Connecticut State Department of Education

Health Services Program Information Survey Report

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Developed for:

The Connecticut State Department of Education

By

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Executive Summary

Background and Methodology:

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

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

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

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

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

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

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

Profile of Districts Who Participated in the Data Collection Process:

During 2011-2012, a total of 169 questionnaires were distributed with 119 received in time to be analyzed, yielding a response rate of 70.4 percent.

The majority of respondents (97 percent) were public school districts, while 1 percent of respondents represented charter schools and 2 percent represented Regional Educational Services Centers. Over half (68.6 percent) of respondents represented suburban districts; 23.5 percent represented rural districts; and 7.8 percent represented urban districts. The majority (101) of respondents provided services only to public schools and 49 districts also provided services to private, non-public schools. It should be noted that a number of respondents did not answer this question.

Respondents included districts from all District Reference Groups (DRG). Almost a quarter of respondents (26.8 percent) were in DRG D. Additionally, 19.7 percent of responding districts were in each of DRGs B and C, 12.7 percent were in DRG G, 7.0 percent were in DRG A, 5.6 percent were in DRG E, 4.2 percent were in DRG F, 2.8 percent were in DRG I and one district was in DRG H.

School Health Services Conclusions and Recommendations:

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

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

- Optional services provided by participating districts to public school students generated 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 more likely than their public school counterparts to receive optional services for Body Mass Index Screening during 2011-2012. These students were as, or less likely to use other optional services;
- In general, nurse-to-student ratios decrease as grade levels increase. Slightly less than 20 percent of secondary schools have only one nurse to more than 750 students;
- A wide range of health care specialists are employed by districts. The most common specialists are assistive technology specialists and mental health consultants;
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions;
- Connecticut districts have over 12,000 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 continue to spend an average of 28 hours per week on routine nursing interventions;
- Districts report a need for more mental health services and programs that promote a healthy lifestyle;
- During 2011-2012, 1,336 9-1-1 calls were made by Connecticut public and private, non-profit schools;
- In responding districts, 4953 public school students and 48 private school students were uninsured during 2011-2012;

- A wide variety of software is used by Connecticut districts to collect and record school health information. Almost 14% of responding public districts and 56% of responding private, non-profit districts reported having no software;
- Many Connecticut school health staff report some involvement in teaching topics which include; risk-taking behaviors, Human Sexuality, sensitivity to food-allergies in others, injury prevention, and dental health. Some school health staff report filling a support role for teachers who facilitate health-related topics;
- Districts provide a wide range of suggestions of services that would increase district satisfaction with the provision of health services to students. District suggestions include fiscal and non-fiscal resources, information on available resources, communication with state agencies and training for staff.

Future Data Collection Conclusions and Recommendations:

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

TABLE OF CONTENTS

Tables

Date: November, 2012

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 2011-2012 academic year. This is the ninth 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 2010-2011 and 2011-2012 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.

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

The CSDE 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. 119 responses were received in time to be analyzed, yielding a response rate of 70.4 percent.

Data Analysis Methodology

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

Results

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

It should be noted that during 2011-2012, 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. Almost 53 percent of 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 410,250.

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
Optional Services								
Body Mass Index Screening	108	362632	23437	6.5%	91	22252	342	1.5%
Pediculosis Screening	114	406730	95383	23.5%	104	92037	3579	3.9%
Nutrition Screening	105	392007	6811	1.7	95	6828	630	9.2%
Mental Health Consultation	103	388357	15873	4.1%	96	15901	2361	14.8
Dental Screening	103	325228	16004	4.5%	95	15845	3943	24.9%
Total			**157508 screenings**				**10855 referrals**	
Mandatory Services*								
Vision					113	406409	20782	5.1%
Scoliosis					109	404890	3546	0.9%
Hearing					110	405644	3461	0.9%
Mandated Health Assessments					105	392217	8658	2.2%
Total							**36447 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 2011-2012 23.5 percent of public school students in reporting districts received pediculosis screenings compared to 1.7 percent of students who received nutrition screenings. Mental health and dental screenings were the optional services most likely to result in a referral. Over 39 percent of students who received these screenings were referred to an outside provider for further assistance. Additionally, 9.2 percent of students who received nutrition consultations were referred to an outside provider.

In 2011-2012, 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 have optional services or offer them only on a very limited basis. Participating districts voluntarily provided 157,508 screenings. These voluntary screenings resulted in 10,855 referrals, highlighting the need for screening services in Connecticut schools.

Results were similar for mandatory screenings. In 2011-2012, mandatory screenings in the responding districts resulted in 36,477 referrals to outside providers. Over half of all referrals were for vision. About 5.1 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 33,631 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
Optional Services								
Body Mass Index Screening	52	32486	3109	9.6%	48	2924	13	0.4%
Pediculosis Screening	52	31873	7377	23.1%	49	6787	233	3.4%
Nutrition Screening	51	31466	155	0.5%	47	144	22	15.3%
Mental Health Consultation	51	31466	468	1.5%	49	468	140	29.9%
Dental Screening	51	31466	519	1.6%	47	504	195	38.7%
Total			**11628 Screenings**				**603 referrals**	
Mandatory Services*								
Vision					55	32954	1796	5.5%
Scoliosis					53	32463	741	2.3%
Hearing					53	32685	309	0.9%
Mandated Health Assessments					51	31138	730	2.3%
Total							**3576 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 2011-2012, 23.1 percent of private, non-profit school students served by reporting districts received pediculosis screenings while less than 1 percent received nutrition screenings. Approximately 39 percent of dental consultations, 15 percent of nutrition screenings and 30 percent of mental health 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	91	7.2%
	School Nurses	843	66.6%
	Nurse Practitioners	6	0.5%
	Permanent Float Nurses	17	1.3%
	One-to-One Nurses	34	2.7%
	Contracted Nursing Staff	97	7.7%
Total Registered Nurse Staff	**All RN Classifications**	**1088**	**85.9%**
Nursing Support	Licensed Practical Nurses	42	3.3%
	Health Aide	97	7.7%
	Nursing Clerk or Other Support Staff	39	3.1%
Total Nursing Support Staff	**All Support Classifications**	**178**	**14.1%**
Total Staff	**All Classifications**	**1266**	**100.0%**

About 7 percent of full-time equivalent school health services staff are designated as nurse leaders. Another 79% percent of FTE staff are registered nurses who do not work in a leadership capacity. The remaining 14 percent are classified as nursing support staff.

II. Additional Staff:

District Medical Advisor:

One hundred fifteen responding districts received services from a medical advisor. Of these, approximately 94 percent received services less 10 hours per month. 5.3 percent received services from 11-20 hours per month and one district 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 22.0%
- Family Medicine 35.3%
- General Medicine 10.0%
- Internal Medicine 7.6%
- Orthopedics 0.0%
- Pediatrics 56.0%
- Public Health 9.2%
- Sports Medicine 2.5%
- Other 5.0%

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

District Dental Services:

Results indicate that a majority (76 percent) of Connecticut districts do not provide dental services to their students. Among districts providing these services, 14 percent received services from a dentist and 86 percent received services from a dental hygienist.

III. Staffing Levels:

Eighty six percent of responding districts reported having a nurse leader designee who is a nurse. Responding districts also reported a total of 919 Full-Time Equivalent (FTE) registered nurses and 152 FTE nursing support staff in 2011-2012.

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	79.4%	17.8%	2.8%
Secondary nurse-to-student ratio in district	23.1	57.7	19.2

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 approximately 1 in 5 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 Respondents	Diploma Registered Nurse	AD	Other Associates Degree	BS in Nursing	Other Bachelor's degree	MS in Nursing	MPH
Nurse Leader 1	101	15.8%	11.9%	0.0%	51.5%	5.9%	9.9%	5.0%
Nurse Leader 2	11	36.4	18.2	0.0	36.4	0.0	9.1	0.0
Nurse Leader 3	3	0.0	0.0	0.0	66.7	0.0	33.3	25.0
Nurse Leader 4	1	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Nurse Leader 5	0	0.0	0.0	0.0	0.0	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. Over half of districts reported having at least one nurse leader with a BS in Nursing.

Table 5: Additional Specialists Employed by Districts
Percent Response

Specialist	Yes
Nutritionist	13.9%
Mental Health Consultant	43.5
Psychiatrist	14.4
Assistive Technology Specialist	51.4
Other	20.6

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

Student Health in Connecticut School Districts

Participating districts provided data on a wide range of topics related to student health. The 2011-2012 survey collected information on the health care needs of students in private, non-profit schools and public schools served by participating districts. Forty one 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	2182	173	2355
Food (Life threatening only)	11231	1334	12565
Latex/Environmental Allergy	8986	673	9659
Arthritis	480	32	512
Asthma	49865	3539	53404
Autism Spectrum Disorders	5047	209	5256
ADHD/ADD	16674	955	17629
Depression	4334	306	4640
Eating Disorders	498	48	546
Other Behavioral/Emotional Conditions	7561	450	8011
Hemophilia	133	9	142
Sickle Cell Trait	392	18	410
Other Blood Dyscrasias	815	58	873
Cancer	339	53	392
Cardiac Conditions	1944	144	2088
Cerebral Palsy	671	10	681
Developmental Delays	6475	192	6199
Diabetes Type I	1073	69	1142
Diabetes Type II	249	11	260
Lyme Disease	1135	129	1264
Migraine Headaches	3470	259	3729
Neurological Impairment	2666	145	2811
Other Health Impairment	5086	349	5435
Oral Health Needs	3913	135	4048
Orthopedic Impairment	2236	243	2479

Health Condition	Public School Students	Private, Non-Profit School Students	Total Number of Students
Seizure Disorder	2554	198	2752
Speech Defects	10,075	288	10,363
Severe Vision Impairment	1302	59	1361
Severe Hearing Impairment	1478	69	1729
Spina Bifida	13	0	155

Connecticut school nurses provide 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 2011-2012 were asthma, ADHD/ADD, food allergies, speech defects, latex/environmental allergies and other behavioral/emotional conditions. 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 third year for which data on Lyme disease was collected. A total of 1264 students were reported to have Lyme disease in participating schools.

In the one hundred and nineteen districts who responded to the question, there were 9,293 students enrolled who have 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 collaborate with food service staff on a somewhat frequent basis. Over half (51.1%) collaborate "*Some of the time*", approximately one fifth (21.4%) collaborate "*Most of the time*" and one fifth (20.6%) collaborate "*All of the time*." Approximately 7 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	91.5%
Seed allergies	72.5
Shellfish allergies	83.7
Milk allergies	92.4
Peanut allergies	91.5
Egg allergies	86.5
Fish allergies	83.5
Wheat allergies	89.4
Soy allergies	81.2
Other allergies	83.0
Diabetes	93.2
Celiac disease	87.4
Lactose intolerance	94.3
Other food intolerances	83.7
Other diagnoses	63.0

The most common "other" diagnoses provided by school nurse staff include PKU, fruit allergies and cystic fibrosis.

Table 8: Emergency Medication Administration Percent Response

Medication	Percent of districts having used this medication in the past year
Glucagon	3.8%
Diastat	12.4
Epinephrine	37.1

3.8% of districts reported the use of glucagon, 12.4 percent reported the use of diastat and approximately 37% reported the use of epinephrine during the past year.

In the 119 responding Connecticut schools, 97.2% percent had a standing order for epinephrine, and 153 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, specifically nut and milk allergies, and unknown reactors.

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	105	28.0	2913
Referrals to health care provider	105	2.4	250
Administration of daily medication	105	3.6	370
Administration of as-needed medication	105	3.6	369
Performance of special health care procedures	105	3.2	335
Monitoring of health care needs	105	9.0	936
Case management	104	3.6	345
Mental health counseling	104	3.4	351

Over half of the time of the average Connecticut school nurses' is spent on routine nursing interventions. Districts reported that nurses' time was also spent on activities including monitoring of health care needs, administration of medication, case management, mental health counseling, and performance of special health care procedures. Districts reported that nurses spent an average of 3.4 hours per week conducting mental health interventions during 2011-2012.

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	98.1%
Catheterizations	36.6
Gastrostomy Tube Feedings	59.8
Insulin Pump Management	94.3
IV Therapy	7.0
Nasogastric Tube Feedings	9.0
Nebulizer Treatments	95.2
Ostomy Care	32.4
Oxygen Therapy	21.2
Suctioning	38.6
Tracheostomy Care	23.8
Ventilator Care	11.1
Other Treatments	23.3

Other treatments provided by districts included wound care, post-operative treatments, pain management, drainage, personal hygiene and range of motion care.

Districts reported that school nurses perform a number of procedures within the public school setting. The most common procedures performed in districts included: blood sugar testing (98.1 percent), nebulizer treatments (95.2 percent) and insulin pump management (94.3 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	56.0%
Catheterizations	2.1
Gastrostomy Tube Feedings	4.3
Insulin Pump Management	44.0
IV Therapy	0
Nasogastric Tube Feedings	0
Nebulizer Treatments	68.0
Ostomy Care	2.0
Oxygen Therapy	4.0
Suctioning	2.0
Tracheostomy Care	2.0
Ventilator Care	2.0
Other Treatments	12.2

Respondents serving private, non-profit schools most frequently reported the provision of nebulizer treatments (68 percent); blood sugar testing (56 percent); and insulin pump management (44 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%	0.9%
26-50%	0.9
51-75%	2.8
76-100%	95.3

Approximately 95% of districts reported that 76 - 100 % of students are 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	84.3%	82.7%
Injury	8.3	6.8
Other	4.2	2.3

Most student dismissals among both public school students and private, non-profit school students were because of illness during 2011-2012. Approximately 8% of dismissals in public schools, and 7% 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	89.4%	87.7%
Emergency Room	2.5	1.1
Other Healthcare Provider	6.4	5.2

Just under 90 percent of students dismissed for health reasons from both public and private, non-profit schools were sent home. Approximately 2 percent in each type of school were sent to an emergency room.

Other Factors Impacting Student Health:

Ninety-one participating districts provided information on the number of public school students without health insurance coverage. In responding districts, 4,953 students had no health insurance during 2011-2012.

Forty one districts serving private non-profit school students provided information on the number of students without health insurance coverage. Of students in these schools, 48 were uninsured during 2011-2012.

Table 14: 911 Calls in Public and Private, Non-Profit Schools

	Public Schools	Private, Non-Profit Schools	Total
Number of students in responding districts	410,250	33,631	443,881
Number of 911 Calls per 1,000 Students per Year	3.1	1.9	3.0
Total number of 911 calls	1,268	66	1,334

One hundred and three districts reported the number of 911 calls made in public schools and 50 districts reported the number of 911 calls made in private, non-profit schools during the 2011-2012 school year. About three 911 calls were made for every 1,000 students in the public schools. Slightly less than 2 calls per 1,000 students were made in the private, non-profit schools.

Sixty-eight percent of respondents identified injuries as the most common reason for 911 calls. As in the previous years, "Other" was reported as the second most common reason for 911 calls followed by "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

My district provides the following student health care management services:	Don't Know	Sometimes	Always
Development of Individual Health Care Plan	0.0%	26.7%	72.4%
Development of Individual Emergency Plan	0.0	15.2	83.8
Development of 504 Plan	1.0	46.7	52.4
Staff Training to Meet Individual Student Health Needs	1.0	19.0	80.0

The majority of districts reported that health care management services are always provided. However, the number of districts that reported that services are "*sometimes*" provided ranged from 15.2 percent to 47 percent. Data suggest that between one third and one half of Connecticut districts provide services on an inconsistent basis. The service most frequently provided "*sometimes*" was the development of 504 plans.

Slightly more than eighty percent of responding districts stated that nursing staff were involved in the development of IEPs.

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

Software	Public School Districts	Private, Non-Profit School Districts
None	13.6%	56.6%
SNAP	42.7	27.8
Health Master	6.8	7.5
School Nurse Manager	0.0	0.0
Other district wide data program	36.9	15.1

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

Table 17: Existence of Specific Activities
Percent Response

My district has:	Yes
School Health Team	82.4%
Automatic External Defibrillator Program	95.2

Survey results indicate that 82 percent of Connecticut school districts have a school health team in place. The majority of respondents (95 percent) reported having an Automatic External Defibrillator program in place during 2011-2012.

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

Staff	Percent That Collaborate
Physical Education Staff	83.0%
Health Education Staff	80.2
Mental Health or Social Services Staff	80.2
Nutrition of Food Service Staff	79.0
School Health Council, Committee or Team	76.4

School health services staff collaborate with a variety of other staff members on a regular basis. School health staff most frequently collaborate with physical education 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

Type of Program	Percent That Collaborate
Alcohol or other drug use prevention	51.9%
Asthma	80.2
Emotional and mental health	72.4
Foodborne illness prevention	56.2
HIV prevention	38.7
Human sexuality	62.3
Injury prevention and safety	83.0
Physical activity and fitness	76.2
Pregnancy prevention	33.0
STD prevention	34.0
Suicide prevention	43.3
Tobacco-use prevention	54.3
Violence-prevention (e.g. bullying, fighting, homicide)	71.4

School health service staff collaborated with other school staff to implement a variety of programs. The most common collaborations involved injury prevention and safety, and asthma. Health services staff collaborate less frequently with others to develop programs in foodborne illness, tobacco-use prevention, suicide prevention and pregnancy/STD prevention.

Table 20: Involvement of School Health Service Staff in Teaching
Percent Response

In my district, school health staff is involved in teaching health promotion or prevention in the following areas:	Never	Sometimes	Always	Don't Know
Nutrition/Physical Activity	17.9%	71.7%	8.5%	1.9%
Human Sexuality Education	24.8	58.1	15.2	1.9
Disease Prevention	11.3	62.3	23.6	2.8
Injury Prevention	10.4	67.9	20.8	.9
Substance Abuse Prevention	28.3	62.3	8.5	.9
Other	39.2	37.3	5.9	17.6

School health service staff members most commonly describe themselves as sometimes involved in teaching a variety of specific content areas. Other content areas taught by school health service staff include hygiene, puberty education, mental health and bullying issues, breast self examinations, and specific illness discussions and education.

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	7.0%	5.3%
B	19.7	12.4
C	19.7	17.8
D	26.8	14.2
E	5.6	20.7
F	4.2	10.1
G	12.7	10.1
H	1.4	5.3
I	2.8	4.1

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	7.8%
Suburban	68.6
Rural	23.5

Between half and three-quarters of respondents represented suburban districts. Eight percent of respondents were from urban districts and slightly less than one quarter were from rural districts.

Ninety-seven percent of all respondents were public school districts. One percent were charter schools and two percent were Regional Educational Service Centers.

One hundred and two participants responded that they provided services to public schools and 49 districts provided services to private, non-public 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

Areas commented on most frequently by respondents in open-ended questions are summarized below.

I. Health Services Provided to Students in the District:

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

- Increase in the number of students with anxiety, depression and panic attacks and in need of appropriate medication
- The time-consuming nature of postural screenings and relatively small "yield" in diagnoses or referrals
- Time consuming nature of paperwork such as field-trip authorization and need to simplify process
- Increase in need for concussion management in schools and related follow-up communications with teachers and parents .
- Increasing complexity of healthcare needs of students and need for additional staffing
- Increase in incidence of chronic diseases (i.e. asthma, mental health issues).
- Need for oral health services.
- Relative frequency of provision of programs related to health, hygiene, puberty, cancer and concussion awareness in schools.

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

- Nutrition counseling support and training program materials
- In-service training related to school health services
- Materials such as posters which can be used to remind students and parents of health requirements (i.e. mandated school physicals and immunizations)
- More contact with the CSDE regarding use of School Health Survey results and how they can benefit individual school systems in their daily work
- Need for more accessible health care for students including a computer system for documentation
- Need to make Vision and Hearing screenings mandatory for pre K-8th grade
- Need for professional development for nurses in areas related to behavioral health

II. Student Health

Student health concerns most frequently mentioned by respondents included:

- Continually increasing complexity of student health care needs
- Increased need for 9-1-1 calls
- Prevalence of obesity.

- Time-consuming nature of managing student health insurance
- Inconsistency of delivery of HUSKY information to parents
- Length of time necessary to activate HUSKY.
- Increased behavioral health needs of students
- Need for nurses to address behavioral health issues previously addressed by behavioral counselors.

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

- Reminders to physician's offices to complete all areas of mandated health assessments before returning forms to schools
- Need for advocacy to encourage healthcare providers to adhere to mandates
- Provide e-mail information to school nurses to support their ability to teach health subject areas.
- Increased funding to support school health services
- Implement mandated public school health services for private, non-profit schools.

III. Health Coordination/Education

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

IV. Staffing of Health Services in Districts:

Districts consistently commented on the need for improved staffing of health services. The need for staffing support was described as particularly acute in the private, non-profit schools. As with previous years, the concern most frequently stated was the need for additional qualified staff to provide services to an increasing number of students with complex medical health needs or mental health issues. A number of respondents cited the current economic climate as negatively impacting the staffing of school health services. A few respondents recommended that staffing ratios be based on acuity as well as number of students. Respondents consistently cited a need for substitute nurses.

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

- Mandate a nurse-to-student ratio with consideration provided for students with complex medical needs
- State certification of school nurses
- Increased staffing
- Change in regulations to require that any school with enrollment of 750 students or more have two full time nurses

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

Data Strengths and Limitations

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

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

- Extremely accurate data collected the School Health Services Survey;
- Data received from a variety of types of schools including public and private non-profit schools, schools in each DRG, and urban, rural and suburban schools;
- A good response rate of 70.4 percent;
- Nine 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 nine years of data collection.

Conclusions

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

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

- Optional services provided by participating districts to public school students generated almost 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 more likely than their public school counterparts to receive optional services during 2011-2012; These students were as, or less likely to use other optional services;
- In general, nurse-to-student ratios decrease as grade levels increase. Slightly less than 20 percent of secondary schools have only one nurse to more than 750 students;
- A wide range of health care specialists are employed by districts. The most common specialists include assistive technology specialists and mental health consultants.
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions;

- Connecticut districts have over 12,000 students with documented dietary needs including primarily nut, wheat, milk and shellfish allergies.
- Districts regularly prescribe emergency medications as needed including glucagon, diastat and epinephrine.
- As with last year's findings, Connecticut nurses spend an average of 28 hours per week on routine nursing interventions.
- Districts report a need for more mental health services and programs that promote a healthy lifestyle;
- During 2011-2012, 1,336 9-1-1 calls were made in reporting public and private, non-profit schools.
- In responding districts, 4,953 public school students and 48 private school students were uninsured during 2011-2012.
- A wide variety of software is used by Connecticut districts to collect and record school health information. Almost 14 percent of responding public districts and 56 percent of responding private, non-profit districts reported having no software;
- Many Connecticut school health staff members report some involvement in teaching topics which include: risk-taking behaviors, human sexuality, sensitivity to food-allergies in others, injury prevention and dental health. Some school health staff report filling a support role for teachers who facilitate health-related topics.
- Districts provided a wide range of suggestions of services that would increase district satisfaction with the provision of health services to students. District suggestions include fiscal and non-fiscal resources, information on available resources, communication with state agencies and training for staff.

Recommendations for Future Data Collection

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

- Survey data collection provided excellent information regarding a wide range of issues related to school health services. However, there were some concerns mentioned by respondents regarding the amount of time necessary to complete the survey and the need to ensure that data collected is beneficial to individual schools throughout the state.
- The use of numerical data regarding numbers of students and referrals requires the districts to provide information in each category to allow for accurate calculations of percentages between categories. To maximize the accuracy of the information provided, it is critical that a high response rate be achieved for survey completion and that respondents complete each question on the survey. During 2011-2012, a 70.4 percent response rate was achieved. However, it is noted that missing data for individual items continues to be an issue and may cause potential bias in the resulting data. It is recommended that future data collection continue to include activities designed to increase the overall survey response rate and ensure that all survey questions are completed by districts.