



Connecticut State Department of Education

Health Services Program Information Survey Report

November 20, 2014

Developed for:

The Connecticut State Department of Education

By

Kevin P. Glass, MSRSM, Director
Margot Snellback, Research Associate
Center for Program Research & Evaluation

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 Administrator & School Nurse 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 17 years of 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 Health Services in each Connecticut school district, or the equivalent, was asked to complete the online survey.

Questionnaire results were analyzed statistically using IBM SPSS Statistics. Frequencies and means were obtained on all data as appropriate.

Profile of Districts Who Participated in the Data Collection Process:

During 2013-2014, a total of 169 questionnaires were distributed with 150 received in time to be analyzed, yielding a response rate of 88.8 percent.

The majority of respondents (92 percent) were from public school districts, while 1 percent of respondents represented charter schools and 6 percent represented Regional Educational Services Centers. Over half (59.0 percent) of respondents represented suburban districts; 23.8 percent represented rural districts; and 17.1 percent represented urban districts. By a small margin, the majority of respondents (79) provided services only to public schools and 55 districts also provided services to private, non-profit schools. It should be noted that approximately 11% of respondents did not answer this question.

Respondents included districts from all District Reference Groups (DRG). Approximately one fifth of respondents (21.1 percent) were in DRG D. Additionally, 14.5 percent of respondents represented each of DRGs B, C and G. DRG E was represented by 9.2 percent, DRGs A and F by 7.9 percent, while DRGs H and I each reflected 5.3 percent of respondents.

School Health Services Conclusions and Recommendations:

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

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

- Optional services provided by participating districts to public school students generated close to 11,000 referrals to outside providers. These numbers indicate a continued need for screenings in these areas;
- Students in private, non-profit schools served by responding districts were somewhat less likely than their public school counterparts to receive optional services for mental health or dental screening, but as likely to receive other optional screening services during 2013-2014.
- In general, nurse-to-student ratios decrease as grade levels increase. Approximately 24 percent of secondary schools have only one nurse to more than 750 students;
- Districts employ a wide range of health care specialists. The most common specialists are mental health consultants and assistive technology specialists;
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions;
- Connecticut districts have over 16,000 students with documented dietary needs including nut, wheat, milk and shellfish allergies;
- Districts regularly prescribe emergency medications as needed including glucagon, diastat and epinephrine;
- Connecticut nurses report spending an average of 28.4 hours per week on routine nursing interventions;
- Districts identify a need for more mental health services, as well as programs that promote a healthier lifestyle through better nutrition, increased physical activity and overall fitness;
- During 2013-2014, 1,846 9-1-1 calls were made by Connecticut public and private, non-profit schools for students and adults combined.
- In responding districts, 11,959 public school students and 101 private school students were uninsured during 2013-2014;

- Connecticut districts to collect and record school health information use a wide variety of software. Approximately 12% of responding public school districts and 52% of responding private, non-profit school districts reported having no health information software;
- Many Connecticut school health staff members report some involvement in teaching topics which include: injury prevention, mental/emotional health promotion, asthma control, sensitivity to food-allergies in others, and physical fitness. Some school health staff report collaborating with teachers to facilitate health-related topics.
- Districts provide a wide range of suggestions regarding services that would increase district satisfaction with the provision of health services to students. Suggestions include more information on available mental health resources, expanded communication with state agencies, clinicians and parents, and more access to 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	9
Allocation of Nurses' Time	9
Impact of Nursing Interventions	11
Other Factors Impacting Student Health	12
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 Classifications of Staff	5
Table 3: Nurse to Student Ratio	6
Table 4: Qualifications of Nurse Leaders	6
Table 5: Additional Specialists Employed by District	7
Table 6: Students with Specific Health Care Needs	7
Table 7: Student Diagnoses Responsible for Dietary Accommodations	8
Table 8: Emergency Medication Administration	9
Table 9: Number of Nurse Hours/Week Spent on Specific Health Interventions	9
Table 10A: Types of Procedures Performed by Connecticut School Nurses: Public Schools ..	10
Table 10B: Types of Procedures Performed by Connecticut School Nurses: Private, Non-Profit Schools	10
Table 11: Percentage of Students Returned to Classroom	11
Table 12: Reason for Dismissal	11
Table 13: Dismissal Destination	11
Table 14: 911 calls in Public, and Private Non-Profit, Schools	12
Table 15: Frequency of Provision of Health Care Management Services	12
Table 16: Computer Software Use	13
Table 17: Existence of Specific Activities	13
Table 18: Collaboration of School Health Services Staff with Colleagues	13

Table 19:	Collaboration of School Health Services Staff to Implement Health Programs	14
Table 20:	Involvement of School Health Services Staff in Teaching	14
Table 21:	DRG of Responding Districts	15
Table 22:	Demographic Location of Responding Districts.....	15

Date: November, 2014

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 2013-2014 academic year. This is the eleventh 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 2009-2010 survey administration, a limited number of changes were made in the survey prior to the 2011 through 2014 administrations. 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 eight previous survey administrations were also available for downloading on the EDUCATION CONNECTION Web site.

Ms. Stephanie Knutson, the CSDE School Health Administrator & School Nurse Consultant, Bureau of Health/Nutrition, Family Services and Adult Education, 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 sent a letter of intent to each Coordinator of Health Services, or the equivalent, in Connecticut informing them that they would shortly be receiving a letter requesting that they complete the survey. The letter directed recipients 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. 150 responses were received in time to be analyzed, yielding a response rate of 88.7 percent.

Data Analysis Methodology

Survey results were analyzed using IBM SPSS Statistics. 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.

During 2013-2014, 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. Approximately 41 percent of responding districts reported that they also provided services to private, non-profit schools.

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 451,698.

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
<i>Optional Services</i>								
Body Mass Index Screening	115	352,543	36,682	10.4%	95	30,485	842	2.8%
Pediculosis Screening	128	384,875	80,247	20.8	108	80,247	2,980	3.7
Nutrition Screening	118	367,447	2,628	0.7	99	2,585	273	10.6
Mental Health Consultation	116	369,046	14,945	4.1	101	14,736	2,778	18.9
Dental Screening	118	365,103	30,516	8.4	99	30,494	3,999	13.1
Total			165,018 screenings				10,872 referrals	
<i>Mandatory Services*</i>								
Vision					132	394,780	20,937	5.3%
Scoliosis					123	387,280	3,449	0.7
Hearing					128	390,777	4,112	0.9
Mandated Health Assessments					117	378,873	9,326	2.5
Total							37,824 referrals	

*No data collected for mandatory services, as these screenings are required for all students.

The optional service provided most frequently by Connecticut districts was pediculosis screening. In 2013-2014 20.8 percent of public school students in reporting districts received pediculosis screenings compared to 0.7 percent of students who received nutrition screenings. Mental health and dental screenings were the optional services most likely to result in a referral to an outside provider. Over 32 percent of students who received these two screenings were referred to an outside provider for further assistance. Additionally, 10.6 percent of students who received nutrition consultations were referred to an outside provider.

In 2013-2014, the number of students provided optional services by participating districts continues to be relatively small compared to the total number of students. Data suggest that many Connecticut school districts do not provide optional services or offer them only on a very limited basis. Participating districts voluntarily provided 165,018 screenings. These voluntary screenings resulted in 10,872 referrals, highlighting the need for screening services in Connecticut schools.

Results were similar for mandatory screenings. In 2013-2014, mandatory screenings in the responding districts resulted in 37,824 referrals to outside providers. Over half of all referrals were for vision. About 5.3 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 35,294 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
<i>Optional Services</i>								
Body Mass Index Screening	43	28670	2888	10.1%	41	2,888	16	0.5%
Pediculosis Screening	46	32,894	6804	20.7%	44	6,800	208	3.1%
Nutrition Screening	44	31,479	303	1.0%	42	301	30	10.0%
Mental Health Consultation	44	31,479	700	2.2%	42	700	152	21.7%
Dental Screening	43	28,883	459	1.6%	41	441	256	57.1%
Total			11,154 Screenings				662 referrals	
<i>Mandatory Services*</i>								
Vision					54	32,947	1070	3.2%
Scoliosis					53	29,197	225	0.8%
Hearing					53	29,897	79	0.3%
Mandated Health Assessments					49	28,444	1,347	4.7%
Total							2721 referrals	

*No data collected for mandatory services, as these screenings are required for all students.

Like public school students, students in private, non-profit schools received the optional service of pediculosis screening most frequently. Nutrition was the optional service provided least frequently. In 2013-2014, 20.7 percent of private, non-profit school students served by reporting districts received pediculosis screenings while only 1.0 percent received nutrition screenings. Approximately 57 percent of dental screenings, 22 percent of mental health consultations, and 10.0 percent of nutrition consultations resulted in referrals.

Staffing of Health Services in Connecticut School Districts

I. Nursing Staff:

**Table 2: Numbers and Classification of Staff
Number and Percent**

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	7.2%
	School Nurses	894	64.2%
	Nurse Practitioners	19	1.4%
	Permanent Float Nurses	23	1.7%
	One-to-One Nurses	45	3.2%
	Contracted Nursing Staff	106	7.6%
Total Registered Nurse Staff	All RN Classifications	1,187	85.3%
Nursing Support	Licensed Practical Nurses	50	3.6%
	Health Aide	118	8.5%
	Nursing Clerk or Other Support Staff	36	2.6%
Total Nursing Support Staff	All Support Classifications	204	14.7%
Total Staff	All Classifications	1,391	100.0%

Consistent with last year, about 7 percent of full-time equivalent school health services staff are designated as nurse leaders. Another 78.1% percent of FTE staff are registered nurses who do not work in a leadership capacity. The remaining 14.7 percent are classified as nursing support staff.

II. Additional Staff:

District Medical Advisor:

One hundred and fourteen responding districts received services from a medical advisor. Of these, approximately 84 percent received services less than 10 hours per month. 8.8 percent received services from 11-20 hours per month, 2.6 percent received between 31-40 hours per month and four districts received more than 40 hours of services from a medical advisor each month.

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

- | | | | |
|---------------------|-------|-------------------|-------|
| • Adolescent Health | 18.7% | • Pediatrics | 52.7% |
| • Family Medicine | 22.7% | • Public Health | 5.3% |
| • General Medicine | 8.0% | • Sports Medicine | 1.3% |
| • Internal Medicine | 4.7% | • Other | 4.0% |
| • Orthopedics | 0.7% | | |

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

District Dental Services:

Results indicate that a majority (69.6 percent) of Connecticut districts do not provide dental services to their students. Among districts providing these services, 30.6 percent received services from a dentist and 69.4 percent received services from a dental hygienist.

III. Staffing Levels:

Eighty seven percent of responding districts reported having a nurse leader designee who is a nurse. Responding districts also reported a total of 1,095 Full-Time Equivalent (FTE) registered nurses and 269 FTE nursing support staff in 2013-2014.

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	72.8%	24.6%	2.6%
Secondary nurse-to-student ratio in district	27.0%	48.6%	24.3%

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 in the general population. In addition, the guidelines recommend 1 nurse to 225 students in student populations requiring daily professional school nursing services or interventions, 1 nurse to 125 students in student populations with complex health care needs, and 1 nurse per student for individual students who require daily and continuous professional nursing services. Survey results continue to suggest that slightly less than 1 in 4 secondary level schools in Connecticut may not meet general population guidelines. It is important to note that no information is collected regarding the acuity levels of the population of students reported.

IV. Staff Qualifications:

**Table 4: Qualifications of Nurse Leaders
Percent Response**

	Number of Respond- ents	Diploma Registered Nurse	AD	Other Associates Degree	BS in Nursing	Other Bachelor's degree	MS in Nursing	MPH	MHE
Nurse Leader 1	102	17.6%	7.8%	2.0%	50.0%	4.9%	7.8%	6.9%	2.9
Nurse Leader 2	11	18.2	9.1	9.1	27.3	27.3	9.1	0.0	0.0
Nurse Leader 3	6	16.7	0.0	0.0	50.0	0.0	25.0	16.7	0.0
Nurse Leader 4	4	50.0	0.0	0.0	25.0	25.0	0.0	0.0	0.0
Nurse Leader 5	4	0.0	0.0	25.0	25.0	50.0	0.0	0.0	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 2-5 above. The most prevalent degrees among nurse leaders were a BS in Nursing and a Diploma Registered Nurse. Fifty percent of districts reported having at least one nurse leader with a BS in Nursing. Other qualifications among Nurse Leaders included NCSN, CPNP, AE-C, Masters-Ed., and various degrees in progress.

**Table 5: Additional Specialists Employed by Districts
Percent Response**

Specialist	Yes
Nutritionist	10.8%
Mental Health Consultant	54.9
Psychiatrist	25.2
Assistive Technology Specialist	45.9
Other	23.2

Districts employed additional health care specialists to address student needs. Mental health consultants and assistive technology specialists continued to be the most commonly employed specialists by districts.

Student Health in Connecticut School Districts

Participating districts provided data on a wide range of topics related to student health. The 2013-2014 survey collected information on the health care needs of students in public and private non-profit schools served by participating districts. Fifty five percent of responding districts served students in private, non-profit schools. Results are summarized below.

I. Student Health Care Needs:

Table 6: 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	1878	220	2098
Food (Life threatening only)	13959	1829	15788
Latex/Environmental Allergy	9297	1292	10589
Arthritis	516	45	561
Asthma	55879	3911	59790
Autism Spectrum Disorders	5366	246	5612
ADHD/ADD	17746	1393	19139
Depression	4706	462	5168
Eating Disorders	755	109	864
Other Behavioral/Emotional Conditions	6602	532	7134
Hemophilia	145	15	160
Sickle Cell Trait	437	23	460
Other Blood Dyscrasias	770	85	855
Cancer	315	26	341
Cardiac Conditions	2088	245	2333
Cerebral Palsy	800	19	819
Developmental Delays	5800	235	6035
Diabetes Type I	1120	79	1199
Diabetes Type II	269	9	278
Lyme Disease	1153	88	1241
Migraine Headaches	3233	387	3620
Neurological Impairment	2378	162	2540
Other Health Impairment	5861	328	6189
Oral Health Needs	4,801	209	5010
Orthopedic Impairment	3844	464	4308

Health Condition	Public School Students	Private, Non-Profit School Students	Total Number of Students
Seizure Disorder	2818	184	3002
Speech Defects	8824	211	9305
Severe Vision Impairment	1437	82	1591
Severe Hearing Impairment	1820	118	1938
Spina Bifida	98	3	101

Connecticut school nurses provided services to students with a wide range of physical and emotional health needs. The most prevalent conditions reported in order of frequency among **public school** students during 2013-2014 were Asthma, ADHD/ADD, food allergies, latex/environmental allergies and speech defects. Results from **private, non-profit schools** were similar with the most prevalent conditions including asthma, food allergies, ADHD/ADD and latex/environmental allergies. This was the fifth year for which data on Lyme disease was collected. A total of 1241 students were reported to have Lyme disease in participating schools.

In the one hundred and fifteen districts who responded to the question, there were 13,864 students enrolled who had a special dietary need documented by an appropriate medical statement that is maintained on file.

In an effort to address the dietary needs of students, Connecticut school health services staff collaborates with food service staff on a somewhat frequent basis. Between one-third and one-half (40.9%) collaborates "*Some of the time*", between one quarter and one third (27.8%) collaborates "*Most of the time*" and over one quarter (27.0%) collaborate "*All of the time.*" Approximately 4.0 percent "*Never*" collaborate with Food Service staff.

School health services staff itemized the medical diagnoses held by students that require special dietary accommodations. Their responses are summarized in Table 7 below.

**Table 7: Student Diagnoses Responsible for Dietary Accommodations
Percent Response**

Diagnoses	Percent of Districts having students with this diagnosis
Tree nut allergies	91.2%
Seed allergies	75.9
Shellfish allergies	82.1
Milk allergies	91.7
Peanut allergies	93.9
Egg allergies	84.8
Fish allergies	84.3
Wheat allergies	82.7
Soy allergies	76.9
Other allergies	79.8
Diabetes	89.9
Celiac disease	79.1
Lactose intolerance	89.3
Other food intolerances	71.1
Other diagnoses	60.2

The most common “other” diagnoses provided by school nurse staff include GERD and fruit allergies.

**Table 8: Emergency Medication Administration
Percent Response**

Medication	Percent of districts having used this medication in the past year
Glucagon	5.3%
Diastat	16.8
Epinephrine	44.0

5.3% of districts reported the use of glucagon, 16.8 percent reported the use of diastat and approximately 44% reported the use of epinephrine during the past year.

In the 117 responding Connecticut schools, 95.7% percent had a standing order for epinephrine, and 469 students with life threatening food allergies required the administration of epinephrine during the last school year. The most common reasons for the provision of epinephrine were food allergies, and specifically nut allergies.

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 9: Number of Nurse Hours/Week Spent on Specific Health Interventions

Health Intervention	Number of Responding Districts	Mean Number of Hours Per Week	Total Nurse Hours Per Week Reported
Routine nursing intervention	102	28.4	2954
Referrals to health care provider	102	2.6	270
Administration of daily medication	102	4.2	382
Administration of as-needed medication	102	2.1	442
Performance of special health care procedures	101	3.2	339
Monitoring of health care needs	101	7.2	737
Case management	101	4.1	308
Mental health counseling	100	3.7	300

Over half of the time of the average Connecticut school nurses’ was 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 an average of close to 4 hours per week conducting mental health interventions during 2013-2014.

**Table 10A: 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	94.7%
Catheterizations	37.5
Gastrostomy Tube Feedings	55.8
Insulin Pump Management	84.1
IV Therapy	3.6
Nasogastric Tube Feedings	8.9
Nebulizer Treatments	91.2
Ostomy Care	26.1
Oxygen Therapy	31.5
Suctioning	33.9
Tracheostomy Care	22.3
Ventilator Care	12.6
Other Treatments	25.0

Other treatments provided by districts included wound care, dressing changes, scoliosis brace assistance, insulin pen injections, and vest treatment for CF.

Districts reported that school nurses performed a wide variety of procedures within the public school setting. The most common among them included: blood sugar testing (94.7 percent), nebulizer treatments (91.2 percent), and insulin pump management (84.1 percent).

**Table 10B: 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	53.2%
Catheterizations	4.3
Gastrostomy Tube Feedings	8.7
Insulin Pump Management	42.6
IV Therapy	2.2
Nasogastric Tube Feedings	2.2
Nebulizer Treatments	71.7
Ostomy Care	4.3
Oxygen Therapy	2.2
Suctioning	2.2
Tracheostomy Care	2.2
Ventilator Care	2.2
Other Treatments	15.9

Respondents serving private, non-profit schools most frequently reported the provision of nebulizer treatments (71.7 percent); blood sugar testing (53.2 percent); and insulin pump management

(42.6 percent) to these schools. 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 11: Percentage of Students Returned to Classroom
Percent Response**

Percentage of Students Returned Within One-Half Hour	Percent Response
0-25%	.9%
26-50%	.9
51-75%	9.6
76-100%	88.7

Approximately 89% of districts reported that 76 - 100 % of students were returned to the classroom within one-half hour of receiving a nursing intervention.

Of the students dismissed and NOT returned to the classroom, districts identified the approximate percentage of students dismissed for each reason described below. Responses are summarized in Table 12.

**Table 12: Reason for Dismissal
Percent Response**

Reason for Dismissal	Number of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Illness	74.1%	88.0%
Injury	17.0	8.1
Other	8.9	3.9

Most student dismissals among both public school students and private, non-profit school students were because of illness during 2013-2014. Approximately 17% of dismissals in public schools, and 8% in private, non-profit schools were due to injury.

**Table 13: Dismissal Destination
Average Response**

Dismissal Destination	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Home	92.0%	89.9%
Emergency Room	2.3	1.6
Other Healthcare Provider	5.7	8.5

Between approximately 90 and 92 percent of students dismissed for health reasons from both public and private, non-profit schools were sent home. Approximately 2.3% percent from public schools and 1.6% from private, non-profit schools were sent to an emergency room.

Other Factors Impacting Student Health:

Ninety-five public school districts provided information on the number of students without health insurance coverage. In those districts, 11,959 students were without health insurance during 2013-2014.

Thirty-seven districts serving private non-profit school students provided information reporting that 101 students were uninsured during 2013-2014.

Table 14: 9-1-1 Calls in Public and Private, Non-Profit Schools

	Public Schools	Private, Non-Profit Schools	Total
Number of students in responding districts	451,698	35,458	487,156
Number of 9-1-1 Calls per 1,000 students per year	3.1	2.3	3.1
Total number of 911 calls	1443	80	1,523

One hundred-eight districts reported the number of 9-1-1 calls made in public schools and 46 districts reported the number of 9-1-1 calls made in private, non-profit schools during the 2013-2014 school year. About three 9-1-1 calls were made for every 1,000 students in the public schools. Slightly over 2 calls per 1,000 students were made in the private, non-profit schools.

Fifty-nine percent of respondents identified injuries as the most common reason for 9-1-1 calls. As in the previous year, “Other” was reported as the second most common reason for 9-1-1 calls followed by “anaphylaxis” and “seizure.”

For staff or other adults, one hundred-eight public school districts reported that 323 9-1-1 calls were made, while forty-six private school districts reported a total of 25 9-1-1 calls placed for adults. “Other” continued to be identified as the most common reason for 9-1-1 calls, followed by “injury”, “anaphylaxis” and “seizure”.

Health Coordination/Education

Connecticut school nurses and their districts were involved in a variety of health coordination and educational activities. Summaries of results related to health coordination/education are in the tables below.

**Table 15: Frequency of Provision of Health Care Management Services
Percent Response**

<i>My district provides the following student health care management services:</i>	Don't Know	Sometimes	Always
Development of Individual Health Care Plan	1.8%	9.1%	89.1
Development of Individual Emergency Plan	.9	1.8	97.2
Development of 504 Plan	1.8	22.9	73.4
Staff Training to Meet Individual Student Health Needs	.9	13.0	86.1

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 9.1 percent to 22.9 percent. Data suggest that slightly less than one quarter of Connecticut

districts provide services on an inconsistent basis. The service most frequently provided “*sometimes*” was the development of 504 plans.

Approximately 80 percent of responding districts stated that nursing staffs were involved in the development of IEPs.

**Table 16: Computer Software Used to Collect Student Health Information
Percent Response**

<i>Software</i>	Public School Districts	Private, Non-Profit School Districts
None	12.0%	52.1%
SNAP	47.2	22.9
Health Master	4.6	4.2
School Nurse Manager	0.0	0.0
Other district wide data program	36.1	20.8

The software systems most commonly used in participating districts to collect student health information was SNAP. However, it is noted that over half of private, non-profit school districts, and more than one tenth of public school districts continue to have no health-reporting software system in use.

**Table 17: Existence of Specific Activities
Percent Response**

<i>My district has:</i>	Yes
School Health Team	79.1%
Automatic External Defibrillator Program	96.4

Survey results indicate that almost 80 percent of Connecticut school districts have a school health team in place. The majority of respondents (96.4 percent) reported having an Automatic External Defibrillator program in place during 2013-2014.

**Table 18: Collaboration of School Health Services Staff with Colleagues
Percent Response**

<i>Staff</i>	Percent That Collaborate
Physical Education Staff	89.1%
Health Education Staff	78.7
Mental Health or Social Services Staff	89.0
Nutrition of Food Service Staff	79.6
School Health Council, Committee or Team	74.5

School health services staff collaborates with a variety of other staff members on a regular basis. School health services staff most frequently collaborate with physical education staff and mental health staff, and least frequently collaborate with the School Health Council, Committee or Team.

Table 19: Collaboration of School Health Services Staff with Colleagues to Implement Health Programs: Percent Response

<i>Type of Program</i>	Percent That Collaborate
Alcohol or other drug use prevention	51.8%
Asthma	72.7
Emotional and mental health	76.9
Foodborne illness prevention	53.6
HIV prevention	31.8
Human sexuality	49.5
Injury prevention and safety	80.0
Physical activity and fitness	73.9
Pregnancy prevention	34.5
STD prevention	33.6
Suicide prevention	53.6
Tobacco-use prevention	48.6
Violence-prevention (e.g. bullying, fighting, homicide)	70.1

School health services staff collaborated with other school staff to implement a variety of programs. The most common collaborations involved injury prevention and safety, emotional and mental health, and physical activity and fitness. Health services staffs collaborate least frequently with others to develop programs in pregnancy prevention, STD prevention and HIV prevention.

Table 20: Involvement of School Health Services 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	Don't Know
Nutrition/Physical Activity	16.2%	68.5%	13.5%	1.8%
Human Sexuality Education	30.6	51.4	16.2	1.8
Disease Prevention	14.5	56.4	28.2	0.9
Injury Prevention	16.2	57.7	25.2	0.9
Substance Abuse Prevention	28.8	56.8	12.6	1.8
Other	42.9	31.7	6.3	19.0

School health services staff members most commonly describe themselves as sometimes involved in teaching a variety of specific content areas. Other content areas taught by school health services staff include hygiene, dental education, mental health and bullying issues, flu prevention, and the importance of hydration and concussion management.

Demographics

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

**Table 21: District Reference Group (DRG) of Responding Districts
Percent Response**

District Reference Group (DRG)	Percent of Respondents	Percent of Districts in CT
A	7.8%	7.9%
B	14.5	14.5
C	14.5	14.5
D	21.1	21.1
E	9.2	9.2
F	7.8	7.9
G	14.5	14.5
H	5.2	5.3
I	5.2	5.3

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

**Table 22: Demographic Location of Responding Districts
Percent Response**

Demographic Location	Percent
Urban	17.1%
Suburban	59.0
Rural	23.8

Between half and two-thirds of respondents represented suburban districts. Over seventeen percent of respondents were from urban districts and slightly less than one quarter represented rural districts.

Approximately ninety-two percent of all respondents were from public school districts. One percent was from charter schools and six percent were from Regional Educational Service Centers.

One hundred and two participants responded that they provided services to public schools and 45 districts provided services to private, non-profit schools. It should be noted that a number of respondents did not answer the last question so the calculation of percentages was not completed.

Open-Ended Questions

Most frequent comments by respondents in open-ended questions are summarized below.

I. Health Services Provided to Students in the District:

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

- Parents and students are more frequently using the Health Office as a clinic for diagnosis. We see an increase in social/emotional issues.
- School staff is very active in supporting school wellness initiatives.
- I would like to see schools track students with concussions and discussion services that we could offer to assist in accommodations.
- Since psychological services are not funded to non-public schools, services are poor in this area and the school nurse must spend an inordinate amount of time providing for the emotional/psych needs of students.
- We see more chronic disease entering the schools today. We provide all sorts of education, regarding their disorder or their health, but most of it has to be done in person since some parents are unable to understand written material.
- Increased demand for dental screenings and programs in schools.
- At the private schools, every school needs a dedicated fulltime nurse.
- Scoliosis screenings take too much time away from instruction.

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

- A state procedure manual for the health office
- Professional development for nurses to have training regarding technology, computer program updates. More selection of classes for nurses for professional development.
- We need help with behavioral/mental health issues that hinder students from learning.
- Create mandate whereby PCPs and dentists are required to accept a certain percentage of HUSKY recipients.
- Provide lists of HUSKY healthcare professionals who will help uninsured students find vision and orthopedic care.
- Offer more resources on how to address mental health, and attendance issues.
- Please update the state screening guidelines for vision, hearing and scoliosis.
- Because children are coming to school with more medically based health concerns, we need more medically based PD on diagnoses and treatment modalities. School nurse PD typically looks at the health office piece only and isn't global enough.

II. Student Health

Student health concerns most frequently mentioned by respondents included:

- Increasing mental health issues among the population requiring a lot of time and significant coordination of services. More suicide interventions are being made each year. Increase in teenage pregnancy.
- Adding concussions to the list would be helpful, thus allowing nurses to track numbers diagnosed, the type of concussion and the post-concussion care.
- Very difficult to correctly track health insurance compliance as it changes so frequently.

- When referring to 911 calls it would be important to include mental health issues or 211 calls.
- Lack of standardized protocols for reporting and supporting students with behavioral or mental health issues.
- HUSKY information sent/provided to families. Some families have been declined, some say it is not worth the effort.

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

- Resources for nurses to screen for mental illness issues such as depression, anger and anxiety. Also, resources and guidelines for nutritional screening and intervention direction for school nurses.
- Increase number of social workers and support staff. Provide statewide funding for use of electronic record systems, such as SNAP.
- More access to mental health care.
- Funding for parent educators. Parents need to buy into their child's health care needs and promoting education. We have problems with parents not voting for our budgets.
- Meet with health care providers to ensure asthma action plans are used.

III. Health Coordination/Education

As in previous years' reporting, comments varied regarding the nature of school nurses' involvement in teaching health topics. It was suggested that the CSDE should promote curriculum that integrates key health concepts into common academic subjects, i.e. kids in math class should be learning how to calculate caloric intake and output; science should teach more about common chronic and infectious diseases and how they affect health. On a different note, one respondent stated that *"With more than 1000 students, the high school nurse has no time to participate in any student education or to attend PPT's/504's"*. Teaching topics considered the most relevant included: injury prevention and safety, emotional and mental health, and physical activity and fitness. Seen as less relevant teaching topics, were HIV and STD prevention. In some districts, nurses described consistent involvement in helping integrate health topics into curriculum, while in others; there was no time available to consult with teachers toward developing health topics.

IV. Staffing of Health Services in Districts:

Districts continued to identify the need for expanded health services staffing in both public and private, non-profit schools. The concern most frequently expressed was the need for additional qualified staff to respond to the increasing number of students with complex mental health and medical needs. Many respondents suggested that staffing should reflect the acuity of the school more than state budget. Some respondents cited a need for a pool of more qualified substitute nurses, especially where the nurse to student ratios create the most demand for extra support.

Districts requested assistance from the CSDE in 2013-2014 primarily regarding increased staffing support. Most frequently cited requests are listed below:

- Improve nurse to student ratios statewide with consideration of special needs due to increasing acuity of student health needs. Suggested mandate of 1 FTE nurse per 500 non-fragile students.
- Provide a pool of qualified substitute nurses available to cover on short notice.
- FTE and part-time nursing staff should keep pace with growing enrollment at same level as teaching staff. Even if census goes down, acuity is going up.

- Improve communication between BOE and the State of CT regarding critical importance of staffing needs.

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:

- Highly accurate data collected from 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 88.8 percent;
- Eleven years of data collection.

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

- Differential response rates per question and a high percentage of questions with missing data. Specifically, districts often skip a question if the answer is “0”. However, missing data cannot be assumed to be zero. The percentage of districts that do not enter 0 into the appropriate box may lead to the data being skewed in a positive direction.
- 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 eleven years of data collection.

Conclusions

Overall, school health services staffs express a broad range of perceptions regarding the status of health services in Connecticut districts. As in previous years, survey respondents were generally positive as indicated by the quantitative survey results and the number of constructive comments on the survey. The CSDE and EDUCATION CONNECTION staff examined data resulting from the eleventh year of survey administration.

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

- Optional services provided by participating districts to public school students generated close to 11,000 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 less likely than their public school counterparts to receive mental health consultations and dental screening services during 2013-2014; They were as likely to use other optional services;
- In general, nurse-to-student ratios decrease as grade levels increase. At the secondary school level, approximately 24% of respondents indicated that one nurse represented more than the state guideline of a maximum of 750 students;

- Districts employ wide ranges of health care specialists. The most common specialists include mental health consultants and assistive technology specialists;
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions;
- Connecticut districts have close to 14,000 students with documented dietary needs including primarily peanut, milk, tree nut allergies and diabetes;
- Districts regularly prescribe emergency medications as needed including glucagon, diastat and epinephrine;
- Similar with last year's findings, Connecticut nurses spend an average of 28.4 hours per week on routine nursing interventions;
- Districts persistently report a need for more mental health services and programs that promote a healthy lifestyle;
- During 2013-2014, 1,523 9-1-1 calls were made for students in reporting public and private, non-profit schools. For staff and other adults, 323 9-1-1 calls were tracked by public and private, non-profit schools;
- In responding districts, 11,959 public school students and 175 private school students were uninsured during 2013-2014;
- Connecticut districts to collect and record school health information use a wide variety of software. Almost 12 percent of responding public districts and 52 percent of responding private, non-profit districts reported having no software;
- Many Connecticut school health staff members report involvement in teaching topics that include: injury prevention, emotional and mental health promotion, asthma control, and physical activity and fitness. Some school health staff report collaborating with teachers to facilitate health-related topics;
- Districts provided a wide range of suggestions for services that would increase district satisfaction with the provision of health services to students. Suggestions include more information on available mental health resources, expanded communication with state agencies, clinicians and parents, and more access to 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. However, ongoing concerns remain among respondents regarding the time necessary to complete the survey, and the need to ensure that data collected generates positive change to individual schools throughout the state.
- The use of numeric data regarding numbers of students and referrals requires the districts to provide information in each category allowing 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. For 2013-2014, an 88.8 percent overall response rate was achieved. However, missing data for individual items continues to potentially cause bias in the resulting data. The recommendation for future data collection includes activities designed to increase the overall survey response rate and ensure that districts complete all survey questions.

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