



Connecticut State Department of Education

Health Services Program Information Survey Report

November 1, 2010

Developed for:

The Connecticut State Department of Education

By

Dr. Mhora Lorentson, Director
Center for Collaborative Evaluation and Strategic Change

Contact:

EDUCATION CONNECTION

P.O. Box 909
355 Goshen Road
Litchfield, CT 06759-0909
Phone: 860-567-0863

Contact:

Connecticut State Department of Education
Stephanie G. Knutson, School Health Consultant
Bureau of Health/Nutrition, Family Services and Adult Education
Connecticut State Department of Education
25 Industrial Park Road
Middletown, CT 06457
Phone: 860-807-2108

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 (CCESC) 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 Lorentson, Director of the Center for Collaborative Evaluation and Strategic Change at EDUCATION CONNECTION. Dr. Lorentson 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. Lorentson 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 2010, a total of 169 questionnaires were distributed with 106 received in time to be analyzed, yielding a response rate of 63 percent.

The majority of respondents (93 percent) were public school districts, while 4 percent of respondents represented charter schools and 3 percent represented Regional Educational Services Centers. Over half (53 percent) of respondents represented suburban districts; 32 percent represented rural districts; and 15 percent represented urban districts. Almost all (96 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 almost 9000 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 2009-10;
- In general, nurse-to-student ratios decrease as grade levels increase. About 25 percent of secondary schools have only one nurse to more than 750 students;
- 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 in excess of 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. Almost 1 in 4 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	6
Student Health.....	7
Student Health Care Needs	7
Nurse’s Time.....	8
Allocation of Nurses’ Time	8
Impact of Nursing Interventions	10
Other Factors Impacting Student Health	11
Health Coordination/Education.....	12
Demographics	14
Survey Open-Ended Questions	15
Data Strengths and Limitations.....	16
Conclusions.....	17
Recommendations for Future Data Collection.....	18

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 Classifications of Staff.....	5
Table 3: Nurse to Student Ratio	6
Table 4: Full-Time Equivalent Nurses by School.....	6
Table 5: Qualifications of Nurse Leaders.....	6
Table 6: Additional Specialists Employed by District	7
Table 7: Students with Specific Health Care Needs.....	7
Table 8: Percentage of Nurses’ Time Spent on Specific Health Interventions	9
Table 9A: Types of Procedures Performed by Connecticut School Nurses: Public Schools.....	9
Table 9B: Types of Procedures Performed by Connecticut School Nurses: Private, Non-Profit Schools.....	10
Table 10: Percentage of Students Returned to Classroom	10
Table 11: Reason for Dismissal.....	10
Table 12: Dismissal Destination.....	11
Table 13: 911 calls in Public, and Private Non-Profit, Schools	11
Table 14: Frequency of Provision of Health Care Management Services	12

Table 15:	Existence of Specific Programs	12
Table 16:	Public School Computer Software Use	12
Table 17:	Private, Non-Profit School Computer Software Use	13
Table 18:	Involvement of School Health Service Staff in Teaching.....	13
Table 19:	DRG of Responding Districts	14
Table 20:	Demographic Location of Responding Districts	14

Date: November, 2010

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 2009-10 academic year. This is the seventh 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 2008-09 survey administration, few changes were made in the number and type of questions in the 2009-10 survey. The CSDE and the Connecticut State Health Records Committee assisted Dr. Lorentson 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;
 - 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.
- 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. 106 responses were received in time to be analyzed, yielding a response rate of 63 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 2009-10, 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 348,256.

Health Service	Number of Districts 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 Districts 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	91	304375	9693	3.2%	87	8838	209	2.4%
Pediculosis Screening	93	322009	60142	18.7%	84	56556	2208	3.9%
Nutrition Screening	91	326741	2246	0.7%	85	2155	478	22.2%
Mental Health Consultation	90	317809	7637	2.4%	81	6789	1221	18.0%
Dental Screening	90	319148	21680	6.8%	84	21366	4625	21.6%
Total			101398 screenings				8741 referrals	
<u>Mandatory Services</u>								
Vision					103	345736	16512	4.8%
Scoliosis					100	344870	4347	1.3%
Hearing					99	328093	3610	1.1%
Mandated Health Assessments					93	331722	9554	2.9%
Total							34023 referrals	

The optional service provided most frequently by Connecticut districts was pediculosis screening. In 2009-10, 18.7 percent of public school students in reporting districts received pediculosis screenings compared to 0.7 percent of students who received nutrition screenings. Nutritional and dental screenings were the optional services most likely to result in a referral. Twenty-two percent of students who received these screenings were referred to an outside provider for further assistance. Additionally, 18 percent of students who received mental health consultations were referred to an outside provider.

In 2009-10, 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 101,398 screenings. These voluntary screenings resulted in 8741 referrals, highlighting the need for screening services in Connecticut schools.

Results were similar for mandatory screenings. In 2009-10, mandatory screenings in the responding districts resulted in 34,023 referrals to outside providers. Almost 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 28,435 private, non-profit school students.

Health Service	Number of Districts Reporting Private School Students Receiving Service	Total Number of Private School Students Reported by Participating Districts	Number of Private School Students Receiving Service Reported by Participating Districts	Percent of Private School Students Receiving Service	Number of Districts Reporting Private School 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	36	23913	1230	5.1%	31	624	22	3.5%
Pediculosis Screening	42	26611	5483	20.6%	39	5348	160	3.0%
Nutrition Screening	35	23701	43	0.2%	35	43	13	30.2%
Mental Health Consultation	39	24163	565	2.3%	37	565	174	30.8%
Dental Screening	36	23713	880	3.7%	36	880	347	39.4%
Total			8201 Screenings				716 referrals	
<u>Mandatory Services</u>								
Vision					43	26712	1256	4.7%
Scoliosis					43	26186	357	1.4%
Hearing					41	25676	112	0.4%
Mandated Health Assessments					39	25247	1480	5.9%
Total							3205 referrals	

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 2009-10, 20.6 percent of private, non-profit school students served by reporting districts received pediculosis screenings while .2 percent received nutrition screenings. Approximately 39 percent of dental consultations resulted in a referral and about 30 percent of nutrition screenings and mental health consultations resulted in referrals.

Staffing of Health Services in Connecticut School Districts

I. Nursing Staff:

Table 2: Numbers and Classification of Staff

Staff Type	Nursing Staff Classification	Total Number of Staff in Participating Districts (FTE)	Percent of Total FTE Staff in Participating Districts
Registered Nurse	Nurse Leaders	100.2	7.9%
	School Nurses	711.2	55.9
	Nurse Practitioners	49.0	3.9
	Permanent Float Nurses	22.0	1.7
	One-to-One Nurses	66.5	5.2
	Contracted Nursing Staff	88.9	7.0
Total Registered Nurse Staff	All RN Classifications	1037.8	81.6%
Nursing Support	Licensed Practical Nurses	70.5	5.5
	Health Aide	98.8	7.8
	Nursing Clerk or Other Support Staff	64.2	5.1
Total Nursing Support Staff	All Support Classifications	233.5	18.4%
Total Staff	All Classifications	1271.3	100.0%

About 8 percent of full-time equivalent school health services staff are designated as nurse leaders. Another 74 percent of FTE staff are registered nurses who do not work in a leadership capacity. The remaining eighteen percent are classified as nursing support staff.

II. Additional Staff:

District Medical Advisor:

Over ninety percent (92%) of responding districts received services from a medical advisor less than ten hours per month. Five percent of districts reported receiving services from a medical advisor 11-20 hours per month, and 3 percent reported receiving more than 20 hours per month.

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

- | | | | |
|---------------------|-----|-------------------|-----|
| • Adolescent Health | 22% | • Pediatrics | 62% |
| • Family Medicine | 28% | • Public Health | 4% |
| • General Medicine | 11% | • Sports Medicine | 5% |
| • Internal Medicine | 8% | • Other | 9% |
| • Orthopedics | 0% | | |

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

District Dental Services:

Results indicate that a majority (75%) of Connecticut districts do not provide dental services to their students. Among districts providing these services, 31 percent received services from a dentist and 69 percent received services from a dental hygienist.

III. Staffing Levels:

84 percent of responding districts reported having a nurse leader designee who is a nurse. Responding districts also reported a total of 774 Full-Time Equivalent (FTE) registered nurses and 198 FTE nursing support staff in 2009-10.

Staffing by Grade Level and School:

**Table 3: 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	68.0%	28.9%	3.1%
Secondary nurse-to-student ratio in district	29.3	45.7	25.0

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 1 in 4 secondary level schools in Connecticut may not meet this guideline.

**Table 4: Full-Time Equivalent Registered Nurses by School
Percent Respondents**

	<1 FTE	1 FTE	>1-2 FTE	>2 FTE
RNs in each public school	19.8%	64.4%	14.9%	1.0%
RNs in each private school	56.6	41.5	1.9	0.0
LPNs in each school	94.1	3.9	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:

**Table 5: 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	20.7%	16.3%	0.0%	41.3%	4.3%	9.8%	7.6%
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 45 percent of districts reported having at least one nurse leader with a BS in Nursing.

**Table 6: Additional Specialists Employed by Districts
Percent Response**

Specialist	Yes
Nutritionist	5.3%
Mental Health Consultant	44.3
Psychiatrist	19.8
Assistive Technology Specialist	39.6
Other	31.6

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 2009-10 survey collected information on the health care needs of students in private, non-profit schools and public schools served by participating districts. Forty-six 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 88-103 respondents per item for public school students and 37-43 respondents per item for private, non-profit school students.

I. Student Health Care Needs:

Table 7: 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	2239	245	2484
Food (Life threatening only)	8209	1077	9286
Latex/Environmental Allergy	7694	987	8681
Arthritis	358	31	389
Asthma	50143	3403	53546
Autism Spectrum Disorders	3576	155	3731
ADHD/ADD	14167	826	14993
Depression	3530	185	3715
Eating Disorders	518	25	543
Other Behavioral/Emotional Conditions	5535	417	5952
Hemophilia	136	6	142
Sickle Cell Trait	456	42	498

Health Condition	Public School Students	Private, Non-Profit School Students	Total Number of Students
Other Blood Dyscrasias	622	67	689
Cancer	309	18	327
Cardiac Conditions	1638	167	1805
Cerebral Palsy	807	21	828
Developmental Delays	5313	258	5571
Diabetes Type I	889	54	943
Diabetes Type II	268	22	290
Lyme Disease	875	103	978
Migraine Headaches	3077	316	3393
Neurological Impairment	1991	160	2151
Other Health Impairment	4109	243	4352
Oral Health Needs	3167	114	3281
Orthopedic Impairment	2117	201	2318
Seizure Disorder	2388	130	2518
Speech Defects	7260	267	7527
Severe Vision Impairment	1007	70	1077
Severe Hearing Impairment	1604	81	1685
Spina Bifida	150	5	155

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 2009-10 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 second year for which data on Lyme disease was collected. A total of 978 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 8: Percentage of Nurses' Time Spent on Specific Health Interventions

Health Intervention	Pct. of Time
Routine nursing intervention	49.2%
Referrals to health care provider	4.5
Administration of daily medication	6.9
Administration of as-needed medication	5.8
Performance of special health care procedures	4.6
Monitoring of health care needs	16.8
Case management	6.2
Mental health counseling	5.9

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 2009-10.

**Table 9A: 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
Blood Sugar Testing	90.3%
Catheterizations	33.3
Gastrostomy Tube Feedings	51.5
Insulin Pump Management	82.5
IV Therapy	5.9
Nasogastric Tube Feedings	6.0
Nebulizer Treatments	92.2
Ostomy Care	23.0
Oxygen Therapy	29.7
Suctioning	32.4
Tracheostomy Care	19.2
Ventilator Care	10.2
Other Treatments	31.6

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 (92.2 percent), blood sugar testing (90.3 percent), and insulin pump management (82.5 percent).

**Table 9B: 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
Blood Sugar Testing	40.4%
Catheterizations	6.0
Gastrostomy Tube Feedings	2.0
Insulin Pump Management	33.3
IV Therapy	2.1
Nasogastric Tube Feedings	2.1
Nebulizer Treatments	67.3
Ostomy Care	4.1
Oxygen Therapy	2.1
Suctioning	0.0
Tracheostomy Care	2.1
Ventilator Care	0.0
Other Treatments	8.3

Respondents serving private, non-profit schools most frequently reported: performing nebulizer treatments (67 percent); blood sugar testing (40 percent); and insulin pump management (33 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 10: Percentage of Students Returned to Classroom
Percent Response**

Percentage of Students Returned Within One-Half Hour	Percent Response
0-25%	1.9%
26-50%	1.0
51-75%	9.5
76-100%	87.6

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 11: Reason for Dismissal
Average Response**

Reason for Dismissal	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Illness	84.2%	88.5%
Injury	10.9	9.7
Other	4.9	1.8

Most student dismissals among both public school students and private, non-profit school students were because of illness during 2009-10. Approximately 1 in 10 dismissals in both public schools and private, non-profit schools were due to injury.

**Table 12: Dismissal Destination
Average Response**

Dismissal Destination	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Home	92.3%	94.1%
Emergency Room	2.1	1.5
Other Healthcare Provider	5.6	4.4

Over 90 percent of students dismissed from both public and private, non-profit schools were sent home. Approximately 2 percent were sent to an emergency room.

Other Factors Impacting Student Health:

Sixty-three participating districts provided information on the number of public school students without health insurance coverage. In these districts, 8,990 students or approximately 5 percent of public school students had no health insurance during 2009-10.

Twenty-six 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, 347 or 2.4 percent of students were uninsured during 2009-10.

Table 13: 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	3.3	2.8	3.3
Total number of 911 calls	1145	72	1217

One hundred one districts reported the number of 911 calls made in public schools and 40 districts reported the number of 911 calls made in private, non-profit schools during the 2009-10 school year. About three 911 calls were made for every 1,000 students.

Sixty-three percent of respondents identified injuries as the most common reason for 911 calls. “Other” was reported as the second most common reason followed by “anaphylaxis” 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, 62 children were reported to have received administration of epinephrine. The most frequent reason cited for the administration of epinephrine involved the onset of an allergic reaction during the academic day due to the ingestion of nuts.

Health Coordination/Education

Connecticut school nurses and their districts were involved in a variety of health coordination and educational activities.

**Table 14: 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%	30.1%	69.9%
Development of Individual Emergency Plan	0.0	15.8	84.2
Development of 504 Plan	1.9	47.6	50.5
Staff Training to Meet Individual Student Health Needs	0.0	15.7	84.3

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 16 percent to 48 percent. Data suggest that approximately one third of Connecticut districts are providing services on an inconsistent basis. The service most frequently provided “some-times” was the development of 504 plans.

**Table 15: Existence of Specific Programs
Percent Response**

<i>My district has:</i>	Yes	No
School Health Teams	75.7%	24.3%
Automatic External Defibrillator Program	85.4	14.6

Survey results indicate that 76 percent of Connecticut school districts have a school health team. The majority of respondents (85.4 percent) reported having an Automatic External Defibrillator program in place during 2009-10.

**Table 16: Public School Computer Software Use
Percent Response**

Computer Software	Percent Response
None	23.8%
SNAP	36.6
Health Master	2.0
Other district-wide student data program	37.6

Over one-third of all respondents reported using SNAP to collect student health information in their public schools and 38 percent use some other district-wide student data program. Almost 1 in 4 districts reported having no computer software available for their use.

**Table 17: Private, Non-Profit School Computer Software Use
Percent Response**

Computer Software	Percent Response
None	57.1%
SNAP	26.5
Health Master	4.1
School Nurse Manager	0.0
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 18: 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	15.2%	72.4%	12.4%
Human Sexuality Education	22.9	55.2	21.9
Disease Prevention	9.5	45.7	44.8
Injury Prevention	13.3	52.4	34.3
Substance Abuse Prevention	25.3	67.0	7.8
Other	40.0	50.0	10.0

The majority of Connecticut school health staff had some involvement in teaching health during 2009-10. They were most frequently involved in areas of disease prevention and injury prevention. They were least involved in substance abuse prevention and human sexuality education.

Seventy-six 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 19: District Reference Group (DRG) of Responding Districts
Percent Response**

District Reference Group (DRG)	Percent
A	6.8%
B	12.3
C	13.7
D	17.8
E	16.4
F	6.8
G	15.1
H	5.5
I	5.5

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 20: Demographic Location of Responding Districts
Percent Response**

Demographic Location	Percent
Urban	14.9%
Suburban	53.5
Rural	31.7

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

Ninety-three percent of all respondents were public school districts. Four percent were charter schools and 3 percent were Regional Educational Service Centers.

Ninety-six 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 and nutrition.
- A need for increased time for physical fitness activities during the school day.
- A wide scope of practice that requires expertise in many areas.

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

- Increased support for the provision of mental health and social services.
- Increased support for access to dental and eye care services.
- More professional development specific to medical issues
- Support for certification of school nurses to ensure quality health services
- More funding for school health services, especially in charter schools

II. Student Health

The concerns most frequently mentioned by respondents included:

- High incidence of students with asthma
- 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 incidence of diabetes and obesity
- Students come to school ill and the school nurse is the first medical contact
- Increased number of concussions

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

- Provide more professional development opportunities regarding health issues
- Increased funding to support school health services
- Increased time mandated for physical education
- More nutritious school meals and funding for nutritional education to combat obesity.
- Assistance in promoting healthy lifestyles among students by providing educational programs in healthy eating, stress management, pregnancy prevention, substance abuse, and STD/HIV prevention.
- Access to the Connecticut Immunization Registry and Tacking System (CIRTS)

III. Health Coordination/Education

As with previous years, comments varied as to the degree and nature of school nurses' involvement in teaching health topics. Comments suggested that lack of coverage in the health room in some school districts negatively impacts the amount of time available for nurses to be involved in education or coordination activities. Respondents frequently described their teaching as being informal, one-to-one instruction provided on an as needed basis with students in the health room. Other respondents described a high degree of collaboration with teachers in the classroom. In addition to teaching topics related to nutrition/physical activity, human sexuality, disease prevention, injury prevention, and substance abuse, nurses described involvement in teaching CPR and First Aid, stress management, peer relations, conflict resolution, and smoking cessation. Some respondents cited a need for improved communication between health services and other school staff, particularly in the IEP/PPT process.

IV. 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. 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.
- Continued promotion of the current role of school health services and health services staff among school administrators, boards of education, and others.
- Development of strategies to improve access to substitute nurses
- Increased funding earmarked specifically for nurse staffing
- State certification of school nurses
- Upgrade school nurse qualifications.

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 63 percent;
- Seven 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 7 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 seventh 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 almost 9000 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 2009-10;
- In general, nurse-to-student ratios decrease as grade levels increase. About 25 percent of secondary schools have only one nurse to more than 750 students;
- 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 in excess of 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. Almost 1 in 4 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.

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 2009-10, a 63 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.

EDUCATION CONNECTION does not discriminate in any of its programs, activities, or employment practices on the basis of race, color, national origin, ancestry, sex, religion, age, disability, veteran, marital or familial status. To file a complaint of discrimination write USDA Director, Office of Civil Rights, Washington, DC 20250-9410.