



Connecticut State Department of Education

Health Services Program Information Survey Report

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Developed for:

The Connecticut State Department of Education

By

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Executive Summary

Background and Methodology:

The Connecticut State Department of Education (CSDE), as part of its ongoing efforts to support and expand school health services provided to Connecticut students, is continuing the data collection process for school health services begun in 2004. This process is designed to assist the CSDE to understand the status of school health services in Connecticut school districts, the needs of school districts and students in the area of school health services and progress being made in these areas over time. As one component of these ongoing efforts, the CSDE commissioned the Center for Collaborative Evaluation and Strategic Change at EDUCATION CONNECTION to develop an online survey to collect information regarding the status of school health services from school districts throughout Connecticut.

The survey development process was designed to encourage participation of state and district staff through each stage in the process. The process included the initial consultation of the CSDE with Dr. Mhora Newsom-Stewart, Director of the Center for Collaborative Evaluation and Strategic Change at EDUCATION CONNECTION. Dr. Newsom-Stewart has 15 years experience in the development and implementation of evaluation and planning processes in educational organizations. She developed the survey for data collection after a review of the professional literature related to school health services. The CSDE and the Connecticut State Health Records Committee (CSHRC) assisted Dr. Newsom-Stewart to adapt the survey development process as necessary to meet the needs of school districts and the CSDE.

Dr. Cheryl Resha and the CSHRC provided suggestions to EDUCATION CONNECTION for areas and categories for which they sought information. Additionally, as appropriate, questions were used from similar surveys administered by other states. The use of these questions was intended to maximize survey reliability and to allow Connecticut to compare results, as necessary, with results from other states.

EDUCATION CONNECTION staff developed specific questionnaire items based on these suggestions and questions asked on other state health questionnaires. Dr. Cheryl Resha and the CSHRC approved all aspects of survey development before survey administration. The survey was pilot tested in spring 2003. Based on the results of the pilot test, and consequent survey administrations, the survey has been revised as necessary over time.

Scales were developed to identify perceptions of the importance, satisfaction or frequency of an item using a Likert-type scale. Demographic information was collected including: type of district; types of districts served by the respondent; district reference group (DRG); and name and identification number of the school district. Open-ended questions allowed respondents to comment freely on their expectations, needs and satisfaction. Survey questions have been revised slightly each year based on district requests or the results of survey data analysis.

The survey was incorporated into the EDUCATION CONNECTION Web site to facilitate completion by respondents. The Coordinator of School Nursing in each Connecticut school district, or the equivalent, was asked to complete the online survey.

Questionnaire results were analyzed statistically using the Statistical Package for the Social Sciences . Frequencies and means were obtained on all data as appropriate.

Profile of Districts Who Participated in the Data Collection Process:

During 2008-09, a total of 169 questionnaires were distributed with 111 received in time to be analyzed, yielding a response rate of 66 percent.

The majority of respondents (94 percent) were public school districts, while 4 percent of respondents represented Regional Educational Services Centers and 2 percent represented charter schools. Over half (56 percent) of respondents represented suburban districts; 32 percent represented rural districts; and 13 percent represented urban districts. Almost all (95 percent) respondents provided services to public schools and about 41 percent provided services to private, non-public schools.

School Health Services Conclusions and Recommendations:

Overall, school health services staff appear to have a positive perception of the status of health services in Connecticut districts. Survey respondents were generally positive as indicated by the quantitative survey results and the number of comments on the survey. Data resulting from the sixth year of survey administration were examined by the CSDE and EDUCATION CONNECTION staff. That examination resulted in the following conclusions regarding school health services in Connecticut:

- optional services provided by participating districts to public school students generated over 7000 referrals to outside providers. These numbers suggest a continued need for and interest in screenings in these areas;
- students in private, non-profit schools served by responding districts were more likely than their public school counterparts to receive optional services during 2008-09;
- the majority of nursing staff and medical advisors in participating districts are funded by the boards of education. The percentage of staff funded by boards of education increased during 2008-09 compared to previous years;
- in general, nurse-to-student ratios decrease as grade levels increase. Over 30 percent of secondary schools have only one nurse to more than 750 students. Staffing levels have generally decreased from 2007-08;
- a relatively high percentage of districts have fewer than one full time equivalent (FTE) registered nurse in each school. The percentage of private non-profit schools with fewer than one FTE is much higher than the percentage of public schools with less than one FTE and is approaching 50 percent;
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions;
- Connecticut districts are providing a wide range of treatments for students with special needs. These procedures are less likely to be provided in the private, non-profit school setting;
- districts report a need for more mental health services and programs that promote a healthy lifestyle;
- an average of 5 percent of public school students did not have health insurance in reporting districts;
- a wide variety of software is used by Connecticut districts to collect and record school health information. Approximately 1 out of 5 responding districts reported having no software;
- the majority of Connecticut school health staff report some involvement in teaching activities; and
- districts provided a wide range of suggestions of services that would increase district satisfaction with the provision of health services to students. District suggestions include fiscal and non-fiscal resources, information on available resources, communication with state agencies and training for staff.

Future Data Collection Conclusions and Recommendations:

A number of specific recommendations for the CSDE regarding future data collection efforts were also developed and are specified within the report.

TABLE OF CONTENTS

Introduction.....	1
Theoretical Framework.....	1
Review of the Literature.....	1
Data Collection Process.....	1
Survey Development.....	1
Survey Administration.....	2
Data Analysis Methodology.....	3
Results.....	3
Services Provided.....	3
Staffing of Health Services.....	5
Nursing Staff.....	5
Additional Staff.....	5
Staffing Levels.....	6
Staff Qualifications.....	7
Student Health.....	8
Student Health Care Needs.....	8
Nurse’s Time.....	9
Allocation of Nurses’ Time.....	9
Impact of Nursing Interventions.....	11
Other Factors Impacting Student Health.....	11
Health Coordination/Education.....	12
Demographics.....	15
Survey Open-Ended Questions.....	16
Data Strengths and Limitations.....	18
Conclusions.....	18
Recommendations for Future Data Collection.....	19

Tables

Table 1A: Public School Students Receiving Services as Percent of Total.....	3
Table 1B: Private, Non-Profit School Students Receiving Services as Percent of Total.....	4
Table 2: Numbers and Funding Sources of Staff.....	5
Table 3: Dental Service: Funding Source.....	6
Table 4: Nurse to Student Ratio.....	6
Table 5: Full-time Nurses by School.....	6
Table 6: Qualifications of District Nurses.....	7
Table 7: Qualification of Nurse Leaders.....	7
Table 8: Additional Specialists Employed by District.....	7
Table 9: Students with Specific Health Care Needs.....	8
Table 10: Percent of Nurses’ Time Spent on Specific Health Interventions.....	9
Table 11A: Types of Procedures Performed by Connecticut School Nurses: Public Schools...	10
Table 11B: Types of Procedures Performed by Connecticut School Nurses: Private, Non-Profit Schools.....	10
Table 12: Percentage of Students Returned to Classroom.....	11
Table 13: Reason for Dismissal.....	11
Table 14: Dismissal Destination.....	11
Table 15: 911 calls in Public, and Private Non-Profit, Schools.....	12
Table 16: Frequency of Provision of Health Care Management Services.....	12

Table 17:	Involvement of School Health Staff in Health Coordination/Education Activities	13
Table 18:	Existence of Specific Programs	13
Table 19:	Public School Computer Software Use	13
Table 20:	Private, Non-Profit School Computer Software Use	14
Table 21:	Involvement of School Health Service Staff in Teaching.....	14
Table 22:	Types of Teaching Techniques Used by Health Service Staff.....	14
Table 23:	DRG of Responding Districts	15
Table 24:	Demographic Location of Responding Districts.....	15

Date: November, 2009

Introduction

EDUCATION CONNECTION submits this report to the Connecticut State Department of Education (CSDE) in fulfillment of the task to collect survey data to assist the CSDE to identify the status of school health services in Connecticut. Survey results are being used to monitor the characteristics of, and trends in, school health services in Connecticut school districts at the elementary, middle/junior high school and senior high school levels. Data was collected through the administration of the Health Services Program Information Survey. Funding for this project was provided by the CSDE. This report summarizes the results of data collection for the 2008-09 academic year. This is the sixth year for which data was collected.

Theoretical Framework

The theoretical framework followed in the planning and implementation of the data collection process includes the concepts of participatory evaluation, systems thinking, and a constructivist theory of learning.

Review of the Literature

A summary of national literature regarding the importance of school health services and student health to student academic performance was provided in the 2003-04 report and will not be repeated here. The concepts outlined in this review of the literature were used to guide and focus data collection efforts and include the following:

Academic Performance and Health

- Nutrition
- Physical Health
- Mental Health
- Vision Care
- Oral Health
- Absenteeism Rates
- Access to Health Care and Coverage

Status of School Health Services

- Staffing
- Medication Administration
- Computer Software Available
- Role of School Health Services
- Guidelines and Ratios
- Health Care Provision in School Districts
- Effectiveness of School Health Services

Status of Student Health

- Alcohol & Drug Use
- Injury & Violence (including suicide)
- Nutrition
- Physical Activity
- Sexual Behaviors
- Tobacco Use
- Emerging Issues:
 - Food Safety
 - Asthma
 - Skin Cancer
 - Terrorism
 - Type I Diabetes
 - Type II Diabetes
 - Dental Disease

Data Collection Process

Survey Development

All survey development processes were described in the 2003-04 report and will not be repeated here. Based on results of the 2007-08 survey administration, very few changes were made in the number and type of questions in the 2008-09 survey. The CSDE and the Connecticut State Health Records Committee assisted Dr. Newsom-Stewart of EDUCATION CONNECTION to adapt the survey as necessary to meet the needs of school districts and the CSDE.

The survey collected data in the following areas:

- Types and results of services provided in Connecticut public and private, non-profit, schools.
- Staff of health services in Connecticut schools:
 - numbers of staff;
 - sources of funding for health services staff;
 - nurse/student ratios;
 - qualifications of staff; and
 - specialists linked to nursing services.
- Numbers of students with specific health care needs in public schools and private, non-profit schools.
- Types of health care procedures performed by health services staff in public and private, non-profit schools.
- Number of students dismissed and reasons for dismissal in public and private, non-profit schools.
- Number of students without health insurance in public and private, non-profit schools
- Numbers of and reasons for 911 calls in public and private, non-profit schools.
- Availability of health coordination and education activities.
- Involvement of health services staff with health coordination and education activities.
- Teaching techniques used by health services staff when teaching health topics.
- Software available to support health service data collection.
- Demographic information including:
 - District Reference Group (DRG)
 - type of District:
 - rural/urban/suburban; and
 - private/public/regional educational service center;
 - types of schools to which the district provides health services;
 - name and identification of district; and
 - name of survey respondent.

Reliability and validity of the survey were discussed in previous reports and are not repeated here. Reliability was maximized through a comprehensive pilot testing process and through the development of questions following generally accepted standards. Survey validity is primarily determined through the use of a survey development process that collects data on all relevant key concepts and is generally assessed non-statistically by a panel of experts. This survey was developed in close partnership with a panel of experts from the Health Service Advisory Committee. It is expected that the questionnaire is sufficiently valid and reliable.

Survey Administration

The survey was posted to the EDUCATION CONNECTION Web site to increase ease of completion. Survey directions, sources of data necessary for survey completion, and results of the five previous survey administrations were also available for downloading on the EDUCATION CONNECTION Web site.

Prior to survey administration, the CSDE invited each Coordinator of School Health Services in Connecticut to attend an introductory meeting on the School Health Service Program Questionnaire. The CSDE School Health Consultant, Ms. Stephanie Knutson, introduced participants to the purpose and history of the survey and shared the survey with the group online. Ms. Knutson answered questions concerning the practicalities of survey completion, state expectations for survey completion and expected use of data.

The CSDE mailed a letter of intent to each Superintendent of Schools in Connecticut informing them that the Coordinator of School Health Services in the district, or the equivalent, would shortly be receiving a letter requesting that they complete the survey. The Coordinator of School Health Services received a letter directing him or her to the EDUCATION CONNECTION Web site for survey completion.

The CSDE and EDUCATION CONNECTION responded to questions and concerns regarding the survey as they arose. A total of 169 questionnaires were distributed. 111 responses were received in time to be analyzed, yielding a response rate of 66 percent.

Data Analysis Methodology

Survey results were analyzed using the Statistical Package for the Social Sciences (SPSS). The total number of individuals, frequencies and means were obtained as appropriate.

Results

The response totals, frequencies or mean response, as appropriate, are listed below. Respondents who answered “Don’t Know/Need More Info” were not included in the analysis.

It should be noted that during 2008-09, districts reported information for public schools and private, non-profit schools separately for a variety of topics. Results are reported separately for public and private, non-profit schools as appropriate.

Services Provided in Connecticut School Districts

Table 1A: Public School Students Receiving Services as Percent of Total

Note: For the table below, percentages were calculated ONLY for districts for which all data is available. Therefore, the total number of students reported by the districts varies by category and is dependent upon whether other data necessary to calculate percentages was provided. The total number of public school students reported by participating districts is 338,194.

Health Service	Number of Schools Reporting Students Receiving Service	Total Number of Public School Students Reported by Participating Districts	Number of Students Receiving Service Reported by Participating Districts	Percent of Students Receiving Service	Number of Schools Reporting Students Referred to Outside Provider	Number of Students Receiving Services in Schools ALSO Reporting Students Referred	Number of Students Referred to Outside Provider	Percent of Students Receiving Service Referred to Outside Provider
<u>Optional Services</u>								
Body Mass Index Screening	90	309866	15913	5.1%	82	11214	425	3.8%
Pediculosis Screening	96	328717	60125	18.3%	84	57446	2036	3.5%
Nutrition Screening	88	306509	2158	0.7%	84	2143	235	11.0%
Mental Health Consultation	89	316008	7890	2.5%	81	7698	1210	15.7%
Dental Screening	93	321525	21792	6.8%	84	18687	3358	18.0%
Total			107,878 screenings				7264 referrals	
<u>Mandatory Services</u>								
Vision					100	330742	15602	4.7%
Scoliosis					98	330448	2908	0.9%
Hearing					98	330271	3742	1.1%
Mandated Health Assessments					91	299252	6422	2.1%
Total							28674 referrals	

The optional service provided most frequently by Connecticut districts was pediculosis screening. In 2008-09, 18.3 percent of public school students in reporting districts received pediculosis screenings compared to .7 percent of students who received nutrition screenings. Dental screenings were the optional service that was most likely to result in a referral. Almost one fifth (18 percent) of students who received a dental screening were referred to an outside provider for further assistance.

In 2008-09, the number of students provided optional services by participating districts was relatively small compared to the total number of students. Data suggest that many Connecticut school districts do not have optional services or offer them only on a very limited basis. Participating districts voluntarily provided 107,878 screenings. These voluntary screenings resulted in 7264 referrals, highlighting the need for screening services in Connecticut schools.

Results were similar for mandatory screenings. In 2008-09, mandatory screenings in the responding districts resulted in 28,674 referrals to outside providers. More than half of all referrals were for vision. About 5 percent of vision screenings resulted in a referral.

Table 1B: Private, Non-Profit School Students Receiving Services as Percent of Total

Note: In Table 1B, percentages were calculated ONLY for districts for which all data was available. The total number of students reported by the districts varies by category and is dependent upon whether other data necessary to calculate percentages was provided. Participating districts reported a total of 26,342 private, non-profit school students.

Health Service	Number of Private Schools Reporting Students Receiving Service	Total Number of Private School Students Reported by Participating Districts	Number of Students Receiving Service Reported by Participating Districts	Percent of Students Receiving Service	Number of Schools Reporting Students Referred to Outside Provider	Number of Students Receiving Services in Private Schools ALSO Reporting Students Referred	Number of Students Referred to Outside Provider	Percent of Students Receiving Service in Private Schools Referred to Outside Provider
<u>Optional Services</u>								
Body Mass Index Screening	39	20,957	1,693	8.1%	39	1,693	43	2.5%
Pediculosis Screening	43	24,770	5,135	20.7%	37	4,812	119	2.5%
Nutrition Screening	39	20,957	160	0.8%	39	160	35	21.9%
Mental Health Consultation	39	21,497	551	2.6%	38	549	83	15.1%
Dental Screening	38	20,761	770	3.7%	37	743	272	36.6%
Total			8,309 Screenings				552 referrals	
<u>Mandatory Services</u>								
Vision					45	24,851	1,074	4.3%
Scoliosis					43	24,086	187	0.8%
Hearing					44	24,608	134	0.5%
Mandated Health Assessments					39	23,125	1,063	4.6%
Total							2,458 referrals	

Students in private, non-profit schools were more likely than public school students to receive optional services. Like public school students, students in private, non-profit schools received the optional services of pediculosis screening most frequently and nutrition screening least frequently. In 2008-09, 20.7 percent of private, non-profit school students served by reporting districts received pediculosis screenings while .8 percent received nutrition screenings. Approximately 37 percent of dental consultations resulted in a referral.

Staffing of Health Services in Connecticut School Districts

I. Nursing Staff:

Table 2: Numbers and Funding Sources of Staff

Nursing Staff Classification	Total Number of Staff in Participating Districts (FTE)	Percent Funded by Board of Health	Percent Funded by Board of Education	Percent Funded by Public Health/VNA
Nurse Leaders	86.4	11.6%	81.5%	6.9%
School Nurses	694.3	16.1	79.1	4.8
Nurse Practitioners	14.0	0.0	86.0	14.3
Permanent Float Nurses	19.3	15.5	74.1	10.4
One-to-One Nurses	33.7	23.7	76.1	0.0
Contracted Nursing Staff	11.0	0.0	81.1	18.2
Licensed Practical Nurses	33.5	3.0	97.0	0.0
Nurse Aides	71.4	25.9	54.5	19.6
Nursing Support Staff	31.2	14.4	85.6	0.0

Connecticut school districts fund their nursing staffs through a variety of sources. Results indicate that the majority of nursing staff are funded by the Board of Education. Overall, results indicate that the number of staff reported in participating districts declined during 2008-09. Additionally, the percentage of staff funded by the Board of Education has increased since 2007-08.

II. Additional Staff:

District Medical Advisor:

Over ninety percent (92.5 percent) of responding districts received services from a medical advisor less than ten hours per month. 3 percent of districts reported receiving services from a medical advisor 11-20 hours per month, and 5 percent reported receiving more than 20 hours per month.

Over 9 in 10 district medical advisors (90.6 percent) were funded by the board of education; 2 percent were funded by the board of health, 2 percent were funded by VNA,. 9 percent were funded through grants and 5 percent were funded through other sources.

Medical advisors serving Connecticut school districts specialize in the following areas:

- | | | | |
|---------------------|-----|-------------------|-----|
| • Adolescent Health | 22% | • Pediatrics | 60% |
| • Family Medicine | 27% | • Public Health | 2% |
| • General Medicine | 10% | • Sports Medicine | 4% |
| • Internal Medicine | 10% | • Other | 8% |
| • Orthopedics | 1% | | |

Note: Medical advisors can have more than one specialty area. Numbers do not total 100 percent.

District Dental Services:

Results indicate that a majority (78 percent) of Connecticut districts do not provide dental services to their students. Among districts providing these services, 13 percent received services from a dentist and 88 percent received services from a dental hygienist. For participating districts providing dental services, funding sources are listed in Table 3.

**Table 3: Funding Sources for District Dental Services
Percent Response**

Funding Source	Percent of Districts
Board of Education	64.3%
Board of Health	7.1
Public Health/VNA	4.5
Grant	2.4
Other	21.4

III. Staffing Levels:

89 percent of responding districts reported having a nurse leader designee who is a nurse. Responding districts also reported a total of 759 Full-Time Equivalent (FTE) registered nurses and 136 FTE nursing support staff in 2008-09.

Staffing by Grade Level and School:

**Table 4: Nurse-to-Student Ratio
Percent Respondents**

	One Nurse to 250-500 Students	One Nurse to 501-750 Students	One Nurse to More Than 750 Students
Elementary nurse-to-student ratio in district	73.5%	24.5%	2.0%
Secondary nurse-to-student ratio in district	25.8	41.2	33.0

A majority of Connecticut schools meet national guidelines that recommend a school district have a nurse-to-student ratio of no less than 1 nurse to 750 students. However, survey results suggest that over 3 in 10 secondary level schools in Connecticut may not meet this guideline.

**Table 5: Full Time Nurses by School
Percent Respondents**

	<1 FTE	1 FTE	>1-2 FTE	>2 FTE
RNs in each public school	18.9%	60.4%	18.9%	1.9%
RNs in each private school	53.4	44.8	1.7	0.0
LPNs in each school	92.0	6.0	2.0	0.0

Results indicate that approximately 80 percent of Connecticut school districts have at least one FTE registered nurse in each public school. However, over half of participating districts reported having less than one FTE registered nurse in each private school. Over 9 in 10 districts have less than one FTE licensed practical nurse in each school.

IV. Staff Qualifications:

Survey results indicate that Connecticut school districts employ nurses with a wide range of qualifications. A summary of nurse qualifications reported by participating districts is in Table 6.

Table 6: Qualifications of District Nurses

Highest Level of Educational Attainment	Total Number of Staff Reported
Diploma Registered Nurses	202
RNs with AD/AS degree	123
RNs with BS in Nursing	431
RNs with another Bachelor's degree	54
RNs with MS in Nursing	39
RNs with MPH	9
RNs with MA in Education	9
RNs with another Master's degree	39
RNs with a Doctoral degree	1
RNs with other degree	9

The majority of Connecticut school nurses have a Bachelor of Science (BS) in Nursing degree, are Diploma Registered Nurses, or are Registered Nurses with an Associate Degree/Associate in Science degree. However, districts also reported having registered nursing staff with a variety of other degrees including a Master of Science in Nursing, a Master of Art in Education, or other Master or Bachelor degrees.

**Table 7: Qualifications of Nurse Leaders
Percent Response**

	Diploma Registered Nurse	AD	Other Associates Degree	BS in Nursing	Other Bachelor's degree	MS in Nursing	MPH
Nurse Leader 1	17.7%	15.6%	0.0%	40.6%	5.2%	13.5%	7.3%
Nurse Leader 2	60.0	0.0	0.0	20.0	0.0	20.0	0.0

Districts reported the qualifications of each nurse leader in their district. Districts with more than one nurse leader reported additional qualifications under Nurse Leader 2 above. The most prevalent degrees among nurse leaders were a BS in Nursing and a Diploma Registered Nurse. Almost 68 percent of districts reported having a Diploma Registered Nurse Leader while 61 percent of districts reported having a nurse leader with a BS in Nursing.

**Table 8: Additional Specialists Employed by Districts
Percent Response**

Specialist	Yes
Nutritionist	9.2%
Mental Health Consultant	52.0
Psychiatrist	20.2
Assistive Technology Specialist	41.6
Other	30.8

Districts employed additional health care specialists to address student needs. The most common specialists employed by districts were mental health consultants and assistive technology specialists.

Student Health in Connecticut School Districts

Participating districts provided data on a wide range of topics related to student health. The 2008-09 survey collected information on the health care needs of students in private, non-profit schools and public schools served by participating districts. 61 responding districts served students in private, non-profit schools.

Results are summarized below. It should be noted that the per item response rate to this section was lower than that of the overall survey, ranging from 96-116 respondents per item for public school students and 47-58 respondents per item for private, non-profit school students.

I. Student Health Care Needs:

Table 9: Number of Students with Specific Health Care Needs

Health Condition	Public School Students	Private, Non-Profit School Students	Total Number of Students
Bee Sting Allergy	2388	239	2627
Food (Life threatening only)	8200	1027	9227
Latex/Environmental Allergy	8388	715	9103
Arthritis	419	33	452
Asthma	42940	2945	45885
Autism Spectrum Disorders	3374	106	3480
Hemophilia	135	14	149
Sickle Cell Trait	272	5	277
Other Blood Dyscrasias	627	73	700
Cancer	292	33	325
Cardiac Conditions	1807	151	1958
Developmental Delays	4919	82	5001
Diabetes Type I	933	58	991
Diabetes Type II	177	15	192
Migraine Headaches	2975	259	3234
Lyme Disease	1049	84	1133
Cerebral Palsy	659	21	680
Spina Bifida	98	4	102
Seizure Disorder	2280	116	2396
Speech Defects	7983	153	8136
Severe Vision Impairment	978	92	1070
Severe Hearing Impairment	1314	90	1404
Other Health Impairment	3988	216	4204
Oral Health Needs	4539	111	4650
Neurological Impairment	1839	87	1926
Orthopedic Impairment	1779	143	1922

Health Condition	Public School Students	Private, Non-Profit School Students	Total Number of Students
ADHD/ADD	12457	859	13316
Depression	2771	175	2946
Eating Disorders	509	30	539
Other Behavioral/Emotional Conditions	5366	409	5775

Connecticut school nurses provide services to students with a wide range of physical and emotional health needs. As with previous years, the most prevalent conditions reported among public school students during 2008-09 were asthma, latex/environmental and food allergies, ADHD/ADD and other behavioral/emotional conditions. Results from private, non-profit schools were similar with the most prevalent conditions including asthma, latex/environmental and food allergies, and ADHD/ADD. This was the first year for which data on Lyme disease was collected. A total of 1,133 students were reported to have Lyme disease in participating schools.

Nurse's Time in Connecticut School Districts:

I. Allocation of Nurses' Time in Connecticut School Districts

Districts reported a range of activities engaged in by school nurses during the school day. Tables summarizing their responses are below.

Table 10: Percentage of Nurses' Time Spent on Specific Health Interventions

Health Intervention	Pct. of Time
Routine nursing intervention	48.6%
Referrals to health care provider	4.5
Administration of daily medication	6.3
Administration of as-needed medication	6.1
Performance of special health care procedures	5.9
Monitoring of health care needs	16.3
Case management	6.6
Mental health counseling	5.6

Almost half of the time of Connecticut school nurses' is spent on routine nursing interventions. Districts reported that nurses' time was also spent on activities including monitoring of health care needs, administration of medication, case management, mental health counseling, and performance of special health care procedures. Districts reported that nurses spent almost 6 percent of their time conducting mental health interventions during 2008-09.

**Table 11A: Types of Procedures Performed by Connecticut School Nurses
Percent of Responding Participants Providing Services to Public Schools**

Procedure	% of Districts Serving Public Schools Performing Procedure in the Public School Setting
Gastrostomy Tube Feedings	54.7%
Nasogastric Tube Feedings	3.0
Suctioning	37.5
Tracheostomy Care	22.9
Nebulizer Treatments	95.2
Blood Sugar Testing	92.5
Insulin Pump Management	89.6
Catheterizations	32.0
Ventilator Care	5.8
IV Therapy	6.7
Ostomy Care	18.6
Oxygen Therapy	21.8
Other Treatment	64.1

The majority of districts reported that school nurses perform a number of specific procedures within the public school setting. The most common procedures performed in districts included: nebulizer treatments (95.2 percent), blood sugar testing (92.5 percent), and insulin pump management (89.6 percent).

**Table 11B: Types of Procedures Performed by Connecticut School Nurses
Percent of Responding Participants Providing Services to Private, Non-Profit Schools**

Procedure	% of Districts Serving Private, Non-Profit Schools Performing Procedure in the Private, Non-Private School Setting
Gastrostomy Tube Feedings	4.0%
Nasogastric Tube Feedings	4.0
Suctioning	2.0
Tracheostomy Care	2.0
Nebulizer Treatments	69.2
Blood Sugar Testing	50.0
Insulin Pump Management	44.2
Catheterizations	9.6
Ventilator Care	0.0
IV Therapy	4.1
Ostomy Care	4.1
Oxygen Therapy	4.1
Other Treatment	27.5

Respondents serving private, non-profit schools most frequently reported: performing nebulizer treatments (69.2 percent); blood sugar testing (50 percent); and insulin pump management (44 percent) in the private, non-profit schools they served. All procedures were less likely to be performed in the private, non-profit school setting than in the public school setting.

II. Impact of Nursing Interventions

**Table 12: Percentage of Students Returned to Classroom
Percent Response**

Percentage of Students Returned Within One-Half Hour	Percent Response
0-25%	2.6%
26-50%	0.9
51-75%	8.8
76-100%	87.7

Almost 90 percent of districts reported that 76 to 100 percent of students are returned to the classroom within one-half hour of receiving a nursing intervention.

**Table 13: Reason for Dismissal
Average Response**

Reason for Dismissal	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Illness	75.6%	66.1%
Injury	9.5	5.8
Other	5.0	2.7

Most student dismissals among both public school students and private, non-profit school students were because of illness during 2008-09. Approximately 10 percent of dismissals in public schools were due to injury while 6 percent of dismissals in private, non-profit schools were due to injury.

**Table 14: Dismissal Destination
Average Response**

Dismissal Destination	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Home	87.3%	74.8%
Emergency Room	2.2	1.2
Other Healthcare Provider	5.3	5.4

Approximately 90 percent of students dismissed from school were sent home in public schools and 75 percent were sent home in private, non-profit schools.

Other Factors Impacting Student Health:

Sixty-eight participating districts provided information on the number of public school students without health insurance coverage. In these districts, 9,438 students or approximately 5 percent of public school students had no health insurance during 2008-09.

Twenty-four districts that serve private non-profit school students provided information on the number of private non-profit school students without health insurance coverage. Of students in these schools, 186 or 2.1 percent of students were uninsured during 2008-09.

Table 15: 911 Calls in Public and Private, Non-Profit Schools

	Public Schools	Private, Non-Profit Schools	Total
Number of 911 Calls per 1,000 Students per Year	4.1	3.7	7.8
Total number of 911 calls	1317	92	1409

Ninety-eight districts reported the number of 911 calls made in public schools and 41 districts reported the number of 911 calls made in private, non-profit schools during the 2008-09 school year.

Three quarters (72 percent) of respondents identified injuries as the most common reason for 911 calls. Anaphylaxis was reported as the second most common reason followed by “Other” reasons and “seizure.”

Respondents reported the number of students with life threatening food allergies who required the administration of epinephrine during the last school year. In responding districts, 93 children were reported to have received administration of epinephrine. The majority of descriptions of reasons for the administration of epinephrine involved the onset of food allergies during the academic day.

Health Coordination/Education

Connecticut school nurses and their districts were involved in a variety of health coordination and educational activities. Specific information regarding these activities can be found in Tables 16 and 17.

**Table 16: Frequency of Provision of Health Care Management Services
Percent Response**

<i>My district provides the following student health care management services:</i>	Never	Sometimes	Always
Development of Individual Health Care Plan	0.0%	25.5%	74.5%
Development of Individual Emergency Plan	.9	17.3	81.9
Development of 504 Plan	1.8	49.5	48.6
Staff Training to Meet Individual Student Health Needs	0	11.0	89.0

The majority of districts reported that health care management services are always provided. However, the number of districts that reported that services are “sometimes” provided ranged from 11 percent to almost 50 percent. Data suggest that approximately one third of Connecticut districts are providing services on an inconsistent basis. The service most frequently provided “sometimes” was the development of 504 plans.

**Table 17: Involvement of School Health Staff in Health Coordination/Education Activities
Percent Response**

Health Coordination/Education Activity	Yes	No	District Does Not Provide
Blood-borne Pathogen Exposure Plan	96.3%	3.7%	0.0%
Staff Wellness Programs	71.7	14.2	14.2
School-based Outreach to Enroll Students in HUSKY	78.5	18.7	2..8
Staff Education to Meet Health Program Needs	86.4	8.7	4.9
Indoor Air Quality Program	83.0	13.0	4.0
Maintenance of Health Room and Equipment	98.2	.9	.9
School Safety/Crisis Plan	95.3	3.8	.9
PPT Process	97.2	2.8	0.0
Child Abuse Reporting and Prevention	99.1	.9	0.0
504 Coordination	81.3	18.7	0.0

A majority of Connecticut school health staff were involved in health coordination and education activities. A number of districts reported that school health staff were not involved in 504 coordination and school-based outreach to enroll students in HUSKY.

**Table 18: Existence of Specific Programs
Percent Response**

<i>My district has:</i>	Yes	No
School Health Teams	82.6%	17.4%
Automatic External Defibrillator Program	82.6	17.4

Survey results indicate that a majority of Connecticut school districts have a school health team. Over 80 percent of districts reported that they have school health teams. The majority of respondents (82.6 percent) reported having an Automatic External Defibrillator program in place during 2008-09.

**Table 19: Public School Computer Software Use
Percent Response**

Computer Software	Percent Response
None	17.0%
SNAP	36.8
Health Master	4.7
Other district-wide student data program	41.5

Over one-third of all respondents reported using SNAP to collect student health information in their public schools. 42 percent use another district-wide student data program. Almost 1 in 5 districts reported having no computer software available for their use.

Table 20: Private, Non-Profit School Computer Software Use Percent Response

Computer Software	Percent Response
None	57.1%
SNAP	22.4
Health Master	4.1
School Nurse Manager	4.1
Other district-wide student data program	12.2

Among responding districts serving private non-profit schools, the majority reported that private non-profit schools had no computer software to collect student health information.

Table 21: Involvement of School Health Service Staff in Teaching Percent Response

<i>In my district, school health staff is involved in teaching health promotion or prevention in the following areas:</i>	Never	Sometimes	Always
Nutrition/Physical Activity	10.9%	79.1%	10.0%
Human Sexuality Education	16.4	65.5	18.2
Disease Prevention	7.4	65.7	25.9
Injury Prevention	10.1	65.1	24.8
Substance Abuse Prevention	21.1	69.7	9.2
Other	13.9	76.4	9.7

The majority of Connecticut school health staff had some involvement in teaching health during 2008-09. Approximately 90 percent of staff reported involvement in teaching disease and injury prevention, human sexuality education and nutrition and physical activity.

Table 22: Types of Teaching Techniques Used by Health Service Staff in Teaching Percent Response

<i>In my district, health service staff involved in teaching health promotion or health prevention use the following techniques:</i>	Never	Less Than or Equal to 25% of the Time but More Than Never	26-50% of the Time	51-75% of the Time	76-100% of the Time
Individual Teaching	5.9%	16.7%	9.8%	27.5%	40.2%
Classroom Teaching Alone	48.5	44.6	4.0	2.0	1.0
Classroom Teaching with Educator	15.0	66.0	7.0	7.0	5.0
Program Management	45.0	46.0	3.0	3.0	3.0
Group Counseling	49.5	45.5	3.0	1.0	1.0
Other Teaching Technique	39.3	51.2	7.1	0.0	2.4

Health service staff reported the use of a variety of teaching techniques including individual teaching, classroom instruction, and program management and group counseling.

Eighty-seven percent of responding districts reported that health service staff were involved in the development of Individual Education Plans.

Demographics

Demographic data was collected from survey respondents and is shown below.

**Table 23: District Reference Group (DRG) of Responding Districts
Percent Response**

District Reference Group (DRG)	Percent
A	7.1%
B	20.2
C	19.0
D	16.7
E	13.1
F	7.1
G	11.9
H	3.6
I	1.2

Respondents represented all DRG in Connecticut. Percentages of respondents from each DRG are reflective of the number of districts in the state from that DRG.

**Table 24: Demographic Location of Responding Districts
Percent Response**

Demographic Location	Percent
Urban	13.0%
Suburban	55.6
Rural	31.5

Approximately half of respondents represented suburban districts. 13 percent of respondents were urban districts and slightly less than one third considered themselves to be rural districts.

Ninety-four percent of all respondents were public school districts. Four percent were Regional Educational Service Centers and 2 percent were charter schools.

Ninety-five percent of all respondents reported providing health services to public schools and 41 percent reported providing services to private, non-public schools.

Open-Ended Questions

All responses to the open-ended questions are included in the Appendix to this report. Areas commented on most frequently are summarized below.

I. Health Services Provided to Students in the District:

Survey respondents commented on a number of areas including the increasing demand for school health services, especially in the areas of mental health and dental health. Common comments revolved around the following topics:

- An increased amount of time spent on issues related to emotional health.
- Completion of voluntary screenings on an as-needed or occasional basis.
- Provision of dental care when available via outside contractors such as “Smiles on the Move” or mobile dental units.
- An increased need for education relating to obesity, nutrition, and physical fitness.
- A need for private, non-profit schools to have increased access to mental health care providers and education.
- An increased amount of time spent caring for students with complex medical needs.
- Changes in district policies relating to lice. A number of districts cited moving to a school-wide policy to check lice in students while other districts stated that their district had ceased conducting school wide head checks.
- A need for increased time for physical fitness activities during the school day.

Districts requested assistance from the CSDE in a number of areas. Respondents commonly cited the following needs:

- Assistance in improving communication with physicians performing mandated physicals to improve compliance with state requirements including accurate completion of the “blue form”.
- Assistance in creating lower nurse-to-student ratio to better serve students.
- Development of a consistent statewide policy to ensure that student acuity is taken into consideration when developing staffing ratios.
- Increased support for the provision of mental health and social services.
- Increased support for the provision of dental and eye care services.
- Educational resources relating to obesity, nutrition, and drug and alcohol abuse. Respondents emphasized the development of resources that could be easily shared with parents.
- Provision of financial support in the forms of small grants to districts to enhance their ability to develop and maintain fitness and nutrition programs.
- Development of a handbook or manual that outlines standards and guidelines for nursing care of school children and also materials that can educate others as to the nature and complexities of a school nurses work and how the impact of health on student learning.

II. District Context in Cases in Which Epinephrine was Administered:

A number of districts described situations in which administration of epinephrine was required. The majority of incidents involved allergic reactions to foods. The food allergen named most frequently was nuts. Most incidents involved the accidental ingestion of a known food allergen. A number of districts described incidents in which a student reacted to an unknown allergen.

III. Student Health

The concerns most frequently mentioned by respondents included:

- Increased asthma and allergy levels.
- Increased complexity of student health care needs.
- Increased number of students with mental health issues such as stress, anxiety, ineffective coping skills, and social/emotional issues.
- Increased number of students with chronic health conditions such as Type 1 Diabetes or Crohn's disease.
- Increased number of student assessments completed as part of the PPT process.

Districts requested assistance from the CSDE in a number of areas related to student health. Respondents most frequently commented on following needs:

- Increased provision of educational conferences regarding health issues
- Assistance promoting salary increases in order to recruit and maintain qualified school nurses.
- Increased funding to support school health services including establishment of school based health clinics.
- Increased information regarding and access to mental health, dental, and eye care services.
- Increased time mandated for physical education and funding for after-school sports programs.
- More nutritious school meals and funding for nutritional education to combat obesity.
- Assistance in providing educational programs to promote lifelong health and wellness.

IV. Coordination of Health Services and Health Education

As with previous years, comments varied as to the degree to which school nurses were involved in coordination and collaboration of health services. Comments suggested that low nurse-to-student ratios in some school districts negatively impact the amount of time available for nurses to be involved in education or coordination activities. Specifically, respondents expressed a need for increased communication and collaboration with other school staff in day-to-day student activities, health curriculum development, and IEP/PPT and 504 meetings. A few respondents positively commented on the current degree of nurse involvement in these areas. Respondents also requested a need for school nutrition and wellness curricula to be consistent K-12 and for the incorporation of a systematic data collection system to allow student health data to be shared among schools. A few respondents cited a need for the provision of health services to be consistent across public and private, not for profit, school systems.

V. Staffing of Health Services in Districts:

Districts commented freely on the staffing of health services in their districts. As with previous years, the concern most frequently stated was the need for additional qualified staff to be able to serve an increasing number of students with complex medical health needs or mental health issues. A number of respondents cited the current economic climate as negatively impacting the staffing of school health services. Examples include a district in which RNs are being replaced with LPNs to decrease staffing costs and the elimination of a medical assistant position in another district. A few respondents stated a concern with the need for staffing to be based on acuity as well as number of students. A number of respondents cited a need for substitute nurses.

Districts requested assistance from the CSDE in a number of areas related to the staffing of health services in their districts. Respondents cited the following needs:

- Mandate of a state nurse-to-student ratio but with allowance for students with complex medical needs.
- Increased staffing to address growing numbers of students with complex medical needs.
- Development of strategies to address a shortage of substitute nurses in the state
- Higher pay scales to attract qualified staff, including substitute nurses.
- Continued promotion of the current role of school health services and health services staff among school administrators, boards of education, and others.

All open-ended comments have been provided to the CSDE and are available upon request.

Data Strengths and Limitations

This report summarizes data collection efforts developed and implemented to present a comprehensive picture of status of school health services in public and non-profit schools in Connecticut.

To this end, the data collection effort has the following strengths:

- Extremely accurate data collected the School Health Services Survey;
- Data received from a variety of types of schools including public and private non-profit schools, schools in each DRG, and urban, rural and suburban schools;
- A good response rate of 66 percent;
- Six years of data collection;

However, as with any research study, data collection and the use of data have some limitations. These limitations include:

- Use of one survey data collection tool. There is no supporting data available from focus groups, interviews or other triangulated data collection methods.
- Changes in the data collection tool on a yearly basis to reflect the changing needs and interests of the CSDE and participating districts. As a result of changes, some data can be tracked longitudinally. However, some data are not available for each of the 6 years of data collection.

Conclusions

Overall, school health services staff appear to have a positive perception of the status of health services in Connecticut districts. As with previous years, survey respondents were generally positive as indicated by the quantitative survey results and the number of comments on the survey. Data resulting from the sixth year of survey administration were examined by the CSDE and EDUCATION CONNECTION staff.

That examination resulted in the following conclusions regarding school health services in Connecticut:

- Optional services provided by participating districts to public school students generated over 7,000 referrals to outside providers. These numbers suggest a continued need for and interest in screenings in these areas.
- Students in private, non-profit schools served by responding districts were more likely than their public school counterparts to receive optional services during 2008-09.

- The majority of nursing staff and medical advisors in participating districts are funded by the boards of education. The percentage of staff funded by boards of education increased during 2008-09 compared to previous years.
- In general, nurse-to-student ratios decrease as grade levels increase. Over 30 percent of secondary schools have only 1 nurse to more than 750 students. Staffing levels have generally decreased from 2007-08.
- A relatively high percentage of districts have fewer than one FTE registered nurse in each school. The percentage of private, non-profit schools with fewer than one FTE is much higher than the percentage of public schools with less than one FTE and is approaching 50 percent.
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions.
- Connecticut districts are providing a wide range of treatments for students with special needs. These procedures are less likely to be provided in the private, non-profit school setting.
- Districts report a need for more mental health services and more programs that promote a healthy lifestyle.
- An average of 5 percent of public school students did not have health insurance in reporting districts.
- A wide variety of software is used by Connecticut districts to collect and record school health information. Approximately 1 out of 5 responding districts reported having no software.
- The majority of Connecticut school health staff report some involvement in teaching activities.

Recommendations for Future Data Collection

A number of specific recommendations for the CSDE to consider for future survey administration are as follows:

- Survey data collection provided excellent information regarding a wide range of issues related to school health services. There were no substantive complaints or concerns mentioned by respondents regarding survey data collection.
- The use of numerical data regarding numbers of students and referrals requires the districts provide information in each category to allow for accurate calculations of percentages between categories. To maximize the accuracy of the information provided, it is critical that a high response rate be achieved for survey completion and that respondents complete each question on the survey. During 2008-09, a 66 percent response rate was achieved. It is recommended that future data collection continue to include activities designed to increase the overall survey response rate and ensure that all survey questions are completed by districts.