the kitchens.

Screening of eighty percent of the lunchrooms.

Provision for draining dishes dry without the use of towels in forty-seven percent of the schools.

Building of cupboards so that all cleansed dishes and utensils may be stored in them.

Installation of complete handwashing facilities for kitchen and lunchroom workers in fifty percent of the schools.

#### DRESSING, LOCKER, AND SHOWER ROOMS

Installation of toilet facilities for each sex adjacent to dressing and locker rooms in twenty-three percent of the schools.

Provision of showers for each sex in thirteen percent of the schools.

Provision of soap for showers at all times in sixty percent of the schools.

#### GYMNASIUM

More adequate cleaning of floors in seventy-seven percent of the gymnasiums.

Provision of better light and improved ventilation in sixty-three percent of the gymnasiums.

Refinishing slippery floors in seven percent of the schools to prevent accidents.

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APPENDIX

SCHOOL	ENROLLMENT	YEAR OF CONSTRUCTION
1	764	1904
2	270	1939
3	350	1935
4	1622	1924
5	380	1914
6	892	1925
7	270	1918
8	2400	1916
9	600	1906
10	1187	1898
11	1000	1913
12	1250	1908
13	1400	1923
14	383	1920
15	1800	1904
16	870	1911
17	1971	1902
18	850	1916
19	1857	1895
20	1500	1908
21	480	1927
22	1100	1935
23	2000	1932
24	461	1929
25	1500	1930
26	450	1906
27	533	1925
28	950	1921
29	1439	1914
30	653	1926

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CHECK LIST FOR SCHOOL SANITATION

School _____	Total Number of Pupils _____	YES	NO
	Boys _____		
Year of Construction _____	Girls _____		

Dispensing of Drinking Water

1. If there are drinking fountains, does each meet the following requirements:
  - a. Is the opening through which the water is ejected (nozzle) above the edge of the bowl? \_\_\_\_\_
  - b. Is there a guard to protect the nozzle? \_\_\_\_\_
  - c. Is the water ejected at an angle? \_\_\_\_\_
  - d. Is water pressure always sufficient so that lips need not touch any part of the fountain? \_\_\_\_\_
  - e. Is the bowl kept clean? \_\_\_\_\_
  - f. Is there one fountain for each 25 pupils? \_\_\_\_\_
  - g. Is there one fountain on each floor? \_\_\_\_\_

Handwashing

1. Is there at least one lavatory for every 25 pupils? \_\_\_\_\_
  - a. Are hands washed under running water? \_\_\_\_\_
2. Is liquid or powdered soap provided? \_\_\_\_\_
  - a. Is soap supplied in sufficient quantity so that it is always available? \_\_\_\_\_
3. Is hot water available? \_\_\_\_\_
4. Are paper towels provided? \_\_\_\_\_
  - a. Are paper towels supplied in sufficient quantity so that they are always available? \_\_\_\_\_
5. Do pupils wash hands:
  - a. On return from the toilet? \_\_\_\_\_
  - b. Before eating? \_\_\_\_\_
  - c. At other times, when needed? \_\_\_\_\_

CHECK LIST FOR SCHOOL SANITATION

(continued)

	<u>YES</u>	<u>NO</u>
<u>Toilet Rooms</u>		
1. Are the toilet and wash rooms:		
a. Well lighted?		
b. Adequately ventilated and free from odor?	---	---
c. Screened?	---	---
1. Windows?	---	---
2. Doors?	---	---
d. Always clean?	---	---
e. In good repair?	---	---
f. Provided with mirrors?	---	---
2. Is toilet paper provided?	---	---
a. Is it supplied in sufficient quantity so that it is available at all times?	---	---
3. Is there:		
a. One toilet seat for every 15 girls?	---	---
b. One toilet seat for every 25 boys?	---	---
c. One urinal for every 15 boys?	---	---
4. Are toilet fixtures (bowls and urinals):		
a. Clean?	---	---
b. Free from cracks?	---	---
5. Do pupils use toilets in a sanitary manner?	---	---
<u>Lunchroom Sanitation</u>		
1. Is the kitchen entirely above ground?	---	---
2. Does it appear to be of sufficient size?	---	---
3. Is the kitchen:		
a. Kept clean?	---	---
b. Screened?	---	---
c. Well lighted?	---	---
d. Adequately ventilated?	---	---

CHECK LIST FOR SCHOOL SANITATION

(continued)

	<u>YES</u>	<u>NO</u>
4. Is the lunch room:		
a. Kept clean?	---	---
b. Screened?	---	---
c. Well lighted?	---	---
d. Adequately ventilated?	---	---
5. If there is evidence of flies, roaches, rats, mice, etc., are any methods of control used?	---	---
6. Are all perishable foods kept in a refrigerator the temperature of which is maintained at 50 degrees F. or lower?	---	---
7. Are dishes stored so as to be kept clean and sanitary?	---	---
8. Is garbage stored in water-tight, rodent-proof containers with tight fitting covers?	---	---
9. Are the liquid wastes disposed of into a properly covered and located absorption pit?	---	---
10. Are dishes washed as follows:		
a. Are dishes scraped and pre-rinsed, or scraped and soaked?	---	---
b. Are dishes washed in clean water 110-120 degrees F. with plenty of soap or detergent?	---	---
c. Are all dishes rinsed and thoroughly disinfected by being submerged in clean water at 170 degrees for two minutes or boiling water for 30 seconds?	---	---
d. Are dishes drained dry without the use of towels?	---	---
e. Are all cleansed dishes and utensils stored in closed cupboards?	---	---
11. Are complete handwashing facilities readily available for kitchen and lunchroom workers?	---	---
12. Do the kitchen and lunch room workers meet health standards set by health and school authorities?	---	---
13. Does each kitchen and lunch room worker follow hygienic practices?	---	---
a. Handle dishes and silver properly?	---	---
b. Refrain from handling food?	---	---



CHECK LIST FOR SCHOOL SANITATION

(continued)

	<u>YES</u>	<u>NO</u>
c. Keep away from lunch room and kitchen when having a cold or other illness?	---	---
d. Wash hands with soap and hot water:		
1. After coughing, sneezing, and handling handkerchief?	---	---
14. Is all milk used for the lunch pasteurized or cooked before using?	---	---
15. Is the milk for drinking served in original, small-sized containers with straws?	---	---
16. Are all lunch room workers and kitchen workers given special instruction?	---	---
17. Do pupils cooperate in keeping lunch room and kitchen clean and sanitary?	---	---

Sanitation of Dressing and Locker Rooms, Showers, and Swimming PoolsConstruction and Location of Dressing and Locker Rooms, and Showers

1. Are there dressing and locker rooms located adjacent to the:		
a. Gymnasium?	---	---
b. Play fields?	---	---
2. Are toilet facilities provided for each sex adjacent to the:		
a. Dressing and locker rooms?	---	---
3. Is there, at time of maximum load:		
a. One toilet for each 20 girls?	---	---
b. One toilet and one urinal for each 30 boys?	---	---
c. One bowl for each 30 pupils?	---	---
4. Are shower baths provided for each sex?		
a. Are they supplied with both hot and cold water?	---	---
b. Is there a shower for each 20 pupils at time of maximum load?	---	---

CHECK LIST FOR SCHOOL SANITATION

(continued)

	<u>YES</u>	<u>NO</u>
c. Is soap provided at all times?	—	—
a. Is liquid soap provided?	—	—
b. Is powdered soap provided?	—	—
c. Is cake soap provided?	—	—
5. Is there a foot bath?	—	—
a. Is there one at entrance to showers?	—	—
b. Is there one at exit from showers?	—	—
c. Is it supplied with 0.3 to 0.6 percent of available chlorine, or (15 percent sodium thiosulphate)?	—	—
<u>Gymnasium</u>		
1. Is the gymnasium entirely above ground?	—	—
2. Is the floor hard and durable?	—	—
3. Does the floor surface seem to be wearing evenly?	—	—
4. Is the floor attractive and uniform in color?	—	—
5. Is the floor free from stains and moisture?	—	—
6. Is the wood of the floor protected against swelling and warping?	—	—
7. Is the floor free from dust and dirt?	—	—
8. Is the floor surface sticky?	—	—
9. Is the floor surface slippery?	—	—
10. Do the lines stand out?	—	—
11. Is the gymnasium adequately ventilated?	—	—
12. Is the gymnasium well lighted?	—	—
13. Are the gymnasium walls easily cleaned?	—	—