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 School Nursing in each Connecticut school district, or the equivalent, was asked to complete the online survey.

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

Profile of Districts Who Participated in the Data Collection Process:

During 2011, a total of 169 questionnaires were distributed with 148 received in time to be analyzed, yielding a response rate of 88 percent.

The majority of respondents (93 percent) were public school districts, while 2 percent of respondents represented charter schools and 6 percent represented Regional Educational Services Centers. Over half (59 percent) of respondents represented suburban districts; 30 percent represented rural districts; and 11 percent represented urban districts. 125 respondents responded that they provided services to public schools and 51 districts percent 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.

Respondents included districts from all District Reference Groups (DRG). The majority of respondents (18.4 percent each) were from DRG C or D. Additionally, 11.5 percent of respondents were DRG A districts, 13.8 percent were DRG B districts, 12.6 percent were DRG E districts, 6.9 percent were from DRG F, 13.8 percent from DRG G, 3.4 percent from DRG H and one district was from DRG I.

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 eighth 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 10,000 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 2010-2011;
- In general, nurse-to-student ratios decrease as grade levels increase. About 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 mental health consultants and assistive technology specialists;
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions;
- Connecticut districts have over 9000 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 spend an average of 28 hours per week on routine nursing interventions;
- Connecticut districts are providing a wide range of treatments for students with special needs. These procedures are less likely to be provided in the private, non-profit school setting;
- Districts report a need for more mental health services and programs that promote a healthy lifestyle;
- During 2010-2011, one thousand two hundred and twenty one 911 calls were made by Connecticut public and private, non-profit schools;
- In responding districts, 4842 public school students and 110 private school students were uninsured during 2010-2011;

- A wide variety of software is used by Connecticut districts to collect and record school health information. Almost 1 in 4 responding public districts and 3/5 responding private, non-profit districts reported having no software;
- The majority of Connecticut school health staff report some involvement in teaching activities; and
- 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

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

Tables

Table 1A: Public School Students Receiving Services as Percent of Total 3
Table 1B: Private, Non-Profit School Students Receiving Services as Percent of Total 4
Table 2: Numbers and Classifications of Staff 5
Table 3: Nurse to Student Ratio 6
Table 4: Qualifications of Nurse Leaders 6
Table 5: Additional Specialists Employed by District 7
Table 6: Students with Specific Health Care Needs 7
Table 7: Student Diagnoses Responsible for Dietary Accommodations 8
Table 8: Emergency Medication Administration 9
Table 9: Number of Nurse Hours/Week Spent on Specific Health Interventions 9
Table 10A: Types of Procedures Performed by Connecticut School Nurses: Public Schools 10
Table 10B: Types of Procedures Performed by Connecticut School Nurses: Private, Non-Profit Schools 10
Table 11: Percentage of Students Returned to Classroom 11
Table 12: Reason for Dismissal 11
Table 13: Dismissal Destination 12
Table 14: 911 calls in Public, and Private Non-Profit, Schools 12
Table 15: Frequency of Provision of Health Care Management Services 13
Table 16: Computer Software Use 13
Table 17: Existence of Specific Activities 13
Table 18: Collaboration of School Health Services Staff with Colleagues 14

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

Date: October, 2011

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 2010-2011 academic year. This is the eighth 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 administration. 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 seven previous survey administrations were also available for downloading on the EDUCATION CONNECTION Web site.

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

The CSDE mailed a letter of intent to each Superintendent of Schools in Connecticut informing them that the Coordinator of School Health Services in the district, or the equivalent, would shortly be receiving a letter requesting that they complete the survey. The Coordinator of School Health Services received a letter directing him or her to the EDUCATION CONNECTION Web site for survey completion.
The CSDE and EDUCATION CONNECTION responded to questions and concerns regarding the survey as they arose. A total of 169 questionnaires were distributed. 148 responses were received in time to be analyzed, yielding a response rate of 88 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 2010-2011, 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 forty one 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 398,401.

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	114	329008	19948	6.1%	96	18572	219	1.2%
Pediculosis Screening	126	346703	64346	18.6%	107	58924	2638	4.5%
Nutrition Screening	113	323005	2577	0.8%	96	2436	301	12.4%
Mental Health Consultation	112	310322	7617	2.5%	100	7219	1867	25.9%
Dental Screening	117	325777	23715	7.3%	96	23314	4926	21.1%
Total			**118203 screenings**				**9951 referrals**	
Mandatory Services								
Vision					136	381635	23762	6.2%
Scoliosis					130	376638	4370	1.2%
Hearing					133	387493	2936	0.8%
Mandated Health Assessments					124	362328	12538	3.5%
Total							**43606 referrals**	

The optional service provided most frequently by Connecticut districts was pediculosis screening. In 2010-2011 18.6 percent of public school students in reporting districts received pediculosis screenings compared to 0.8 percent of students who received nutrition screenings. Mental health and dental screenings were the optional services most likely to result in a referral. Over twenty percent of students who received these screenings were referred to an outside provider for further assistance. Additionally, 12 percent of students who received nutrition consultations were referred to an outside provider.

In 2010-2011, 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 118,203 screenings. These voluntary screenings resulted in 9951 referrals, highlighting the need for screening services in Connecticut schools.

Results were similar for mandatory screenings. In 2010-2011, mandatory screenings in the responding districts resulted in 43,606 referrals to outside providers. Over half of all referrals were for vision. About 6 percent of vision screenings resulted in a referral.

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

Note: In Table 1B, percentages were calculated ONLY for districts for which all data was available. The total number of students reported by the districts varies by category and is dependent upon whether other data necessary to calculate percentages was provided. Participating districts reported a total of 35,772 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	46	31578	3375	10.7%	44	2873	10	0.3%
Pediculosis Screening	50	33235	12237	36.8%	49	12231	488	4.0%
Nutrition Screening	45	31273	130	0.4%	45	130	22	16.9%
Mental Health Consultation	46	31578	348	1.1%	46	348	145	41.7%
Dental Screening	45	31273	1721	5.5%	45	1721	419	24.3%
Total			**17811 Screenings**				**1084 referrals**	
Mandatory Services								
Vision					53	34691	1948	5.6%
Scoliosis					49	33446	403	1.2%
Hearing					50	33445	221	0.7%
Mandated Health Assessments					46	31871	1302	4.1%
Total							**3874 referrals**	

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 2010-2011, 36.8 percent of private, non-profit school students served by reporting districts received pediculosis screenings while .4 percent received nutrition screenings. Approximately 24 percent of dental consultations, 17 percent of nutrition screenings and 42 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	105.6	7.9%
	School Nurses	890.75	66.8%
	Nurse Practitioners	9	0.7%
	Permanent Float Nurses	26.3	2.0%
	One-to-One Nurses	40	3.0%
	Contracted Nursing Staff	84	6.3%
Total Registered Nurse Staff	**All RN Classifications**	**1155.65**	**86.7%**
Nursing Support	Licensed Practical Nurses	39.3	2.9%
	Health Aide	83.35	6.3%
	Nursing Clerk or Other Support Staff	54.2	4.1%
Total Nursing Support Staff	**All Support Classifications**	**176.85**	**13.3%**
Total Staff	**All Classifications**	**1332.5**	**100.0%**

About 8 percent of full-time equivalent school health services staff are designated as nurse leaders. Another 78 percent of FTE staff are registered nurses who do not work in a leadership capacity. The remaining thirteen percent are classified as nursing support staff.

II. Additional Staff:

District Medical Advisor:

One hundred twenty seven responding districts received services from a medical advisor. Of these, approximately 91% received services less 10 hours per month. Eight 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 29%
- Family Medicine 33%
- General Medicine 10%
- Internal Medicine 8%
- Orthopedics 0%
- Pediatrics 56%
- Public Health 5%
- Sports Medicine 5%
- Other 12%

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

District Dental Services:

Results indicate that a majority (77 percent) of Connecticut districts do not provide dental services to their students. Among districts providing these services, 25 percent received services from a dentist and 75 percent received services from a dental hygienist.

III. Staffing Levels:

Eighty four percent of responding districts reported having a nurse leader designee who is a nurse. Responding districts also reported a total of 1085 Full-Time Equivalent (FTE) registered nurses and 191 FTE nursing support staff in 2010-2011.

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	73.0%	24.6%	2.5%
Secondary nurse-to-student ratio in district	32.2	47.9	19.8

A majority of Connecticut schools meet national guidelines that recommend a school district have a nurse-to-student ratio of no less than 1 nurse to 750 students. However, survey results suggest that 1 in 5 secondary level schools in Connecticut may not meet this guideline.

IV. Staff Qualifications:

Table 4: Qualifications of Nurse Leaders
Percent Response

	Number of Respond-ents	Diploma Registered Nurse	AD	Other Associates Degree	BS in Nursing	Other Bachelor's degree	MS in Nursing	MPH
Nurse Leader 1	117	16.2%	9.4%	0.0%	53.8%	2.6%	11.1%	6.8%
Nurse Leader 2	12	16.7	0.0	0.0	58.3	0.0	8.3	0.0
Nurse Leader 3	4	0.0	0.0	0.0	50.0	0.0	25.0	25.0
Nurse Leader 4	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Nurse Leader 5	2	0.0	0.0	0.0	100.0	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	12.3%
Mental Health Consultant	49.6
Psychiatrist	18.6
Assistive Technology Specialist	38.8
Other	23.9

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

Student Health in Connecticut School Districts

Participating districts provided data on a wide range of topics related to student health. The 2010-2011 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	2214	232	2446
Food (Life threatening only)	10627	1394	12021
Latex/Environmental Allergy	10709	1262	11971
Arthritis	431	40	471
Asthma	48736	4026	52762
Autism Spectrum Disorders	4710	174	4884
ADHD/ADD	17394	1123	18517
Depression	4565	276	4841
Eating Disorders	631	67	698
Other Behavioral/Emotional Conditions	7543	535	8078
Hemophilia	184	17	201
Sickle Cell Trait	382	20	402
Other Blood Dyscrasias	827	110	937
Cancer	355	27	382
Cardiac Conditions	1964	204	2168
Cerebral Palsy	804	17	821
Developmental Delays	5857	342	6199
Diabetes Type I	1064	75	1139
Diabetes Type II	283	29	312
Lyme Disease	1151	128	1279
Migraine Headaches	3107	313	3420
Neurological Impairment	2466	167	2633
Other Health Impairment	7207	461	7668
Oral Health Needs	5132	146	5278
Orthopedic Impairment	2972	230	3202

Health Condition	Public School Students	Private, Non-Profit School Students	Total Number of Students
Seizure Disorder	2524	213	2737
Speech Defects	9054	255	9309
Severe Vision Impairment	1162	90	1252
Severe Hearing Impairment	1591	138	1729
Spina Bifida	152	3	155

Connecticut school nurses provide services to students with a wide range of physical and emotional health needs. As with previous years, the most prevalent conditions reported among public school students during 2010-2011 were asthma, latex/environmental and food allergies, ADHD/ADD and other behavioral/emotional conditions and speech defects. Results from private, non-profit schools were similar with the most prevalent conditions including asthma, latex/environmental and food allergies, and ADHD/ADD. This was the third year for which data on Lyme disease was collected. A total of 1279 students were reported to have Lyme disease in participating schools.

In the one hundred and twenty six districts who responded to the question, there were 9293 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 seven 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	92.2%
Seed allergies	64.1
Shellfish allergies	84.9
Milk allergies	93.0
Peanut allergies	94.5
Egg allergies	86.5
Fish allergies	76.9
Wheat allergies	80.0
Soy allergies	71.4
Other allergies	73.5%
Diabetes	81.6
Celiac disease	73.9
Lactose intolerance	91.3
Other food intolerances	69.4
Other diagnoses	37.6

Other diagnoses described by school health service staff are in the Appendix. 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	2.4%
Diastat	18.0
Epinephrine	37.3

Three districts reported the use of glucagon, 18 percent reported the use of diastat and approximately one third reported the use of epinephrine during the past year.

In the 127 responding Connecticut schools, 110 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 peanut allergies, and bee stings. Descriptions of the reasons for use of epinephrine provided by respondents are in the Appendix.

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 Districts Responding	Mean Number of Hours Per Week	Total Nurse Hours Per Week Reported
Routine nursing intervention	131	27.8	3645.2
Referrals to health care provider	131	3.1	403.6
Administration of daily medication	131	4.2	545.4
Administration of as-needed medication	131	4.2	555.8
Performance of special health care procedures	130	3.5	450.3
Monitoring of health care needs	130	10.0	1306.0
Case management	129	4.1	535.2
Mental health counseling	129	4.2	541.0

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 four hours per week conducting mental health interventions during 2010-2011.

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	89.1%
Catheterizations	28.2
Gastrostomy Tube Feedings	50.0
Insulin Pump Management	77.3
IV Therapy	5.0
Nasogastric Tube Feedings	9.0
Nebulizer Treatments	96.1
Ostomy Care	20.7
Oxygen Therapy	23.6
Suctioning	32.2
Tracheostomy Care	19.8
Ventilator Care	7.5
Other Treatments	19.6

All other treatments described by respondents provided by participating districts are listed in the Appendix. These other treatments include 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: nebulizer treatments (96.1 percent), blood sugar testing (89.1 percent), and insulin pump management (77.3 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	52.9%
Catheterizations	2.1
Gastrostomy Tube Feedings	4.3
Insulin Pump Management	44.0
IV Therapy	2.1
Nasogastric Tube Feedings	2.2
Nebulizer Treatments	73.5
Ostomy Care	4.3
Oxygen Therapy	4.3
Suctioning	2.1
Tracheostomy Care	0.0
Ventilator Care	0.0
Other Treatments	8.7

Respondents serving private, non-profit schools most frequently reported the provision of nebulizer treatments (67 percent); blood sugar testing (40 percent); and insulin pump management (33 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%	1.5%
26-50%	0.0
51-75%	10.6
76-100%	87.9

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

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	85.1%	87.7%
Injury	8.3	8.1
Other	5.3	4.4

Most student dismissals among both public school students and private, non-profit school students were because of illness during 2010-2011. Approximately 1 in 10 dismissals in both public schools and private, non-profit schools was due to injury.

Table 13: Dismissal Destination
Average Response

Dismissal Destination	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Home	91.4%	92.7%
Emergency Room	1.8	1.7
Other Healthcare Provider	6.1	6.6

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

Other Factors Impacting Student Health:

One hundred and one participating districts provided information on the number of public school students without health insurance coverage. In responding districts, 4842 students had no health insurance during 2010-2011.

Forty three districts that serve private non-profit school students provided information on the number of private non-profit school students without health insurance coverage. Of students in these schools, 110 students were uninsured during 2010-2011.

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

	Public Schools	Private, Non-Profit Schools	Total
Number of students in responding districts	382,995	157,925	540,920
Number of 911 Calls per 1,000 Students per Year	3.0	.6	3.6
Total number of 911 calls	1130	91	1221

One hundred twenty six districts reported the number of 911 calls made in public schools and 49 districts reported the number of 911 calls made in private, non-profit schools during the 2010-2011 school year. About three 911 calls were made for every 1,000 students in the public schools. Fewer calls per student were made in the private, non-profit schools.

Sixty percent of respondents identified injuries as the most common reason for 911 calls. “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:	**Never**	**Sometimes**	**Always**
Development of Individual Health Care Plan	0.0%	24.4%	75.6%
Development of Individual Emergency Plan	0.0	13.7	86.3
Development of 504 Plan	.8	46.2	52.3
Staff Training to Meet Individual Student Health Needs	0.8	17.7	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 14 percent to 46 percent. Data suggest that approximately one third of Connecticut districts are providing services on an inconsistent basis. The service most frequently provided "*sometimes*" was the development of 504 plans.

Eighty five 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	17.3%	60.7%
SNAP	40.9	26.8
Health Master	5.5	5.4
School Nurse Manager	0.0	0.0
Other district wide data program	36.2	7.1

The software systems most commonly used in participating districts to collect student health information was SNAP. However, it noted that almost two thirds of private, non-profit school districts and one fifth of public schools have no software system in use.

Table 17: Existence of Specific Activities
Percent Response

My district has:	**Yes**
School Health Team	70.0%
Automatic External Defibrillator Program	93.9

Survey results indicate that 70 percent of Connecticut school districts have a school health team. The majority of respondents (94 percent) reported having an Automatic External Defibrillator program in place during 2010-2011.

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

Staff	Percent That Col-laborate
Physical Education Staff	82.9%
Health Education Staff	76.2
Mental Health or Social Services Staff	80.2
Nutrition of Food Service Staff	76.4
School Health Council, Committee or Team	68.5

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 Col-laborate
Alcohol or other drug use prevention	52.1%
Asthma	73.8
Emotional and mental health	63.1
Foodborne illness prevention	44.2
HIV prevention	36.7
Human sexuality	51.2
Injury prevention and safety	76.0
Physical activity and fitness	71.8
Pregnancy prevention	33.1
STD prevention	32.5
Suicide prevention	38.3
Tobacco-use prevention	42.9
Violence-prevention (e.g. bullying, fighting, homicide)	61.5

School health service staff collaborate with other school staff to implement a variety of programs. The most common collaborations involve asthma and physical activity and fitness programs. Health services staff collaborate less frequently with others to develop programs in foodborne illness, pregnancy/STD prevention, suicide prevention and tobacco-use 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	14.1%	71.1%	14.1%	.8%
Human Sexuality Education	24.6	54.8	19.0	1.6
Disease Prevention	10.7	56.5	32.1	.8
Injury Prevention	14.0	60.5	24.8	.8
Substance Abuse Prevention	37.3	53.2	7.9	1.6
Other	41.5	32.3	9.2	16.9

School health service staff describe themselves as sometimes involved in teaching a variety of specific content areas. Other content areas taught by school health service staff are listed in the Appendix and 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	11.5%	5.3%
B	13.8	12.4
C	18.4	17.8
D	18.4	14.2
E	12.6	20.7
F	6.9	10.1
G	13.8	10.1
H	3.4	5.3
I	1.1	4.1

Respondents represented all DRGs in Connecticut. Percentages of respondents from each DRG are 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	10.6%
Suburban	59.3
Rural	30.1

Over half of respondents represented suburban districts. Eleven percent of respondents were urban districts and slightly less than one third are rural districts.

Ninety-three percent of all respondents were public school districts. Two percent were charter schools and 6 percent were Regional Educational Service Centers.

125 respondents responded that they provided services to public schools and 51 districts percent 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

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

I. Health Services Provided to Students in the District:

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

- Completion of voluntary screenings on an as-needed or occasional basis.
- Provision of dental care or screenings by school districts
- An increased need for mental health/social workers to address the needs of students with behavioral health issues.
- Parental difficulties in paying for necessary health care even when health insurance is available.
- A need for increased health care services in the private, non-profit districts.
- Need for dental and eye care.

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

- Increased availability of substitutes for school nurses.
- Resources to promote more health and wellness programs.
- Consistency and revisions of policies as necessary.
- Support for certification of school nurses to ensure quality health services
- More funding for school health services, especially in private schools
- Increase in the number of mandatory screening programs.

II. Student Health

The concerns most frequently mentioned by respondents included:

- High incidence of students with asthma
- Continually increasing complexity of student health care needs
- Increased number of students with mental health issues such as ADHD, stress, anxiety, ineffective coping skills, and social/emotional issues
- Increased incidence of diabetes and obesity
- Students come to school ill and the school nurse is the first medical contact
- Students without the ability to pay for health care due to cost of co-pays, even when insurance is available.

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

- Continued promotion of healthy lifestyles among students by providing educational programs in healthy eating, stress management, pregnancy prevention, substance abuse, and STD/HIV prevention.
- Increased time mandated for physical education
- Professional development opportunities regarding health issues
- Increased funding to support school health services
- More nutritious school meals and funding for nutritional education to combat obesity.

III. Health Coordination/Education

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

IV. Staffing of Health Services in Districts:

Districts commented freely on the staffing of health services in their districts. 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 be able to serve an increasing number of students with complex medical health needs or mental health issues. A number of respondents cited the current economic climate as negatively impacting the staffing of school health services. A few respondents stated a concern with the need for staffing to be based on acuity as well as number of students. 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 cited the following needs:

- Mandate of a state nurse-to-student ratio but with allowance for students with complex medical needs.
- State certification of school nurses
- Increased staffing to address growing numbers of students with complex medical needs.
- Continued promotion of the current role of school health services and health services staff among school administrators, boards of education, and others.
- Development of strategies to improve access to substitute nurses
- Increased funding earmarked specifically for nurse staffing

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;
- An excellent response rate of 88 percent;
- Eight 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 high percentage of districts who 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 8 years of data collection.

Conclusions

Overall, school health services staff appear to have a positive perception of the status of health services in Connecticut districts. As with previous years, survey respondents were generally positive as indicated by the quantitative survey results and the number of comments on the survey. Data resulting from the eighth 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 10000 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 2010-2011;
- In general, nurse-to-student ratios decrease as grade levels increase. About 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 mental health consultants and assistive technology specialists.
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions;
- Connecticut districts have over 9000 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.
- Connecticut nurses spend an average of 28 hours per week on routine nursing interventions.
- Connecticut districts are providing a wide range of treatments for students with special needs. These procedures are less likely to be provided in the private, non-profit school setting;
- Districts report a need for more mental health services and programs that promote a healthy lifestyle;
- One thousand two hundred and twenty one 911 calls were made in public and private, non-profit schools during 2010-2011.
- In responding districts, 4842 public school students and 110 private school students were uninsured during 2010-2011.
- A wide variety of software is used by Connecticut districts to collect and record school health information. Almost 1 in 4 responding public districts and 3/5 responding private, non-profit districts reported having no software;
- The majority of Connecticut school health staff report some involvement in teaching activities; and
- Districts provided a wide range of suggestions of services that would increase district satisfaction with the provision of health services to students. District suggestions include fiscal and non-fiscal resources, information on available resources, communication with state agencies and training for staff.

Recommendations for Future Data Collection

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

- Survey data collection provided excellent information regarding a wide range of issues related to school health services. There were no substantive complaints or concerns mentioned by respondents regarding survey data collection. However, it is noted that during 2010-2011 the response rate increased notably indicating that the slightly briefer survey and the survey monkey format were positively received by respondents.
- The use of numerical data regarding numbers of students and referrals requires the districts provide information in each category to allow for accurate calculations of percentages between categories. To maximize the accuracy of the information provided, it is critical that a high response rate be achieved for survey completion and that respondents complete each question on the survey. During 2010-2011, an 88 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.

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