Connecticut State Department of Education

Health Services Program Information Survey Report

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Developed for:

The Connecticut State Department of Education

By

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Executive Summary

Background and Methodology:

The Connecticut State Department of Education (CSDE), as part of its ongoing efforts to support and expand school health services provided to Connecticut students, is continuing the data collection process for school health services begun in 2004. This process is designed to assist the CSDE to understand the status of school health services in Connecticut school districts, the needs of school districts and students in the area of school health services and progress being made in these areas over time. As one component of these ongoing efforts, the CSDE commissioned the Center Program Research and Evaluation (CPRE) at EdAdvance (formerly 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 the CPRE. The survey was developed 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 EdAdvance to adapt the survey development process as necessary to meet the needs of school districts and the CSDE.

The CSDE and the CSHRC provided suggestions to EdAdvance 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.

EdAdvance staff developed specific questionnaire items based on these suggestions and questions asked on other state health questionnaires. The CSDE 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 EdAdvance website to facilitate completion by respondents. The Coordinator of Health Services (or equivalent) in each Connecticut school district 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 2015-2016, a total of 197 questionnaires were distributed with 167 received in time to be analyzed, yielding a response rate of 84.7 percent.

The majority of respondents (94.6%) were from public school districts, and 4.2% percent of respondents represented charter schools. Over half (55.1%) of respondents represented suburban districts, while 30.5% represented rural districts and 14.4% represented urban districts. 59.3% of respondents (99) provided services only to public schools and 68 districts also provided services to private, non-profit schools. 100% of respondents answered this question.

Respondents represented districts from all District Reference Groups (DRG) and were grouped by the following percentages:

DRG	% Survey Responses
A	6.0
B	12.6
C	16.2
D	16.2
E	16.2
F	8.4
G	11.4
H	6.0
I	7.2

School Health Services Conclusions and Recommendations:

Overall, school health services staff reflected varying perceptions of the status of health services in Connecticut districts, as indicated by the quantitative survey results and the number of comments on the survey. The CSDE and EdAdvance staff examined data resulting from the thirteenth 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 approximately 5,700 referrals to outside providers. (For 2015-16, dental screening services are not included in the report.)
- Students in private, non-profit schools served by responding districts continued to be less likely than their public-school counterparts to receive optional mental health services, but remain as or more likely to receive other optional services such as pediculosis screenings during 2015-2016.
- In general, nurse-to-student ratios decrease as grade levels increase. Between 18-19% of secondary schools have only one nurse to more than 750 students;
- Districts were represented a wide range of medical advisor specialties; most frequently in 2015-16 by pediatricians/family medicine practitioners, followed by adolescent health specialists;
- Connecticut school districts continued to care for children with a widening range of physical, developmental, behavioral and emotional conditions;
- Connecticut districts report 18,193 students with documented dietary restrictions including milk, nut, wheat, and lactose intolerance allergies;
- Districts regularly prescribe emergency medications as needed, especially epinephrine (39%), with fewer reporting the use of diastat (11.6%) and glucagon (3.7%);
- Survey respondents continue to identify a need for more mental health services training and support, as well as programs related to better nutrition and increased overall fitness;
- During 2015-2016, 1,801 9-1-1 calls were reported by participating Connecticut public and private, non-profit schools for students and adults combined, remaining level with 2014-15;
- In responding districts, 50% (4,868) fewer public school students and 5.6% (79) fewer private school students were reported as uninsured during 2015-2016 than in the prior year;
- Approximately 94% of Connecticut public school districts and 33% of private school districts report using computer software to collect and record school health information. The most commonly used software in both public and private schools was SNAP, followed by software programs not listed in the survey;
- Between 56-67% of Connecticut school health staff members report at least some involvement in teaching topics including: nutrition, physical activity, and human sexuality. Other topics include allergy awareness, hygiene, diabetes management, and coping skills/stress management;

- Respondents articulated a wide range of observations and suggestions regarding services that would increase district satisfaction with the provision of health services to students including; nurses currently being spread too thin in grades 9-12 due to 1 nurse:750 student ratio, hiring more health aides to assist with health screenings, and more in-depth education for administrators on the multi-faceted roles of nurses, and the increasing number of students with complicated medical and behavioral concerns.

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.

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INTRODUCTION

EdAdvance 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 service in Connecticut. Survey results are used to monitor the characteristics of, and trends in, school health services in CT school districts at the elementary, middle, and high school levels. Data was collected through the administration of the Health Services Program Information Survey. Funding for this project was provided by the SSCE. This report summarized the results of data collection for the 2015-2016 academic year. This is the thirteenth year for which data has been 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 constructive 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 2003-2004 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 Prevention (including suicide)
- Nutrition
- Physical Activity
- Sexual Behaviors
- Tobacco Use
- Emerging Issues
  - Concussion Occurrence (new in 2015)
  - Food Safety
  - Asthma
  - Skin Cancer
  - Type I Diabetes
  - Type II Diabetes
  - Dental Disease

DATA COLLECTION PROCESS

Survey Development

All survey development processes were described in the 2003-2004 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 2015 administrations, and again for the 2015-16 survey. The CSDE and the Connecticut State Health Records Committee assisted EdAdvance to adapt the survey as necessary to meet the needs of school districts and the CSDE. Ongoing adaptations have been made in collaboration with Kevin Glass, MSRSM, Director of the Center for Program Research & Evaluation at EdAdvance. The survey collected data in the following areas:

- Types and results of services provided in CT public and private, non-profit schools.
- Staff of health services in CT schools;
  - number of staff;
  - nurse/student ratios;
  - qualifications of staff, and;
  - specialists linked to nursing services.
- 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.
- Number of, and reasons for 911 calls in public and private, non-profit schools.
- Concussion Diagnosis/Frequency
- 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 school/district
  - 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 as developed in close partnership with CSDE. It is expected that the questionnaire is sufficiently valid and reliable.

Survey Administration

The survey was posted to EdAdvance's website to increase ease of completion. Survey directions, sources of data necessary for survey completion, and results of the twelve previous survey administrations are also available for downloading on the EdAdvance website.

Ms. Stephanie Knutson, the CSDE Education consultant, Bureau of Health/Nutrition, Family Services and Adult Education, introduced participants to the purpose and history of the survey and shared it with the group online. Ms. Knutson answered questions concerning the practicalities of survey completion, state expectations for its completion and expected use of the 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 EdAdvance website for survey completion.

The CSDE and EdAdvance responded to questions and concerns regarding the survey as they arose. Of the 197 questionnaires distributed. 167 responses were sufficiently completed in time to be analyzed, yielding a response rate of 84.7%

Data Analysis Methodology

Survey results were analyzed using IBM SPSS Statistical software. The total number of individuals, frequencies and means were obtained as appropriate.

RESULTS

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

During 2015-2016, districts reported information for public school districts and private, non-private schools separately for a variety of topics as appropriate. Approximately 41% of responding districts reported that they also provided services to private, non-profit schools.

Concussion Data

Across all districts, survey participants reported that a total of **7,075** students were diagnosed with concussions during the 2015-2016 schoolyear. The number of **FEMALE vs MALE** students diagnosed with a concussion by grade level during the 2015-2016 schoolyear are detailed in the table below.

Table 1: Number of Female vs. Male Students Diagnosed with Concussion

Grade	N Female	N Male	Total
Pre-Kindergarten	9	5	14
Kindergarten	17	13	30
1st Grade	22	38	60
2nd Grade	42	64	106
3rd Grade	63	117	180
4th Grade	103	187	290
5th Grade	156	267	423
6th Grade	219	302	521
7th Grade	350	353	703
8th Grade	433	443	876
9th Grade	645	585	1,230
10th Grade	601	487	1,088
11th Grade	503	424	927
12th Grade	389	360	749
Total	**3,552**	**3,645**	**7,191**

Of the diagnosed concussions that occurred during the 2015-2016 school year, number of occurrences in reporting districts during the categories listed below:

Table 2: Number of Occurrences in Reporting Districts for Following Categories

Category	N Occurrences
Physical Education Class	545
School Recess	268
School Athletics-Intramural	142
School Athletics-Interscholastic	2,231
Any other school-sponsored activities	262
Non-school sports-related (i.e. Local town recreational sports)	1,221
Outside of school - Other	1,791
Don't Know	426
Other	84
Total	**6,970**

Of students diagnosed with concussions during the 2015-2016 school year, the accommodations below were provided for the following number of students.

Table 3: Number Students Requiring the Following Accommodations

Accommodation	N Students
Individual Health Care Plan	2,070
Section 504 Plan	395
Academic Accommodations	4,719
Physical Activity Accommodations	5,675
Homebound Instruction	79
No Accommodations required	538

Of diagnosed concussions during the 2015-2016 school year, AVERAGE length of time (in days) the accommodations were needed:

Table 4: Average Length of Time Accommodations Needed

Accommodation	Mean Av. N Days
Individual Health Care Plan	18
Section 504 Plan	41.6
Academic Accommodations	26.4
Physical Activity Accommodations	23.8
Homebound Instruction	9.2
Not known	2.5

Number of students (if known) who missed school days due to concussions during the 2015-2016 school year for the following categories:

Table 5: Number of School Days Missed Due to Diagnosed Concussions

Category	N Students Missing Days
Less than 5 school days	4,337
5-10 school days	1,030
11 15 school days	142
16-20 school days	77
21-60 school days	64
61-120 school days	21
Greater than 120 school days	3
Don’t know	540

Student Health

Student Health Care Needs

Participating districts provided data on a wide range of topics related to student health. The 2015-2016 survey collected information on the health care needs of students in public and private non-profit schools served in these districts. 40.7% of responding districts served students in private, non-profit schools/ Results are summarized below.

Table 6: Number of Students with Specific Health Care Needs

Specific Health Care Need	Total N Students PUBLIC	Total N Students PRIVATE	Total Students
Allergies-Bee Sting	2,402	177	2,579
Allergies-Food (life threatening)	16,847	1,346	18,193
Allergies-Latex	975	78	1,053
Allergies - Seasonal	23,878	1,816	25,694
Allergies - Other	12,684	847	13,531
Arthritis	459	224	683
Asthma	56,026	3,349	59,375
Autism Spectrum Disorders	6,616	189	6,805
Behavioral/Emotional-ADHD/ADD	21,446	1,106	22,552
Behavioral/Emotional- Anxiety	7405	484	7,889
Behavioral/Emotional-Depression	4,360	272	4,632
Behavioral/Emotional-Eating Disorders	530	40	570
Behavioral/Emotional-Other	6,181	365	6,546
Blood Dyscrasias-Hemophilia	204	20	224
Blood Dyscrasias-Sickle Cell Trait	423	17	440
Blood Dyscrasias-Other	826	60	886
Cancer	357	11	368
Cardiac Conditions	2,206	193	2,399
Cerebral Palsy	672	15	687
Diabetes Type I	1,450	76	1,526
Diabetes Type II	459	25	484
Lyme Disease	1,268	71	1,339
Migraine Headaches	3,512	311	3,823
Neurological Impairment	2422	163	2,585
Orthopedic Impairment	4158	511	4,669
Seizure Disorder	2876	128	3,004
Speech Defects	9307	231	9,538
Severe Vision Impairment	1779	77	1,856
Severe Hearing Impairment	1595	86	1,681
Spina Bifida	109	1	110
Swallowing Dysfunction	378	8	385

A total of **18,193** students across all reporting school districts (PUBLIC and PRIVATE, non-profit schools) have special dietary needs documented by an appropriate medical statement that is maintained on file.

Table 7: Student Diagnoses Responsible for Dietary Accommodations -

Diagnoses	% of Districts Having Students with this diagnosis
Milk Allergies	91.5
Tree Nut Allergies	96.2
Peanut Allergies	96.2
Lactose Intolerance	90.8
Wheat Allergies	91.5
Diabetes	87.7
Shellfish Allergies	88.4
Celiac Disease	84.8
Egg Allergies	85.9
Other Allergies	86.0
Other Food Intolerances	83.3
Soy Allergies	84.7
Fish Allergies	82.5
Seed Allergies	79.7
Other Diagnoses	59.6

Other Food Allergy Diagnoses: Top 5 other most reported:

Crohns Disease, food dye allergies, fruit & vegetable allergies, GERD and gluten intolerance.

Table 8: Emergency Medication Administration

Intervention	% of Districts having used in the past year
Epinephrine	39.3
Diastat	11.6
Glucagon	3.7
Automatic External Defibrillator	2.2
Cardio Pulmonary Resuscitation	1.2

Districts reporting emergency medication interventions indicated that epinephrine was administered in 39.3 of districts. Diastat use was reported by 11.6% of survey participants, and glucagon use by 3.7%. **164** students with DIAGNOSED life threatening food allergies required administration of epinephrine during the 2015-2016 schoolyear.

Table 9: Number of students DIAGNOSED with life threatening food allergies administered epinephrine by the following individuals:

	Total Epinephrine Administrations
School Nurse (RN) / Nurse	127
Other Personnel	4

Table 10: Number of students UNDIAGNOSED with life threatening food allergies administered epinephrine by the following individuals:

	Total Epinephrine Administrations
School Nurse (RN) / Nurse	33
Other Personnel	0

Table 11: Percent of PUBLIC SCHOOL and PRIVATE, NON-PROFIT SCHOOL districts that performed the following health care procedures during the 2015-2016 school year:

Procedure	% of PUBLIC SCHOOL Districts Performing Service in School Setting	% of PRIVATE SCHOOL Districts Performing Service in School Setting
Blood Sugar Testing	92.1	50.0
Nebulizer Treatments	91.4	72.2
Insulin Pump Management	83.2	45.3
Gastronomy Tube Feedings	54.7	7.5
Catheterizations	35.0	1.9
Other Treatments	28.1	9.6
Ostomy Care	26.3	7.5
Suctioning	28.5	1.9
Oxygen Therapy	18.7	1.9
Tracheostomy Care	15.4	1.9
Ventilator Care	9.7	1.9
Nasogastric Tube Feedings	6.6	1.9
IV Therapy	5.1	1.9

OTHER procedures most frequently performed in **PUBLIC SCHOOL** districts; Wound Care, Blood Pressure monitoring and glucose/insulin pump management. OTHER procedures most frequently performed in **PRIVATE, NON-PROFIT SCHOOL** districts; Blood Pressure Monitoring, PRN care for intestinal ports.

Table 12: Percentage of students receiving a nursing intervention returned to classroom within one half hour;

Percentage of Students Returned within one half hour	% Response
26-50%	2.9
51-75%	8.0
76-100%	89.1
Total	100.0

Among survey participants, 89% indicated that between 76-100% of students were returned to their classrooms within one half-hour of receiving a nursing intervention.

Table 13: In responding districts, percentage of students dismissed and NOT returned to class for the following reasons, in PUBLIC and PRIVATE, NON-PROFIT school districts

Reason for Dismissal	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Illness	85.9	90.8
Injury	10.2	6.6
Other	3.9	2.5

The majority of dismissals for public and private, non-profit school students were due to illness, while 10.2% of public school students, and 6.6% of private, non-profit school students were sent home because of injury.

Table 14: Dismissal destination percentage for students NOT returned to class, for PUBLIC and PRIVATE, NON-PROFIT schools

Dismissal Destination	Public School Districts	Private, Non-Profit Schools
Home	90.0%	92.1%
Emergency Room	2.9	1.3
Other Healthcare Provider	7.1	7.0

Ninety percent of students who were dismissed for health reasons from public and private, non-profit schools, were sent home. Another 2.9% of public school students, and 1.3% of private, non-profit school students were sent to an emergency room.

Other factors impacting Student Health

Table 15: 9-1-1 Calls reported for students in PUBLIC and PRIVATE, NON-PROFIT schools

	Public Schools	Private, Non-Profit Schools	Total
Number of students in responding districts	454,210	41,001	495,211
Number of 9-1-1 Calls per 1,000 students	3.0	1.9	2.9
Total Number of 9-1-1 Calls	1,382	78	1,460

For STUDENTS, 136 PUBLIC school districts reported total 9-1-1 calls made for the 2015-2016 school year, and 52 PRIVATE, NON-PROFIT SCHOOLS reported 9-1-1 call totals. Approximately 3.0 calls per 1,000 students were placed for PUBLIC SCHOOL districts, while 1.9 calls per 1,000 were reported in PRIVATE NON-PROFIT schools.

Sixty-three percent of respondents for PUBLIC and PRIVATE,NON-PROFIT schools identified 'injuries' for students and staff as the primary reason for placing 9-1-1 calls, while 'Other' remained the second most common reason, followed by 'anaphylaxis' and 'seizure'.

For STAFF or other adults, 136 PUBLIC SCHOOL districts reported a total of 341 9-1-1calls made, while 52 PRIVATE, NON-PROFIT schools reported a total of 18 9-1-1 calls made.

Table 16: Number of Students Referred to Receive HEALTH INSURANCE.

	Number of PUBLIC school district students Referred for Health Insurance	Number of PRIVATE, NON-PROFIT school students Referred for Health Insurance
Districts Reporting	128	49
Total Students Referred	4,868	79

One hundred-twenty eight PUBLIC SCHOOL districts provided information on the number of students without **health insurance** coverage. In those districts, **4,868** students were reported to be without health insurance during the schoolyear 2015-2016

Forty-nine districts serving PRIVATE, NON-PROFIT schools students provided information reporting that **79** students were **uninsured** during 2015-2016.

Services Provided in Connecticut School Districts

Table 17A: 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 **454,210**.

Health Service	Districts Reporting Students Receiving Service	Total Public School Students Reported by Participating Districts	Number of Students Receiving Service Reported by Participating Districts	Percent Students Receiving Service	Districts Reporting Students Referred to Outside Provider	Number of Students Referred to Outside Provider	Percent of Students Receiving Service Referred to Outside Provider
Optional Services							
Body Mass Index Screening	123	359,229	23,493	6.5%	105	82	0.3
Pediculosis Screening	130	383,534	61,741	16.1	119	2,660	4.3
Nutrition Screening	125	364,179	1,169	0.3	110	222	19.0
Mental Health Consultation	122	365,068	7,668	2.1	110	2,718	35.4
Total			**94,071 screenings**			**5,682 referrals**	
Mandatory Services*							
Vision					132	20,346	4.5
Scoliosis					131	4,668	1.0
Hearing					131	8,417	1.9
Total						**33,431 referrals**	

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

Table 17B.: PRIVATE 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 PRIVATE school students reported by participating districts is **41,001.**

Health Service	Districts Reporting Students Receiving Service	Total Public School Students Reported by Participating Districts	Number of Students Receiving Service Reported by Participating Districts	Percent Students Receiving Service	Districts Reporting Students Referred to Outside Provider	Number of Students Referred to Outside Provider	Percent of Students Receiving Service Referred to Outside Provider
Optional Services							
Body Mass Index Screening	48	29,006	1,368	4.7%	42	4	0.3%
Pediculosis Screening	51	30,273	6,292	20.8%	45	115	1.8%
Nutrition Screening	45	28,542	229	0.8%	41	13	5.7%
Mental Health Consultation	48	28,756	335	1.2%	42	129	38.5

Total			**screenings**			**referrals**	
Mandatory Services*							
Vision					54	770	1.9
Scoliosis					53	133	0.3
Hearing					52	161	0.4
Total						**1,064 referrals**	

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

Staffing of Health Services in Connecticut School Districts

I. Nursing Staff

Table 18: Numbers and Classification of Staff

Staff Type	Nursing Staff Classification	Total Number Staff in Participating Districts (FTE)	Total Percent Staff in Participating Districts (FTE)
Registered Nurse	Nurse Leaders (no school assignments)	43	3.2%
	Nurse Leaders (with school assignments)	85	6.3
	School Nurses	954	70.2
	Permanent Float Nurses	27	2.0
	One-to-One Nurses	56	4.1
Total Registered Nurse Staff	**All RN Classifications**	**1,165**	**85.8**
Nursing Support	Licensed Practical Nurses	45	3.3
	Health Aide	113	8.3
	Nursing Clerk / Other Support Staff	36	2.6
Total Nursing Support Staff	**All Support Classifications**	**194**	**14.2%**
Total Staff	**All Classifications**	**1,359**	**100%**

For the 2015-2016 school year, Nurse Leaders were designated as either assigned to particular schools, or NOT assigned to schools. In reporting districts (between 114-138), all Nurse Leaders composed 9.5% of full-time equivalent of school health services staff. 70.2% were reported as registered nurses who do not hold leadership positions. The majority of remaining staff were classified as nursing support staff.

II. Additional Staff:

District Medical Advisor:

80.2% of survey respondents in 134 districts reported receiving monthly services by a medical advisor. Among these, approximately 90.3% received services less than 10 hours per month. 7.5% received between11-20 hours of service per month, and another 1% received services between 21-30 hours per month. Two districts reported receiving 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 19.2%
- Family Medicine 25.7%
- General Medicine 10.2%
- Internal Medicine 4.8%
- Orthopedics 1.8%
- Pediatrics 54.5%
- Public Health 6.0%
- Sports Medicine 3.6%
- Other 4.2%

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

District Dental Services:

Results indicate that a majority (69.8%) of responding Connecticut districts do NOT provide dental services to their students. Among districts reporting these services, 18% received services from a dentist and 82% received services from a dental hygienist.

III. Staffing Levels:

81% of responding districts reported having a nurse leader designee who is a nurse. Responding districts also reported a total of 1,184 Full-Time Equivalent (FTE) registered nurses and 201 FTE nursing support staff in 2015-2016.

Staffing by Grade Level and School:

Table 19: Nurse-to-Student Ratio

	One Nurse to less than 250 Students	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	15.2%	69.6%	14.5%	0.7%
Secondary nurse-to-student ratio in district	9.3%	27.1%	45.0%	18.6%

A majority of Connecticut schools continue to meet national guidelines recommending that school districts 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 indicate that **slightly less than 1 in 5** CT secondary schools 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 20: Qualifications of Nurse Leaders
Percent Response

	Number of Respondents	Diploma Registered Nurse	AD	Other Associates Degree	BS in Nursing	Other Bachelor's degree	MS in Nursing	MPH	MHE	MBA
Nurse Leader 1	155	14.2%	11.6%	0.6%	48.4%	7.7%	7.7%	5.2%	3.2%	1.3%
Nurse Leader 2	18	33.3	5.6	5.6	50.0	5.6	0	0	0	0
Nurse Leader 3	7	42.9	14.3	0	28.6	14.3	0	0	0	0
Nurse Leader 4	5	40.0	0	0	20.0	20.0	0	20.0	0	0
Nurse Leader 5	4	25.0	25.0	0	50.0	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 Bachelor Degrees in Nursing followed by Diploma Registered Nurses. Almost 50% of districts reported having at least one nurse leader with a B.S. in nursing. Other qualifications among Nurse Leaders included APRNs, MPAs, LPNs, and NCSNs.

Table 21: Frequency of Provision of Health Care Management Services: Percent Response

	Never	Sometimes	Always	Don't Know
Development of Individual Healthcare Plan	0%	10.9%	89.1%	0.0%
Development of Individual Emergency Plan	0	15.9	84.1	0
Development of 504 Plan	1.4	69.6	29.0	0
Staff training to meet individual student health needs	0.0	15.4	83.8	0.7

In reporting districts, the majority of respondents report ALWAYS providing health care management services. Although a smaller percentage of respondents reported SOMETIMES for most services, 69.6% claimed that status for Development of 504 Plans, and 1.4% claimed that 504 plans were NEVER provided.

Table 22. Computer Software Used to Collect Student Health Information Percent Response

	Public School Districts	Private, Non-Profit Schools
None	5.6%	49.2%
SNAP	53.1	17.5
Health Master	4.9	1.6
Other districtwide data program	35.7	12.7
School Nurse Manager	N/A	1.6
Not Known	0.7	17.5

The majority of respondents in participating PUBLIC SCHOOL districts relied on computer-based SNAP software to collect student health information, whereas 49.2% of PRIVATE, non-profit schools reported using no computer data base for this purpose. 38.4% of all respondents indicated using other programs not identified in the survey.

Table 23. Collaboration of School Health Services Staff with Colleagues to Implement Health Programs

Type of Program	% That Collaborate
Injury Prevention and Safety	80.5
Physical Activity and Fitness	78.2
Emotional and Mental Health	77.4
Asthma	77.1
Violence Prevention (e.g. bullying, fighting, homicide)	63.6
Human Sexuality	61.5
Foodborne Illness Prevention	58.8
Alcohol and other Drug Use Prevention	49.2
Tobacco-Use Prevention	44.3
Suicide Prevention	43.1
HIV Prevention	34.4
Pregnancy Prevention	32.3
STD Prevention	31.5

The above table lists a variety of Health Programs that were implemented in the 2015-2016 school year. The data indicates that responding districts most frequently collaborate with School Health Services Staff on the topics of Injury Prevention and Safety, Physical Activity and Fitness, and Emotional and Mental Health. The least amount of collaboration was reflected for the topics of Pregnancy prevention and STD prevention.

Table 24. Involvement of School Health Services Staff in Teaching: Percent Response

	Never	Sometimes	Always	Don't Know
Nutrition	12.9%	67.4%	19.7%	0.0%
Physical Activity	19.8	64.9	14.5	0.8
Human Sexuality Education	23.5	56.1	20.5	0.0
Disease Prevention	11.5	50.0	37.7	0.8
Injury Prevention	10.5	57.1	31.6	0.8
Substance Abuse Prevention	32.0	56.3	10.2	1.6
Other	41.3	33.3	6.7	18.7

In participating districts, respondents most consistently perceive themselves as SOMETIMES involved in teaching a variety of content areas, particularly on the topics of Nutrition and Physical Activity. Among respondents who selected OTHER content areas, additional topics most frequently included Allergy Awareness, Hygiene, Diabetes Management, Coping Skills/Stress Management and Dental Health.

Table 25. Provision of Student Referrals to Sexual Health Services Percent Response

Type of Sexual Health Service	% of Districts Providing Referrals
Formal or Informal Organization partnerships between districts, and youth-friendly sexual health service providers	36.3
A list of youth-friendly organizations to which youth can be referred for sexual health services	53.7
A written procedure for making referrals	14.8
A written procedure for maintaining student confidentiality throughout the referral process.	25.8

Slightly over half of reporting districts indicate that they provide a list of youth-friendly organizations to which youth can be referred for sexual health services, and more than one-third provide some type of formal or informal organizational partnerships between districts and youth-friendly sexual health service providers. Less than 15% provide written procedures for making referrals. In 2015-2016, slightly less than 20% of respondents identified their districts as having a school-based health center, and 8.2% of districts assert that they provide reproductive health services.

Demographics

Table 26: District Reference Group Representation

DRG	% of Survey Respondents
A	6.0
B	12.6
C	16.2
D	16.2
E	16.2
F	8.4
G	11.4
H	6.0
I	7.2

Respondents represented districts from all District Reference Groups (DRGs), with highest representation by DRGs C, D, and E.

Table 27: District Type

Urban	14.4%
Suburban	55.1%
Rural	30.5%

The majority of respondents defined their districts as suburban, while 30.5% were rural and less than 15% were listed as urban.

Survey Open-ended Questions

Most frequently addressed topics by respondents in open-ended questions are summarized below.

Student Health:

Survey respondents wanted the SDE to know about some of the following concerns that facilitate increasing demand for support in their districts:

- We have many undocumented students, new enrollments who arrive in this country without insurance, and parents whose employment and insurance status changes that we might not be aware of
- There are an increasing amount of anxiety/stress/depression-like behaviors being exhibited and staff/teachers are unprepared to handle or even recognize
- Increasing acuity in health diagnoses
- More and more students are presenting with allergies. Parents do not follow up with allergists to determine need for Epipen even if they've written ""allergies"" on blue form.
- Mental Health issues are becoming difficult to manage b/c the numbers of students with these issues are increasing faster than any other issue. Anxiety in elementary school aged children...exacerbated by all the testing and related

pressures. Depression in the middle and high school students related to not meeting expectations of their parents, teachers and selves. Students just stop being able to manage in May.....increased absences, mental health symptoms, psychosomatic complaints on a steady rise. Way too much stress. as the amount of testing has increased, so has the amount of stressed related behaviors and diagnoses.

- Most widespread health issue in our district seems to be asthma.
- Social Services is a big need in our district. There is a missing core piece for referrals and lack of assistance for family services.
- Full time school nurses are not a luxury in schools, but a necessity to promote wellness and safety, and an essential part of the academic learning process for students of all ages.

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

- Acknowledge and provide the resources necessary to have nurses in all schools with appropriate nurse/student ratio.
- Access to mental health services assistance for all families.
- Continue working on legislation to improve school nurse/student ratios. Our students are more medically complex each year and the demands on the school nurse for the day to day medical management along with other responsibilities: IHP's, PPT's 504's, parent and provider communication, staff education, collaboration with other disciplines, and the required documentation of our practice make it difficult to get it all done in a day.
- Have health class in lower grades. Improve the quality of food served at school - less processed foods- more healthy foods that students will actually eat.
- Provide more support/professional development with mental health and substance abuse training that school nurses can attend without having to get a sub. Stronger advocacy for increasing nursing staff in schools.
- More education is needed in the community about asthma, triggers, and management of the disease.
- Offer a free breakfast program in each middle and high school. Have the high school students start time for school later than 7:25AM.
- Discontinuation of scoliosis screening in the school setting since it plays no role in a student's ability to receive education and uses up valuable time for the nurse to attend to the myriad of health needs of the other students.
- Mandatory school-based health centers in public high schools, for their communities.
- Update the Health Assessment record and make it easily accessible to pediatricians on-line.
- Would like to see addition School Base Health Centers **staffed by APRN's** to give immediate care to students beyond the assessment of the school nurse.

When asked for feedback about the state of Health Coordination and Education in their districts, survey respondents wanted the state to be aware of the following concerns:

- Would like to see more collaboration of school Health Services with outside organizations to provide other interactive programs to students and families about healthier eating and the importance of physical activity.
- Utilizing the school nurse in some health classes seems to be really productive.
- School nurses are a critical component of the interdisciplinary team. However, we are not monetarily on par with the BOE employees.
- In this district, there is no formal health education classes below the high school level. Finding many families do not even have a thermometer in the home and rely on school nurses to take students' temperatures.
- There is a strong need for school-based health centers at the high-school level.
- Due to the number of students seen in the health room for illness, injury and other issues, there is limited time for the nurse to participate in health education in the classroom.
- Health topics in our middle school are taught in science and are minimally covered since health teachers were cut. At high school level, taught only in health education curriculum.

A significant amount of variation is observed among respondents' concerns regarding the status of Health Education. Though some districts do have school based health centers in their high schools, others are perceived to have very little health-specific education support, instead referring students and families to primary care practitioners for basic information. Some district do note having Health Education teachers on staff, while others have seen their districts completely cut these positions. In general, survey responses indicate that health education curriculum is not offered inconsistently across districts, particularly at the K-8 level, and that they would like to have more opportunity to collaborate with teachers in delivering health education curriculum.

The need for increased staffing levels in order to address growing health demands continues to exist, particularly at the high school level. With growing emphasis on concussion awareness (published as a separate report), increasing medical acuity, and a need for more school-based health centers, survey participants identified a variety of concerns they want the state to know about, listed below:

- It is imperative that every school has at least one dedicated nurse who isn't be shared by schools. With the increase of activity related to physical health needs and mental health issues, the nurse ratio needs to be re-examined.
- Nurses are responsible for increasingly medically complex students, including those with mental health concerns. So much more is expected from school nurses in the same amount of time packed into a school day.
- All nurses should be BSN prepared, and certified staff.
- It is very challenging for the RNs to treat, screen, consult, manage supplies, document and maintain health files, prepare for field trips (a HUGE time commitment) and make follow-up calls to parents and providers in the course of a school day. Overtime is frowned upon and quality nurses do not apply for vacancies because of the poor salary rate.
- Staffing is tied to town budget and not based on acuity needs of students. It's frustrating trying to convince town about the need for increased staffing/compensation/affordable health insurance. Nurse Leader is also the full time nurse at the elementary level with no additional time built in for supervisory work despite numerous requests.
- We help kids with self-care such as brushing teeth, washing face and combing hair to help them be socially ready for school. We guide parents in helping their children with their care. What is normal?. What is not? We help kids with ADHD and their meds. We help staff who struggle sometimes to teach their classes due to child disruption.
- Need to communicate more to administration that 1:750 does not include students with complex medical needs
- The number of health aides is inadequate to efficiently assist the nurse in completing mandatory screenings, document findings, and assess the children. In addition, health aides at the elementary level only work 3 hours/day.

Additional support that respondents would like to have from the CSDE include the suggestions listed below:

- Education for administrators on the multi-faceted role of the nurse and also the increased number of students with complicated medical and behavioral issues.
- More guidance from the state to address increasing psycho-social issues that require more nursing intervention and time, in the form of written guidelines, policies/procedures and programs to manage the ever changing need of school health services.
- Mandated and appropriate number of nurses per school/population.
- Better tracking of the time that nurses spend with students. The increased amount of time devoted to counseling and simple emotional support is significant and is not reflected in the number of visits nor in the data that indicates how long the child is in the office.
- Work with the federal government to recognize school nurses as public health advocates and get them funded via federal dollars. School nurses should probably fall under the umbrella of the CT Department of Public Health. They have a better understanding of public health processes and license nurses.
- Need support from State Department of Education to recruit nurses. Advocate for more financial reimbursement and facilitate a better understanding of the issues to ensure a safe environment for students in our schools.

- Provide guidance/support for the RN/BSN in the dual role of full time school nurse/full time supervisor.
- Educate doctors better with physicals' form completion.

(All open-ended questions are available to the CSDE 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 private non-profit schools in Connecticut.

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

- Highly accurate analysis of data collected from the School Health Services Survey (Health Services Program Information 2016);
- Data received from a wide 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 87.4%.
- Thirteen years of data collection.

However, as with any research study, data collection and the use of data have some limitations. These include, but are not limited to:

- 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 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. Prior to 2016, as a result of changes, some data was tracked longitudinally while other topics

CONCLUSIONS

As in previous years, school health services staff express a broad range of of perspectives regarding the status of health services in Connecticut school districts. Respondents offered a wide range of observations and suggestions for improvement as indicated by the number of constructive comments posted throughout the survey. The CSDE and EdAdvance staff examined data resulting from the thirteenth 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 approximately 5,700 referrals to outside providers. This reflects a continuing needs for, and interest in screenings in these areas. (Dental screenings no longer included in the report).
- Nurse-to-student ratios continue to decrease as as grade levels increase. In 2015-16, At the secondary school level, the ratio of one nurse to more than 750 students increased by 3%, from 15.6% of respondents in 2014-2015, to 18.6% in 2015-2016.
- Connecticut school districts continue to care for children with increasingly complex physical, developmental, behavioral and emotional conditions.
- Connecticut districts have over 18,000 reported students with documented food allergies/conditions including primarily peanut, tree nut, milk and wheat allergies.
- 39.3% of districts reported administering epinephrine as needed, while 11.6% indicated use of diastat and 4% reported administering glucagon.

- During 2015-2016, 1,460 9-1-1 calls were made for students in PUBLIC and PRIVATE, non-profit schools. For staff and other adults,341 were tracked for PUBLIC and PRIVATE schools in the same period.
- In responding districts, 4,868 PUBLIC SCHOOL students, and 79 PRIVATE, non-profit school students were reported as being referred for health insurance services.
- Connecticut districts continue to report a variety of software to collect and record student's health data. The most commonly used program in both PUBLIC and PRIVATE schools was SNAP, while approximately one half of PRIVATE schools reported using no computer programs for health record-keeping.
- A majority of respondents most often reported involvement in teaching the following topics: Injury Prevention & Safety, -80.5%, Physical Activity and Fitness-78.2% and Emotional and Mental Health-77.4%.
- Survey participants presented a wide array of suggestions regarding resources that would improve district satisfaction with the provision of health services to students. Suggestions included expanding school-based health curriculum at all grade levels, providing more on-site mental health centers/resources or dedicated health teachers, and increasing collaboration between school nurses and classroom teachers to deliver relevant health education content.

RECOMMENDATIONS FOR FUTURE DATA COLLECTION

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

- Survey data collection continued to provide diverse information on a broad range of issues related to school health services. However, some of the following concerns remain among respondents: the time necessary to gather information from school nurses and complete the survey; understanding instructions for filling the survey out; and the need to ensure that data collected will influence positive change in 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 2015-2016, an 84.7% overall response rate was generated, up slightly from the previous year. Missing data for individual items continues to potentially cause bias in the resulting data. The recommendation for future data collection includes processes designed to increase the overall participation rate and accuracy of results, ensuring that districts complete all survey questions.