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, 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 Department 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 Connecticut State Department of Education commissioned 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 State Department of Education with Dr. Mhora Newsom-Stewart, Director of the Center for Collaborative Evaluation and Strategic Change at EDUCATION CONNECTION. Dr. Newsom-Stewart has fifteen years experience in the development and implementation of evaluation and planning processes in educational organizations. Dr. Newsom-Stewart developed the survey for data collection after a review of the professional literature related to school health services. The Connecticut State Department of Education and the Connecticut State Health Records Committee assisted Dr. Newsom-Stewart to adapt the survey development process as necessary to meet the needs of school districts and the Connecticut State Department of Education.

Dr. Cheryl Resha and the Connecticut State Health Records Committee 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 Connecticut State Health Records Committee 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 website 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 (SPSS). Frequencies and means were obtained on all data as appropriate.

Profile of Districts Who Participated in the Data Collection Process:

A total of one hundred sixty nine (169) questionnaires were distributed with one hundred twenty-three (123) received in time to be analyzed, yielding a response rate of seventy three percent (73%).

The majority of respondents (95%) were public school districts, while 4% of respondents represented Regional Educational Services Centers (RESCs). Almost half (49%) of respondents represented suburban districts, 38% represented rural districts, and 13% represented urban districts. Almost all (97%) respondents provided services to public schools and about forty four percent (44%) provided services to private, non-public schools.

School Health Services Conclusions and Recommendations:

Overall, school health services staff appear to have a positive perception of the status of health services in Connecticut districts. Survey respondents were generally positive as indicated by the quantitative survey results and the number of comments on the survey. Data resulting from the fifth year of survey administration were examined by the Connecticut State Department of Education 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 over eighteen thousand referrals to outside providers. These numbers suggest a high need for and interest in screenings in these areas.
- Students in private, non-profit schools served by responding districts were less likely than their public school counterparts to receive optional services.
- The majority of nursing staff and medical advisors in participating districts are funded by the Boards of Education.
- In general, nurse-to-student ratios decrease as grade levels increase. Almost 30% of secondary schools have only one nurse to more than 750 students.
- A relatively high percentage of districts have fewer than one FTE registered nurse in each school. The percentage of private non-profit schools with fewer than one FTE is much higher than the percentage of public schools with less than one FTE.
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions.
- Connecticut districts are providing a wide range of treatments for students with special needs. These procedures are less likely to be provided in the private, non-profit school setting.
- Districts report a need for more mental health services and more programs that promote a healthy lifestyle.
- An average of 5% of public school students did not have health insurance in reporting districts.
- A wide variety of software is used by Connecticut districts to collect and record school health information. One out of five responding districts reported having no software. .
- Almost eighty percent of participating districts reported using computer software to collect and record school health information. Over a third of responding districts reported using SNAP.
- Districts provided a wide range of suggestions of services that would increase district satisfaction with the provision of health services to students. District suggestions include fiscal and non-fiscal resources, information on available resources, communication with state agencies and training for staff.

Future Data Collection Conclusions and Recommendations:

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

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Date: January, 2009

Introduction

EDUCATION CONNECTION submits this report to the Connecticut State Department of Education in fulfillment of the task to collect survey data to assist the State Department of Education to identify the status of school health services in Connecticut. Survey results will be 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 Connecticut State Department of Education. This report summarizes the results of data collection for the 2007-2008 school year. This is the fifth 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 2003-2004 report and will not be repeated here. The concepts outlined in this review of the literature were used to guide and focus data collection efforts and include the following:

Academic Performance and Health

- Nutrition
- Physical Health
- Mental Health
- Vision Care
- Oral Health
- Absenteeism Rates
- Access to Health Care and Coverage

Status of School Health Services

- Staffing
- Medication Administration
- Computer Software Available
- Role of School Health Services
- Guidelines and Ratios
- Health Care Provision in School Districts
- Effectiveness of School Health Services

Status of Student Health

- Alcohol & Drug Use
- Injury & Violence (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 2003-2004 report and will not be repeated here. Based on results of the 2006-2007 survey administration, several changes were made in the number and type of questions in the 2007-2008 survey. The Connecticut State Department of Education and the Connecticut State Health Records Committee assisted Dr. Newsom-Stewart of EDUCATION CONNECTION to adapt the survey as necessary to meet the needs of school districts and the Connecticut State Department of Education.

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
  - Sources of funding for health services staff
  - Nurse/Student ratios
  - Qualifications of staff
  - 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
- Teaching techniques used by health services staff when teaching health topics
- Software available to support health service data collection
- Demographic information including:
  - District Reference Group (DRG)
  - Type of District
    - Rural/Urban/Suburban
    - Private/Public/Regional Educational Service Center
  - Types of schools to which the district provides health services
  - Name and identification of district
  - 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 website to increase ease of completion. Survey directions, sources of data necessary for survey completion, and results of the four previous survey administrations were also available for downloading on the EDUCATION CONNECTION website.

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

The State Department of Education mailed a letter of intent to each Superintendent of Schools in Connecticut informing that individual 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 website for survey completion.

The Connecticut State Department of Education and EDUCATION CONNECTION responded to questions and concerns regarding the survey as they arose. A total of 169 questionnaires were distributed. One hundred twenty-three responses were received in time to be analyzed, yielding a response rate of 73%.

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 2007-2008, districts reported information for public schools and private non-profit schools separately for a variety of topics. Results are reported separately for public and private non-profit schools as appropriate.

Services Provided in Connecticut School Districts

Table 1A: Public School Students Receiving Services as Percent of Total

Note: For the table below, percentages were calculated ONLY for districts for which all data is available. Therefore, the total number of students reported by the districts varies by category and is dependent upon whether other data necessary to calculate percentages was provided. The total number of public school students reported by participating districts is 397,073.

Health 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 Students Referred to Outside Provider	Percent of Students Receiving Service Referred to Outside Provider
Optional Services					
Body Mass Index Screening	339,819	41,463	12.2%	2,036	4.9%
Pediculosis Screening	355,704	74,963	21.1	4,225	5.6
Nutrition Screening	358,837	5,467	1.5	841	15.4
Mental Health Consultation	349,751	14,425	4.1	4,425	30.7
Dental Screening	335,293	19,156	5.7	6,619	34.6
Total		**155,474 screenings**		**18,146 referrals**	
Mandatory Services					
Vision	393,309			22,859	5.8%
Scoliosis	391,641			3,725	1.0
Hearing	391,964			4,288	1.1
Mandated Health Assessments	357,317			13,019	3.6
Total				**43,891 referrals**	

The optional service provided most frequently by Connecticut districts was pediculosis screening. In 2007-2008, 21% of public school students in reporting districts received pediculosis screenings compared to 1.5% of students who received nutrition screenings. Mental health consultations were the optional service that was most likely to result in a referral. Over a third of students who received a mental health consultation were referred to an outside provider for further assistance.

In 2007-2008, the number of students provided optional services by participating districts was relatively small compared to the total number of students. Data suggest that many Connecticut school districts do not have optional services or offer them only on a very limited basis. Participating districts voluntarily provided 155,474 screenings. These voluntary screenings resulted in 18,146 referrals, highlighting the need for screening services in Connecticut schools.

Results were similar for mandatory screenings. In 2007-2008, mandatory screenings in the responding districts resulted in 43,891 referrals to outside providers. More than half of all referrals were for vision. About 6% 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. Fifty-seven participating districts reported a total of 33,346 private, non-profit school students.

Health Service	Total Number of Private, Non-Profit School Students Reported by Participating Districts	Number of Students Receiving Service Reported by Participating Districts	Percent of Students Receiving Service	Number of Students Referred to Outside Provider	Percent of Students Receiving Service Referred to Outside Provider
Optional Services					
Body Mass Index Screening	28,473	1,975	6.9%	68	3.4%
Pediculosis Screening	24,572	4,364	17.8	122	2.8
Nutrition Screening	29,268	51	0.2	15	29.4
Mental Health Consultation	30,172	529	1.8	155	29.3
Dental Screening	29,007	732	2.5	123	16.8
Total		**7,651 screenings**		**483 referrals**	
Mandatory Services					
Vision	31,721			1,187	3.7%
Scoliosis	31,307			254	1.0
Hearing	30,430			208	0.7
Mandated Health Assessments	23,749			933	3.9
Total				**2,582 referrals**	

Overall, students in private, non-profit schools were less likely than their public school counterparts to receive optional services. Like public school students, students in private, non-profit schools received the optional services of pediculosis screening most frequently and nutrition screening least frequently. In 2007-2008, 17.8% of private, non-profit school students served by reporting districts received pediculosis screenings while 0.2% received nutrition screenings. Approximately 30% of mental health consultations resulted in a referral.

Staffing of Health Services in Connecticut School Districts

I. Nursing Staff:

Table 2: Numbers and Funding Sources of Staff

Nursing Staff Classification	Total Number of Staff in Participating Districts (FTE)		Percent Funded by Board of Health	Percent Funded by Board of Education	Percent Funded by Public Health/VNA
Nurse Leaders	81.3		13.5%	76.4%	10.1%
School Nurses	784.9		20.4	73.1	6.5
Nurse Practitioners	22		9.1	77.3	13.6
Permanent Float Nurses	23.6		12.7	70.3	16.9
One-to-One Nurses	47.3		33.9	51.3	14.8
Contracted Nursing Staff	61.4		11.4	77.2	11.4
Licensed Practical Nurses	69.8		20.1	65.6	14.3
Nurse Aides	145.3		29.8	41.6	28.6
Nursing Support Staff	68.7		22.1	64.7	13.1

Connecticut school districts fund their nursing staffs through a variety of sources. Results indicate that the majority of nursing staff are funded by the Board of Education.

II. Additional Staff:

District Medical Advisor:

Almost ninety percent of responding districts received services from a medical adviser less than ten hours per month. Five percent of districts reported receiving services from a medical adviser 11-20 hours per month, and 6% reported receiving more than 20 hours per month.

Almost nine in ten district medical advisers were funded by the Board of Education; 5% were funded by the Board of Health; and 7% were funded through other sources. No districts reported funding their medical adviser through the Public Health or Visiting Nurses Association (VNA) or through grants.

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

- Adolescent Health 22%
- Family Medicine 31%
- General Medicine 14%
- Internal Medicine 8%
- Orthopedics 1%
- Pediatrics 58%
- Public Health 6%
- Sports Medicine 2%
- Other 7%

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

District Dental Services:

Results indicate that a majority (76%) of Connecticut districts do not provide dental services to their students. Among districts providing these services, 14% received services from a dentist and 86% received services from a dental hygienist. For participating districts providing dental services, funding sources are listed in Table 3.

Table 3: Funding Sources for District Dental Services
Percent Response

Funding Source	Percent of Districts
Board of Education	13.6%
Board of Health	9.1
Public Health/VNA	4.5
Grant	40.9
Other	31.8

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 924 Full-Time Equivalent (FTE) registered nurses and 267 FTE nursing support staff in 2007-2008.

Staffing by Grade Level and School:

Table 4: 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	71.7%	27.4%	0.9%
Secondary nurse-to-student ratio in district	27.7	44.6	27.7

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

Table 5: Full Time Nurses by School
Percent Respondents

	<1 FTE	1 FTE	>1-2 FTE	>2 FTE
RNs in each public school	19.1%	65.5%	14.5%	0.9%
RNs in each private school	58.2	37.3	3.0	1.5
LPNs in each school	86.5	11.5	1.9	0.0

Results indicate that approximately 80% of Connecticut school districts have at least one FTE registered nurse in each public school. However, over half of participating districts reported having less than one FTE registered nurse in each private school. Almost nine in ten districts have less than one FTE licensed practical nurse in each school.

IV. Staff Qualifications:

Survey results indicate that Connecticut school districts employ nurses with a wide range of qualifications. A summary of nurse qualifications reported by participating districts is in Table 6.

Table 6: Qualifications of District Nurses

Highest Level of Educational Attainment	Total Number of Staff Reported
Diploma Registered Nurses	254
RNs with AD/AS degree	129
RNs with BS in Nursing	469
RNs with another Bachelor's degree	52
RNs with MS in Nursing	50
RNs with MPH	10
RNs with MA in Education	12
RNs with another Master's degree	40
RNs with a Doctoral degree	3
RNs with other degree	8

The majority of Connecticut school nurses have a BS in Nursing, are Diploma Registered Nurses, or are Registered Nurses with an AD/AS degree. However, districts also reported having registered nursing staff with a variety of other degrees including a Master of Science in Nursing, a Master of Art in Education, or other Master or Bachelor degrees.

Table 7: Qualifications of Nurse Leaders
Percent Response

	Diploma Registered Nurse	AD	Other Associates Degree	BS in Nursing	Other Bachelor's degree	MS in Nursing	MPH
Nurse Leader 1	17.0%	16.0%	0.0%	37.2%	7.4%	16.0%	6.4%
Nurse Leader 2	0.0	12.5	0.0	50.0	0.0	25.0	12.5

Districts reported the qualifications of each nurse leader in their district. Districts with more than one nurse leader reported additional qualifications under Nurse Leader 2 above. The most prevalent degree among nurse leaders was a BS in Nursing; at least 37% of districts reported having a nurse leader with a BS in Nursing. Another 49% of districts reported having nurse leaders who were Diploma Registered Nurses or hold an MS or AD/AS in Nursing.

Table 8: Additional Specialists Employed by Districts
Percent Response

Specialist	Yes
Nutritionist	12.3%
Mental Health Consultant	54.1
Psychiatrist	21.7
Assistive Technology Specialist	50.5
Other	35.0

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.

A comparison of the services provided to students with the types of specialists employed by districts indicates that the vast majority of optional services are provided by districts that employ particular specialists. Specifically, 82% of nutrition screenings are performed in districts that employ a nutritionist while only 18% are performed in districts that do not employ a nutritionist. Similarly, 73% of mental health consultations are performed in districts that employ a mental health consultant and/or a

psychiatrist. Only 27% of mental health consultations are performed in districts that employ neither of these types of specialists.

Student Health in Connecticut School Districts

Participating districts provided data on a wide range of topics related to student health. The 2007-2008 survey collected information on the health care needs of students in private, non-profit schools and public schools served by participating districts. Sixty-one responding districts served students in private, non-profit schools.
Results are summarized below. It should be noted that the per item response rate to this section was lower than that of the overall survey, ranging from 96-116 respondents per item for public school students and 47-58 respondents per item for private, non-profit school students.

I. Student Health Care Needs:

Table 9: Number of Students with Specific Health Care Needs

Health Condition	Public School Students	Private, Non-Profit School Students	Total Number of Students
Bee String	3,443	391	3,834
Food (Life threatening only)	7,964	1,159	9,123
Latex/Environmental Allergy	10,613	1,155	11,768
Arthritis	510	153	663
Asthma	51,742	3,554	55,296
Autism Spectrum Disorders	3,658	377	4,035
Hemophilia	214	115	329
Sickle Cell Trait	525	116	641
Other Blood Dyscrasias	760	185	945
Cancer	371	119	490
Cardiac Conditions	2,008	254	2,262
Developmental Delays	6,605	449	7,054
Diabetes Type I	1,167	178	1,345
Diabetes Type II	1,537	128	1,665
Migraine Headaches	9,749	409	10,158
Cerebral Palsy	995	129	1,124
Spina Bifida	227	105	332
Seizure Disorder	2,620	283	2,903
Speech Defects	8,505	527	9,032
Severe Vision Impairment	1,161	160	1,321
Severe Hearing Impairment	1,682	198	1,880
Other Health Impairment	4,408	361	4,769
Oral Health Needs	4,183	278	4,461
Neurological Impairment	2,457	337	2,794

Health Condition	Public School Students	Private, Non-Profit School Students	Total Number of Students
Orthopedic Impairment	2,190	316	2,506
ADHD/ADD	16,488	1,096	17,584
Depression	3,482	397	3,879
Eating Disorders	755	168	923
Other Behavioral/Emotional Conditions	7,099	844	7,943

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 2007-2008 were asthma, latex/environmental and food allergies, and ADHD/ADD. In contrast to previous years, the fourth most prevalent condition reported during 2007-2008 was migraine headaches. Results from private, non-profit schools were similar with the most prevalent conditions including asthma, latex/environmental and food allergies, and ADHD/ADD. The fourth most prevalent condition for students in private, non-profit schools was "other behavioral/emotional conditions."

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 10: Percentage of Nurses' Time Spent on Specific Health Interventions

Health Intervention	Pct. of Time
Routine nursing intervention	46.0%
Referrals to health care provider	4.6
Administration of daily medication	6.5
Administration of as-needed medication	5.8
Performance of special health care procedures	6.3
Monitoring of health care needs	15.3
Case management	9.2
Mental health counseling	6.5

Almost half of the time of Connecticut school nurses' is spent on routine nursing interventions. Districts reported that nurses' time was also spent on activities including monitoring of health care needs, administration of medication, case management, mental health counseling, and performance of special health care procedures. Districts reported that nurses spent almost 7% of their time conducting mental health interventions during 2007-2008.

Table 11A: 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
Gastrostomy Tube Feedings	52.7%
Nasogastric Tube Feedings	8.2
Suctioning	35.4
Tracheostomy Care	25.0
Nebulizer Treatments	93.0
Blood Sugar Testing	89.6
Insulin Pump Management	86.1
Catheterizations	37.5
Ventilator Care	11.8
IV Therapy	8.3
Ostomy Care	22.0
Oxygen Therapy	31.2
Other Treatment	64.6

The majority of districts reported that school nurses perform a number of specific procedures within the public school setting. The most common procedures performed in districts included nebulizer treatments (93%), blood sugar testing (90%), and insulin pump management (86%).

Table 11B: 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
Gastrostomy Tube Feedings	5.8%
Nasogastric Tube Feedings	3.8
Suctioning	3.8
Tracheostomy Care	3.8
Nebulizer Treatments	69.2
Blood Sugar Testing	58.8
Insulin Pump Management	45.1
Catheterizations	7.8
Ventilator Care	2.0
IV Therapy	3.9
Ostomy Care	7.8
Oxygen Therapy	7.8
Other Treatment	36.5

Respondents serving private, non-profit schools most frequently reported performing nebulizer treatments (69%), blood sugar testing (59%), and insulin pump management (45%) in the private, non-profit schools they served. All procedures were less likely to be performed in the private, non-profit school setting than in the public school setting.

II. Impact of Nursing Interventions

Table 12: Percentage of Students Returned to Classroom Percent Response

Percentage of Students Returned Within One-Half Hour	Percent Response
0-25%	2.6%
26-50%	0.9
51-75%	8.8
76-100%	87.7

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

Table 13: Reason for Dismissal Average Response

Reason for Dismissal	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Illness	84.9%	82.7%
Injury	10.3	11.5
Other	4.9	5.6

Most student dismissals among both public school students and private, non-profit school students were because of illness during 2007-2008. Approximately 10% of dismissals were due to injury.

Table 14: Dismissal Destination Average Response

Dismissal Destination	% of Public School Students Dismissed	% of Private, Non-Profit School Students Dismissed
Home	92.8%	89.4%
Emergency Room	2.1	2.4
Other Healthcare Provider	5.1	8.2

Approximately ninety percent of students dismissed from school were sent home in both public schools and private, non-profit schools.

Other Factors Impacting Student Health:

Fifty-four participating districts provided information on the number of public school students without health insurance coverage. Approximately five percent (5%) of public school students in these districts had no health insurance during 2007-2008.

Twenty-three of the 57 responding districts that serve private non-profit school students provided information on the number of private non-profit school students without health insurance coverage. On average, 1.6% of private non-profit school students in these districts were uninsured during 2007-2008.

Table 15: 911 Calls in Public and Private, Non-Profit Schools

	Public Schools	Private, Non-Profit Schools	Total
Number of 911 Calls per 1,000 Students per Year	3.2	6.8	3.5
Total number of 911 calls	1151	211	1362

One hundred thirteen districts reported the number of 911 calls made in public schools and fifty districts reported the number of 911 calls made in private, non-profit schools during the 2007-2008 school year.

Two-thirds of respondents identified injuries as the most common reason for 911 calls. Anaphylaxis was reported as the second most common reason followed by seizure and "Other" reasons.

Respondents reported the number of students with life threatening food allergies who required the administration of epinephrine during the last school year. In responding districts, 159 children were reported to have received administration of epinephrine. Almost two-thirds of responding districts reported that no children required the administration of epinephrine. Twenty-six percent reported that 1 to 3 children required administration of epinephrine and 9% reported more than 3 children required epinephrine during 2007-2008.

Health Coordination/Education

Connecticut school nurses and their districts were involved in a variety of health coordination and educational activities. Specific information regarding these activities can be found in Tables 16 and 17.

Table 16: 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	2.5%	26.9%	70.6%
Development of Individual Emergency Plan	2.5	13.3	84.2
Development of 504 Plan	5.0	42.0	52.9
Staff Training to Meet Individual Student Health Needs	2.5	14.9	82.6

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 13% to 42%. Data suggest that approximately one quarter of Connecticut districts are providing services on an inconsistent basis. The service most frequently provided "sometimes" was the development of 504 plans.

Table 17: Involvement of School Health Staff in Health Coordination/Education Activities
Percent Response

Health Coordination/Education Activity	Yes	No	District Does Not Provide
Blood-borne Pathogen Exposure Plan	94.9%	4.2%	0.8%
Staff Wellness Programs	72.8	15.8	11.4
School-based Outreach to Enroll Students in HUSKY	69.2	23.4	7.5
Staff Education to Meet Health Program Needs	92.2	5.2	2.6

Health Coordination/Education Activity	Yes	No	District Does Not Provide
Indoor Air Quality Program	84.6	11.5	3.8
Maintenance of Health Room and Equipment	94.2	5.8	0.0
School Safety/Crisis Plan	97.5	2.5	0.0
PPT Process	95.8	4.2	0.0
Child Abuse Reporting and Prevention	100.0	0.0	0.0
504 Coordination	83.8	16.2	0.0

A majority of Connecticut school health staff were involved in health coordination and education activities. A number of districts reported that school health staff were not involved in staff wellness programs and school-based outreach to enroll students in HUSKY.

Table 18: Existence of Specific Programs
Percent Response

My district has:	Yes	No
School Health Teams	77.1%	22.9%
Automatic External Defibrillator Program	71.9	28.1

Survey results indicate that a majority of Connecticut school districts have a school health team. Almost 80% of districts reported that they have school health teams. Over seventy percent of respondents reported having an Automatic External Defibrillator program in place during 2007-2008.

Table 19: Public School Computer Software Use
Percent Response

Computer Software	Percent Response
None	20.5%
SNAP	31.6
Health Master	6.8
Other district-wide student data program	41.0

Almost one-third of all respondents reported using SNAP to collect student health information in their public schools. Forty-one percent use another district-wide student data program. One in five districts reported having no computer software available for their use.

Table 20: Private, Non-Profit School Computer Software Use
Percent Response

Computer Software	Percent Response
None	56.0%
SNAP	24.0
Health Master	6.0
School Nurse Manager	2.0
Other district-wide student data program	12.0

Among responding districts serving private non-profit schools, the majority reported that private non-profit schools had no computer software to collect student health information.

Table 21: 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**
Nutrition/Physical Activity	8.3%	79.2	12.5
Human Sexuality Education	14.2	62.5	23.3
Disease Prevention	3.3	57.0	39.7
Injury Prevention	6.7	61.3	31.9
Substance Abuse Prevention	18.3	70.8	10.8
Other	13.6	72.8	13.6

The majority of Connecticut school health staff had some involvement in teaching health during 2007-2009. Approximately 90% of staff reported involvement in teaching disease and injury prevention and nutrition and physical activity.

Table 22: Types of Teaching Techniques Used by Health Service Staff in Teaching
Percent Response

In my district, health service staff involved in teaching health promotion or health prevention use the following techniques:	**Never**	**Less Than or Equal to 25% of the Time but More Than Never**	**26-50% of the Time**	**51-75% of the Time**	**76-100% of the Time**
Individual Teaching	2.7%	22.5%	11.7%	17.1%	45.9%
Classroom Teaching Alone	53.6	34.8	6.3	2.7	2.7
Classroom Teaching with Educator	18.2	61.8	11.8	1.8	6.4
Program Management	36.2	47.6	9.5	1.0	5.7
Group Counseling	50.0	44.4	2.8	1.9	0.9
Other Teaching Technique	39.8	46.2	8.6	2.2	3.2

Health service staff reported the use of a variety of teaching techniques including individual teaching, classroom instruction, and program management and group counseling.

Eighty-five percent of responding districts reported that health service staff were involved in the development of Individual Education Plans.

Demographics

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

Table 23: District Reference Group (DRG) of Responding Districts
Percent Response

District Reference Group (DRG)	Percent
A	10.5
B	14.0
C	18.6
D	17.4
E	11.6
F	8.1
G	11.6
H	4.7
I	3.5

Respondents represented all District Reference Groups in Connecticut. Percentages of respondents from each DRG are reflective of the number of districts in the state from that DRG.

Table 24: Demographic Location of Responding Districts
Percent Response

Demographic Location	Percent
Urban	12.8%
Suburban	48.7
Rural	38.5

Almost half of respondents represented suburban districts. Thirteen percent of respondents were urban districts and over one third considered themselves to be rural districts.

Ninety-five percent of all respondents were public school districts. Four percent were Regional Educational Service Centers.

Ninety-seven percent of all respondents reported providing health services to public schools and 44% reported providing services to private, non-public schools.

Open-Ended Questions

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

I. Health Services Provided to Students in the District:

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

- An increased amount of time spent on issues related to emotional health.
- Use of nurse's office as a "primary site" for health care in some districts.
- An increased need for education relating to obesity, nutrition, and physical fitness.
- Need for access to dental and eye care services.
- An increased amount of time spent caring for students with complex medical needs.

Districts requested assistance from the Connecticut State Department of Education in a number of areas. Respondents commonly cited the following needs:

- Increased support for the provision of mental health and social services.
- Increased support for the provision of dental and eye care services.
- Assistance in creating lower nurse-to-student ratio to better serve students.
- Assistance in improving communication with physicians performing mandated physicals to improve compliance with state requirements.
- Educational resources relating to obesity, nutrition, and drug and alcohol abuse.
- Development of a handbook or manual that outlines standards and guidelines for nursing care of school children and also materials that can educate others as to the nature and complexities of a school nurses work and how the impact of health on student learning.

II. District Context in Cases in Which Epinephrine was Administered:

A number of districts described situations in which administration of epinephrine was required. The majority of incidents involved allergic reactions to foods. The food allergen named most frequently was nuts. Most incidents involved the accidental ingestion of a known food allergen.

III. Student Health

The concerns most frequently mentioned by respondents included:

- Increased asthma and allergy levels.
- Increased number of students with mental health issues such as stress, anxiety, ineffective coping skills, and social/emotional issues.
- Increased obesity levels and related poor nutrition and lack of exercise.

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

- Increased funding to support school health services.
- Increased access to mental health, dental, and eye care services.
- Increased time mandated for physical education and funding for after-school sports programs.
- More nutritious school meals and funding for nutritional education.
- Assistance in providing educational programs to promote lifelong health and wellness.

IV. Coordination of Health Services and Health Education

Comments varied as to the degree to which school nurses were involved in coordination and collaboration of health services. Comments suggested that low nurse-to-student ratios in some school districts negatively impact the amount of time available for nurses to be involved in education or coordination activities. Specifically, respondents expressed a need for increased communication and collaboration with other school staff in day-to-day student activities, health curriculum development, and IEP/PPT and 504 meetings. A few respondents positively commented on the current degree of nurse involvement in these areas.

V. Staffing of Health Services in Districts:

Districts commented freely on the staffing of health services in their districts. 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 few respondents stated a concern with the role of the nursing supervisor; either the nurse supervisor performs nursing duties and has little time to perform supervisory responsibilities or the role is being performed by someone who lacks knowledge of school nursing. Several respondents described a lack of substitute nurses.

Districts requested assistance from the Connecticut State Department of Education in a number of areas related to the staffing of health services in their districts. Respondents cited the following needs:

- Mandate of a state nurse-to-student ratio but with allowance for students with complex medical needs.
- Increased staffing to address growing numbers of students with complex medical needs.
- Higher pay scales to attract qualified staff, including substitute nurses.
- Promotion of the current role of school health services and health services staff among school administrators, boards of education, and others.

All open-ended comments have been provided to the Connecticut State Department of Education 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 sub-urban schools;
- An excellent response rate of 73%;
- Five years of data collection;

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

- Use of one survey data collection tool. There is no supporting data available from focus groups, interviews or other triangulated data collection methods.
- Changes in the data collection tool on a yearly basis to reflect the changes needs and interests of the Connecticut State Department of Education and participating districts. As a result of changes, some data can be tracked longitudinally. However, some data not available for each of the five 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. Survey respondents were generally positive as indicated by the quantitative survey results and the number of comments on the survey. Data resulting from the fifth year of survey administration were examined by the Connecticut State Department of Education 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 over eighteen thousand referrals to outside providers. These numbers suggest a high need for and interest in screenings in these areas.
- Students in private, non-profit schools served by responding districts were less likely than their public school counterparts to receive optional services.
- The majority of nursing staff and medical advisors in participating districts are funded by the Boards of Education.
- In general, nurse-to-student ratios decrease as grade levels increase. Almost 30% of secondary schools have only one nurse to more than 750 students.
- A relatively high percentage of districts have fewer than one FTE registered nurse in each school. The percentage of private non-profit schools with fewer than one FTE is much higher than the percentage of public schools with less than one FTE.
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions.
- Connecticut districts are providing a wide range of treatments for students with special needs. These procedures are less likely to be provided in the private, non-profit school setting.
- Districts report a need for more mental health services and more programs that promote a healthy lifestyle.
- An average of 5% of public school students did not have health insurance in reporting districts.
- A wide variety of software is used by Connecticut districts to collect and record school health information. One out of five responding districts reported having no software. .

Recommendations for Future Data Collection

A number of specific recommendations for the Connecticut State Department of Education to consider for future survey administration are as follows:

- Survey data collection provided excellent information regarding a wide range of issues related to school health services. There were no substantive complaints or concerns mentioned by respondents regarding survey data collection.
- The use of numerical data regarding numbers of students and referrals requires the districts provide information in each category to allow for accurate calculations of percentages between categories. To maximize the accuracy of the information provided, it is critical that a high response rate be achieved for survey completion and that respondents complete each question on the survey. During 2007-2008, a 73% response rate was achieved. It is recommended that future data collection continue to include activities designed to increase the overall survey response rate and ensure that all survey questions are completed by districts.
- Portions of the survey were modified significantly between 2006-2007 and 2007-2008. It is recommended that modified survey questions and instructions for completing those questions be reviewed for clarity.