



Connecticut State Department of Education

# Health Services Program Information Survey Report

February 5, 2008

Developed for:

**The Connecticut State Department of Education**

By

Dr. Mhora Newsom-Stewart, Director  
Collaborative Evaluation and Strategic Change

Contact:

**EDUCATION CONNECTION**

P.O. Box 909  
355 Goshen Road  
Litchfield, CT 06759-0909  
Phone: (860) 567-0863

Contact:

**Connecticut State Department of Education**

Dr. Cheryl Resha, Health Promotion Consultant  
Connecticut State Department of Education  
25 Industrial Park Road  
Middletown, CT 06457  
Phone: (860) 807-2108

## Executive Summary

### ***Background and Methodology:***

The Connecticut State Department of Education (CSDE), as part of its ongoing efforts to support and expand school health services provided to Connecticut students, has initiated the development of a data collection process for school health services. 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 CSDE 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 CSDE with Dr. Mhora Newsom-Stewart, Evaluation and Planning Specialist at EDUCATION CONNECTION. Dr. Newsom-Stewart has thirteen 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 CSDE 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 CSDE.

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. The survey may be found online at [www.educationconnection.org](http://www.educationconnection.org) in the subdirectory "Technology Services/Survey Services" or the CSDE website at <http://www.sde.ct.gov/sde/cwp/view.asp?a=2678&Q=320768&pm=1&sdePNavCtr=|45534|#45539>.

The survey was incorporated into the EDUCATION CONNECTION website to facilitate completion by respondents. The Coordinator of School Health 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 three (103) received in time to be analyzed, yielding a response rate of sixty one percent (61%).

The majority of respondents (97%) were public school districts, while 3% of respondents represented Regional Educational Services Centers (RESA). Half of respondents represented suburban districts. Thirty-seven percent represented rural districts, and 13% represented urban districts. All respondents provided services to public schools (100%), and about forty percent provided services to private, non-public schools.

### ***School Health Services Conclusions and Recommendations:***

Overall, Connecticut school district staff appears to have a positive perception of the status of health services in Connecticut school districts. Survey respondents were generally positive as indicated by the quantitative questionnaire results and the number of comments on the survey questionnaire. Data resulting from the fourth year of survey administration were examined by the CSDE and EDUCATION CONNECTION staff and lead to the following conclusions regarding school health services in Connecticut:

- Data suggest a high need for and interest in screenings in the areas of mental health, dental health, and pediculosis. In responding school districts, 2.5% of students were voluntarily provided mental health consultations. Of these students, 31.2% (2,233) were referred to outside mental health providers. Seven percent of students were provided voluntary dental screenings with 18.1% (3,178) referred. Similarly, 17.2% of students were voluntarily provided pediculosis screenings and 33.7% (1,512) students were referred.
- Data indicate that the majority of nursing staff in Connecticut school districts are funded by the Boards of Education.
- Data suggest that nurse-to-student ratios in Connecticut school districts decrease as grade levels increase. Additionally, survey respondents commented on the need for the CSDE to set recommended nurse-to-student ratios. However in setting ratios, they also commented that an allowance must be made for the number of students with high needs.
- Data indicate that 19% of districts have less than one FTE registered nurse available in each public school and 56% of districts have less than one FTE registered nurse available in each private school.
- Data suggest that Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions. Data also indicate that the percentage of children with high needs is increasing. It can be expected that the high incidence of these conditions among Connecticut students will increase the responsibilities of school nursing staff.
- Respondents expressed specific needs in the areas of mental health, obesity and nutrition. Respondents expressed a pressing need for more mental health services. It can be expected that these conditions may impact the academic performance of affected children.
- The majority of students who receive a nursing intervention return to the classroom within one-half hour. It is expected that, once the condition prompting the child to seek a nursing intervention is addressed, the child will be better able to learn upon returning to the classroom. However, there is currently little empirical data to support this hypothesis.
- Eight percent of districts reported that over a quarter of students did not have health insurance. Four percent of districts reported more than half of students without health insurance. It can be expected that these students may have a number of health issues that are not being addressed because of lack of health insurance coverage.
- 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 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.....	2
Survey Development.....	2
Survey Administration .....	2
Data Analysis Methodology .....	3
Results .....	3
Services Provided .....	3
Health Services Staffing .....	4
Nursing Staff .....	4
Additional Staff .....	4
Staffing Levels .....	5
Staff Qualifications.....	6
Student Health.....	7
Student Health Care Needs.....	8
Nurse’s Time.....	9
Allocation of Nurses’ Time .....	9
Impact of Nursing Interventions.....	10
Other Factors Impacting Student Health.....	10
Health Coordination/Education .....	11
Demographics .....	14
Conclusions .....	15
School Health Services .....	15
Future Data Collection.....	16
Appendix A.....	17
Survey Open-Ended Questions.....	17

### Tables

Table 1: Students Receiving Services as Percent of Total.....	3
Table 2: Numbers and Funding Sources of Staff.....	4
Table 3: Dental Service: Funding Source.....	5
Table 4: Nurse to Student Ratio .....	5
Table 5: Full-time Nurses by School .....	5
Table 6: Importance of Variables in Determining Staffing Patterns .....	6
Table 7: Qualifications of District Nurses .....	6
Table 8: Qualification of Nurse Leaders .....	7
Table 9: Additional Specialists Employed by District .....	7
Table 10: Students with Specific Health Care Needs .....	8
Table 11: Percent of Nurses’ Time Spent on Specific Health Interventions .....	9
Table 12: Types of Procedures Performed by Connecticut School Nurses .....	9
Table 13: Percentage of Students Returned to Classroom.....	10
Table 14: Percentage of Students Without Health Insurance .....	10
Table 15: Number of 911 Calls per Year.....	10
Table 16: Frequency of Provision of Health Care Management Services.....	11
Table 17: Satisfaction with Quality of Health Care Management Services .....	11
Table 18: Involvement of School Health Staff in Health Coordination/Education .....	12
Table 19: Existence of Specific Programs.....	12
Table 20: District Software Use .....	12

Table 21: District Needs .....	13
Table 22: Involvement of School Health Service Staff in Teaching .....	13
Table 23: Types of Teaching Techniques Used by Health Service Staff .....	13
Table 24: DRG of Responding Districts.....	14
Table 25: Demographic Location of Responding Districts .....	14

## **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 CSDE 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 CSDE. This report summarizes the results of data collection for the 2006-2007 school year. This is the fourth 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 2005-2006 survey administration, no changes were required in the number and type of questions in the 2006-2007 survey.

The survey collected data in the following areas:

- Types and results of services provided in Connecticut school districts
- Staff of health services in Connecticut school districts
  - Numbers of staff
  - Sources of funding for health services staff
  - Nurse/Student ratios
  - Determinants of staffing patterns
  - Qualifications of staff
  - Specialists linked to nursing services
- Numbers of students with specific health care needs by grade level
- Types of health care procedures performed by health services staff
- Percentage of students without health insurance
- Numbers or and reasons for 911 calls
- Availability and satisfaction with health coordination and education activities
- Involvement of health services staff with health coordination and education activities
- Satisfaction of health services staff with health services provided in the district
- 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 three previous survey administrations were also available for downloading on the **EDUCATION CONNECTION** website.

The CSDE mailed a letter of intent and a copy of the final report from 2006 to each Superintendent of Schools and Coordinator of School Health Services in Connecticut. In addition, the Coordinator of School Health Services received a letter directing him or her to the **EDUCATION CONNECTION** website 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. One hundred three responses were received in time to be analyzed, yielding a response rate of 61%.

**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.

**Services Provided in Connecticut School Districts**

**Table 1: 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 students reported by the 103 districts who responded to the survey is 331,399 students.

Health Service	Total Number of 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
<b><u>Optional Services</u></b>					
Body Mass Index Screening	253,778	16,664	6.6%	217	1.3%
Pediculosis Screening	269,570	46,275	17.2%	1,512	3.3%
Nutrition Screening	274,006	3,209	1.2%	295	9.2%
Mental Health Consultation	285,815	7,149	2.5%	2,233	31.2%
Dental Screening	258,766	17,540	6.8%	3,178	18.1%
<b>Total</b>		<b>90,837 screenings</b>		<b>7,435 referrals</b>	
<b><u>Mandatory Services</u></b>					
Vision	322,370			20,454	6.3%
Scoliosis	308,777			6,217	2.0%
Hearing	317,132			10,824	3.4%
Mandated Health Assessments	271,583			9,179	3.4%
<b>Total</b>				<b>46,674 referrals</b>	

The optional service provided most frequently by Connecticut school districts is pediculosis screening. In 2006-2007, seventeen percent of students in reporting districts received pediculosis screenings while only one percent received nutrition screenings. Mental health consultations compared to other optional services are most likely to result in a referral. While only 2.5 percent of students in reporting districts received mental health consultations, almost a third of these students were referred to an outside provider for further assistance.

The number of students provided optional services by participating districts in 2006-2007 was relatively small compared to the total number of students, suggesting that many Connecticut school districts do not have optional services or offer them on a very limited basis. However, the fact that participating districts voluntarily provided 90,837 screenings, resulting in 7,435 referrals, highlights the need for these services in our schools.

Vision screenings compared to other mandatory services generate the greatest number of referrals. As a result of mandatory screenings in the responding districts, 46,674 referrals were made to outside providers in 2006-2007. More than 4 in 10 referrals were for vision. About 6% of vision screenings resulted in a referral.

***Staffing of Health Services in Connecticut School Districts***

I. Nursing Staff:

**Table 2: Numbers and Funding Sources of Staff**

<b>Nursing Staff Classification</b>	<b>Total Number of Staff in Participating Districts (FTE)</b>	<b>Percent Funded by Board of Health</b>	<b>Percent Funded by Board of Education</b>	<b>Percent Funded by Public Health/VNA</b>
Nurse Leaders	76.6	10.4%	80.4%	9.1%
School Nurses	609.2	19.2	73.2	7.6
Nurse Practitioners	16.0	18.8	62.5	18.8
Permanent Float Nurses	20.7	9.7	85.5	4.8
One-to-One Nurses	10.3	0.0	90.3	9.7
Contracted Nursing Staff	10.5	0.0	100.0	0.0
Licensed Practical Nurses	26.2	0.0	100.0	0.0
Nurse Aides	89.3	9.0	59.1	31.9
Nursing Support Staff	47.8	16.7	83.3	0.0

Connecticut school districts employ registered nurses through a variety of funding sources. Survey results indicate that the majority of nursing staff are funded by the Board of Education.

II. Additional Staff:

*District Medical Advisor:*

A majority of Connecticut school districts receive services from a medical adviser less than ten hours per month. Six percent of responding districts reported receiving services from a medical adviser 11-20 hours per month in 2006-2007. Five percent reported receiving more than 20 hours per month.

Almost nine in ten district medical advisers are funded by the Board of Education, 5% by the Board of Health, 1% by Public Health or Visiting Nurses Association (VNA) funding, 1% through grant funding and 5% through other funding sources.

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

Adolescent Health	18%	Pediatrics	58%
Family Medicine	34%	Public Health	7%
General Medicine	11%	Sports Medicine	2%
Internal Medicine	11%	Other	7%
Orthopedics	1%		

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

District Dental Services:

Survey results indicate that a majority of Connecticut school districts do not provide dental services to their students. Eighty-five percent of responding districts did not provide dental services to their students in 2006-2007. Of the sixteen districts that reported providing these services, 25% used a dentist and 75% used a dental hygienist to provide these services. For participating districts providing dental services, funding sources are listed below:

**Table 3: Funding Sources for District Dental Services  
Percent Response**

Funding Source	Percent of Districts
Board of Education	17.6%
Board of Health	11.8
Public Health/VNA	17.6
Grant	23.5
Other	29.4

III. Staffing Levels:

A majority of Connecticut school districts have an individual designated as nurse leader who is a nurse. Eight in ten responding districts reported having a nurse leader designee who is a nurse. Responding districts also reported having a total of 690 Full-Time Equivalent (FTE) registered nurses and 143 FTE nursing support staff in 2006-2007.

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	69.5%	28.4%	2.1%
Secondary nurse-to-student ratio in district	26.2	44.0	29.8

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 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%	69.1%	11.7%	0.0%
RNs in each private school	55.7	32.8	9.8	1.1
LPNs in each school	89.5	7.9	2.6	0.0

Survey results indicate that almost eight in ten 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.

**Table 6: Importance of Variables in Determining Staffing Patterns  
Frequencies and Mean Scores**

<i>How important are each of the following in determining staffing patterns in your district?</i>	<b>Very Unimportant</b>	<b>Unimportant</b>	<b>Neither Unimportant nor Important</b>	<b>Important</b>	<b>Very Important</b>	<b>Mean</b>
Needs of students	10.7%	0.0%	4.9%	21.4%	63.1%	<b>4.3</b>
District understanding of service needs	9.9	1.0	7.9	19.8	61.4	<b>4.2</b>
Budget	13.7	2.0	6.9	20.6	56.9	<b>4.1</b>
Availability of qualified staff	10.8	4.9	10.8	26.5	47.1	<b>3.9</b>

Respondents perceived student needs, district understanding of service needs, and budget to be the most important determinants of staffing patterns in their districts. Availability of qualified staff was considered somewhat less important. The mean response of 3.9, however, was greater than neutral, indicating that availability of qualified staff was also perceived as important.

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 below.

**Table 7: Qualifications of District Nurses**

<b>Highest Level of Educational Attainment</b>	<b>Total Number of Staff Reported</b>
Diploma Registered Nurses	186
RNs with AD/AS degree	91
RNs with BS in Nursing	368
RNs with another Bachelor's degree	49
RNs with MS in Nursing	34
RNs with MPH	6
RNs with MA in Education	11
RNs with another Master's degree	18
RNs with a Doctoral degree	1
RNs with another degree	7
RNs with a national certification in School Nursing	59
RNs with a national certification in any OTHER nursing field	23

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 MS in Nursing, MA in Education, or other Master's or Bachelor's degree. Some districts have registered nurses with national certifications in school nursing and other nursing fields.

**Table 8: 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	18.0%	14.6%	1.1%	36.0%	10.1%	16.9%	3.4%
Nurse Leader 2	28.6	0.0	0.0	42.9	0.0	14.3	14.3

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 majority of districts reported nurse leaders having a BS in Nursing, a Diploma Registered Nurse or an MS in Nursing.

**Table 9: Additional Specialists Employed by Districts  
Percent Response**

Specialist	Yes
Nutritionist	8.1%
Mental Health Consultant	52.3
Psychiatrist	23.0
Assistive Technology Specialist	40.9
Other	26.7

Connecticut districts also employ additional health care specialists to address student health needs. The most commonly reported specialists employed by participating 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. Tables summarizing their responses are provided below. It should be noted that these numbers are expected to be lower than actual due to difficulties with survey completion.

I. Student Health Care Needs:

**Table 10: Number of Students with Specific Health Care Needs by Grade Level**

Health Condition	Grades K-5	Grades 6-8	Grades 9-12	Total
Bee String	762	544	969	2,275
Food (Life threatening only)	3,534	1,143	1,399	6,076
Latex/Environmental Allergy	4,063	1,861	1,935	7,859
Arthritis	161	79	154	394
Asthma	15,943	8,007	10,566	34,516
Autism Spectrum Disorders	1,305	545	419	2,269
Hemophilia	30	26	33	89
Sickle Cell Trait	119	97	48	264
Other Blood Dyscrasias	203	122	197	522
Cancer	267	72	147	486
Cardiac Conditions	820	386	599	1,805
Developmental Delays	3,069	699	893	4,661
Diabetes Type I	290	214	280	784
Diabetes Type II	314	201	233	748
Migraine Headaches	816	834	1,303	2,953
Cerebral Palsy	307	139	194	640
Spina Bifida	73	26	21	120
Seizure Disorder	890	481	594	1,965
Speech Defects	4,477	805	644	5,926
Severe Vision Impairment	576	186	312	1,074
Severe Hearing Impairment	539	276	378	1,193
Other Health Impairment	1,577	1,290	1,325	4,192
Oral Health Needs	1,195	824	323	2,342
Neurological Impairment	632	348	616	1,596
Orthopedic Impairment	559	422	909	1,890
ADHD/ADD	4,784	3,357	3,950	12,091
Depression	698	868	1,930	3,496
Eating Disorders	254	112	243	609
Other Behavioral/Emotional Conditions	2,947	2,267	2,606	7,820

Connecticut school nurses provide services to students with a wide range of physical and emotional health needs. As with prior surveys, the most prevalent conditions reported include asthma, latex/environmental and food allergies, developmental delays, ADHD/ADD and other behavioral/emotional conditions.

***Nurse's Time in Connecticut School Districts:***

I. Allocation of Nurses' Time in Connecticut School Districts

Coordinators of School Nursing reported a range of activities school nurses engage in during the school day. Tables summarizing their responses are below.

**Table 11: Percentage of Nurses' Time Spent on Specific Health Interventions  
Percent of Districts**

Health Intervention	Nurses Do Not Spend Time On This Activity	1-30% of Nurses' Time	31-70% of Nurses' Time	71-100% of Nurses' Time
Routine nursing intervention	0.0%	5.0%	38.6%	56.4%
Referrals to health care provider	2.0	93.1	5.0	0.0
Administration of daily medication	3.0	86.1	6.9	4.0
Administration of as-needed medication	2.0	82.2	10.9	5.0
Performance of special health care procedures	3.0	88.1	6.9	2.0
Monitoring of health care needs	3.0	66.3	14.9	15.8
Case management	5.0	77.0	14.0	4.0

The majority of Connecticut school nurses' daily work time is spent on routine nursing interventions. However, almost all (77-93%) districts report that 1-30% of a school nurses' time is spent on **other** activities including case management, performance of special health care procedures, medication administration, monitoring of health care needs, and referral to health care providers.

**Table 12: Types of Procedures Performed by Connecticut School Nurses  
Percent Response**

Procedure	Percent Response
Gastrostomy Tube Feedings	47.1%
Nasogastric Tube Feedings	6.2
Suctioning	35.6
Tracheostomy Care	22.9
Nebulizer Treatments	94.2
Blood Sugar Testing	94.2
Insulin Pump Management	84.2
Catheterizations	42.9
Ventilator Care	8.4
IV Therapy	9.3
Ostomy Care	15.3
Oxygen Therapy	20.4
Other Treatment	60.2

The majority of districts reported that school nurses perform a number of specific procedures during the school day. Over eighty percent of Connecticut school districts perform nebulizer treatments, blood sugar testing and insulin pump management.

## II. Impact of Nursing Interventions

**Table 13: Percentage of Students Returned to Classroom  
Percent Response**

<b>Percentage of Students Returned Within One-Half Hour</b>	<b>Percent Response</b>
0-25%	1.0 %
26-50%	2.0
51-75%	10.9
76-100%	86.1

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

### *Other Factors Impacting Student Health:*

**Table 14: Percentage of Students Without Health Insurance  
Percent Response**

<b>Percentage of Students Without Health Insurance</b>	<b>Percent Response</b>
0-25%	92.5 %
26-50%	3.8
51-75%	1.3
76-100%	2.5

Over ninety percent of participating districts reported that less than a quarter of their students had no health insurance coverage. Four percent of responding districts reported that more than half of their students had no health insurance coverage.

**Table 15: Number of 9-1-1 Calls per Year  
Percent Response**

<b>Number of 9-1-1 Calls Per Year</b>	<b>Percent Response</b>
0-10	59.4 %
11-20	23.8
21-30	8.9
31-40	1.0
41-50	3.0
51- 100	3.0
More than 100	1.0

Sixty percent of districts reported making ten or fewer 9-1-1 calls per year. About a third of districts reported making eleven to thirty calls per year. One percent reported making more than one hundred 9-1-1 calls per year.

More than three quarters of respondents identified injuries as the most common reason for 9-1-1 calls. Anaphylaxis was reported as the second most common reason followed by seizure and other reasons.

Respondents reported the number of children with life threatening food allergies who required the administration of epinephrine during the last school year. Almost two-thirds of responding districts reported that no children required the administration of epinephrine. Twenty-seven percent reported that 1 to 3 children required administration of epinephrine and 7% reported more than 3 children required epinephrine.

***Health Coordination/Education***

Connecticut school nurses and their districts are involved in a variety of health coordination and educational activities.

**Table 16: Frequency of Provision of Health Care Management Services  
Percent Response**

<i>My district provides the following student health care management services:</i>	<b>Never</b>	<b>Sometimes</b>	<b>Always</b>
Development of Individual Health Care Plan	0.0%	21.8%	78.2%
Development of Individual Emergency Plan	0.0	13.1	86.9
Development of 504 Plan	1.0	35.0	64.0
Staff Training to Meet Individual Student Health Needs	0.0	19.0	81.0

The majority of participating districts reported that health care management services are always provided. However, the number of districts that reported services “sometimes” being provided ranges from 13% to 35%, suggesting that approximately a quarter of Connecticut districts may be providing services on an inconsistent basis.

**Table 17: Satisfaction with Quality of Health Care Management Services  
Percent Response**

<i>I am satisfied with the quality of health care management services provided by my district:</i>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>
Development of Individual Healthcare Plan	3.1%	18.4%	78.5%
Development of Individual Emergency Plan	2.0	10.1	87.9
Development of 504 Plan	4.2	24.0	71.8
Staff Training to Meet Individual Student Health Needs	4.0	18.2	77.8

The majority of respondents were satisfied with the quality of each health care management service provided by their district. Between two and four percent of respondents were not satisfied with the quality of the healthcare management services provided.

**Table 18: Involvement of School Health Staff in Health Coordination/Education Activities  
Percent Response**

<b>Health Coordination/Education Activity</b>	<b>Yes</b>	<b>No</b>	<b>District Does Not Provide</b>
Blood-borne Pathogen Exposure Plan	96.0%	3.0%	1.0%
Staff Wellness Programs	73.5	14.3	12.2
School-based Outreach to Enroll Students in HUSKY	64.2	18.9	16.8
Staff Education to Meet Health Program Needs	89.6	7.3	3.1
Indoor Air Quality Program	86.0	11.0	3.0
Maintenance of Health Room and Equipment	97.0	1.0	2.0
School Safety/Crisis Plan	97.0	2.0	1.0
PPT Process	93.0	6.0	1.0
Child Abuse Reporting and Prevention	99.0	0.0	1.0
504 Coordination	87.9	10.1	2.0

A majority of Connecticut school health staff is involved in health coordination and education activities. However, it is notable that a number of participating districts reported that school health staff is not involved in staff wellness programs, school-based outreach to enroll students in HUSKY, indoor air quality programs and coordination of 504 plans.

**Table 19: Existence of Specific Programs  
Percent Response**

<b><i>My district has:</i></b>	<b>Yes</b>	<b>No</b>
School Health Teams	80.4%	19.6%
Automatic External Defibrillator Program	68.6	31.4

Survey results indicate that a majority of Connecticut school districts have a school health team. Eight in ten respondents claimed their districts have school health teams. A majority of Connecticut school districts have an Automatic External Defibrillator. Almost seventy percent of respondents reported having an Automatic External Defibrillator program in place in 2006-2007.

**Table 20: District-Wide Software Use  
Percent Response**

<b>Computer Software</b>	<b>Percent Response</b>
None	20.6%
SNAP	34.3
Health Master	3.9
Other district-wide student data program	41.2

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

**Table 21: District Needs  
Percent Response**

<i>To increase my satisfaction with services provided in my district, I would need:</i>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither Disagree nor Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Mean</b>
Fiscal resources	0.0 %	5.0 %	19.0 %	43.0 %	33.0 %	<b>4.0</b>
Information on available resources	1.0	7.9	21.8	47.5	21.8	<b>3.8</b>
Training for staff	0.0	10.9	20.8	50.5	17.8	<b>3.8</b>
Improved communication within the district	1.0	12.1	26.3	43.4	17.2	<b>3.6</b>
On-site consultation for staff	0.0	12.6	32.0	38.8	13.6	<b>3.6</b>
Non-fiscal resources	0.0	11.7	34.0	43.6	10.6	<b>3.5</b>
Improved communication with state agencies	0.0	14.9	37.6	37.6	9.9	<b>3.4</b>

Respondents perceived fiscal resources as their greatest need in increasing their satisfaction with the services provided by their district. Improved communication with state agencies was perceived as having least importance. However, the mean response of 3.4 is greater than neutral and suggests that improved communication with state agencies is also viewed as important to satisfaction with services by districts.

**Table 22: Involvement of School Health Service Staff in Teaching  
Percent Response**

<i>In my district, school health staff is involved in teaching health promotion or prevention in the following areas:</i>	<b>Never</b>	<b>Sometimes</b>	<b>Always</b>
Nutrition/Physical Activity	8.0%	79.0%	13.0%
Human Sexuality Education	24.0	55.0	21.0
Disease Prevention	8.9	51.5	39.6
Injury Prevention	8.9	60.4	30.7
Substance Abuse Prevention	19.2	69.7	11.1
Other	14.1	76.6	9.4

A majority of Connecticut school health staff is sometimes involved in teaching health.

**Table 23: Types of Teaching Techniques Used by Health Service Staff in Teaching  
Percent Response**

<i>In my district, health service staff involved in teaching health promotion or health prevention use the following techniques:</i>	<b>Never</b>	<b>Less Than or Equal to 25% of the Time but More Than Never</b>	<b>26-50% of the Time</b>	<b>51-75% of the Time</b>	<b>76-100% of the Time</b>
Individual Teaching	4.4%	22.0%	13.2%	17.6%	42.9%
Classroom Teaching Alone	57.1	38.5	4.4	0.0	0.0
Classroom Teaching with Educator	16.7	72.2	10.0	0.0	1.1
Program Management	41.4	44.8	8.0	3.4	2.3
Group Counseling	67.4	28.1	4.5	0.0	0.0
Other Teaching Technique	45.5	46.8	4.5	0.0	1.3

When health service staff is involved in teaching, a variety of techniques are used. Individual teaching is the most frequently used teaching technique. Classroom instruction, either alone or with an educator, as well as program management and group counseling are other techniques employed by health service staff.

Seventy-eight percent of responding districts reported that health service staff is involved in the development of Individual Education Plans.

### ***Demographics***

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

**Table 24: District Reference Group (DRG) of Responding Districts  
Percent Response**

<b>Educational Reference Group</b>	<b>Percent</b>
A	5.1%
B	10.1
C	19.0
D	19.0
E	20.3
F	7.6
G	10.1
H	5.1
I	3.8

Respondents represented all District Reference Groups in Connecticut in percentages representative of the number of districts in the state in each DRG.

**Table 25: Demographic Location of Responding Districts  
Percent Response**

<b>Demographic Location</b>	<b>Percent</b>
Urban	12.7%
Suburban	50.0
Rural	37.3

Half of respondents represented suburban districts. However, 13% were urban and over a third were rural districts.

Almost all (97.1%) respondents were public school districts. Five percent were Regional Educational Service Centers.

All respondents provided health services to public school districts. About forty percent reported providing services to private school districts.

### **Conclusions**

Overall, school health services staff appear to have a positive perception of the status of health services in Connecticut school districts. Survey respondents were generally positive as indicated by the quantitative questionnaire results and the number of comments on the survey questionnaire. Data resulting from the fourth 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:

- In responding school districts, optional services generated almost eight thousand referrals to outside providers. Over ninety percent of these referrals resulted from pediculosis screening, dental screening, and mental health consultation. Over 17% of students were voluntarily provided pediculosis screenings and 1,512 students were referred to an outside provider. Similarly, almost 7% of students were provided dental screening with 3,178 referred. Only 2.5% of students were provided mental health screening but almost a third of these students were referred to outside mental health providers. These numbers suggest a high need for and interest in screenings in these areas.
- Data indicate that the majority of nursing staff in participating districts are funded by the boards of education.
- Data indicate that, in responding school districts, nurse-to-student ratios decrease as grade levels increase. Additionally, survey respondents commented on the need for the Connecticut State Department of Education to set recommended nurse-to-student ratios. They also commented, however, that an allowance must be made for the number of students in a district with complex medical needs.
- Data indicate that 19% of districts have less than one FTE registered nurse available in each public school and 56% of districts have less than one FTE registered nurse available in each private school.
- Data suggest that Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions. Comments indicate the number of students with complex needs is increasing. It can be expected that the high incidence of these conditions among Connecticut students will increase the demand for school health services and the responsibilities of school nursing staff.
- Respondents expressed a pressing need for more mental health services.
- The majority of respondents reported that 76-100% of students who receive a nursing intervention return to the classroom within one half hour. It is expected that, once the condition prompting the child to seek a nursing intervention is addressed, the child will be better able to learn upon returning to the classroom. However, there is currently little empirical data to support this hypothesis.
- Four percent of districts reported that 26-50% of students did not have health insurance. Another four percent of districts reported that more than half of students were without health insurance. It can be expected that these students may have a number of health issues that are not addressed as a result of the lack of health insurance. Comments from respondents indicated that school health offices are used as primary care sites by students lacking adequate health insurance coverage.
- 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. Comments indicated a need for financial assistance in purchasing software.
- 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.
- Comments from respondents suggest that adequate staffing of school health offices, especially the availability of substitute nurses, is becoming a major concern.

## **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 complaints or concerns mentioned by respondents regarding survey data collection. Changes made in the survey administration process based on last year's data appear to have met the needs of participating districts. The only suggestion made by respondents was to ensure that terminology used in the survey is aligned with terminology used in PPT 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 2006-2007, a 61% 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.

*Appendix A*  
*Responses to Open-Ended Questions*

*Survey Open-Ended Questions*

### I. Health Services Provided to Students in the District:

Survey respondents appeared to be generally satisfied with the state of health services in their districts. Respondents commented freely on a number of areas including the increasing demand for school health services, especially in the area of mental health. Specific areas addressed include the following:

- An increased amount of time spent on issues related to emotional health. Nursing time spent on mental health intervention or support for students is not reflected in data requested.
- Use of nurse's office as a "primary site" for health care in some districts.
- An increased amount of time spent caring for students with complex medical needs.
- Low levels of physical education and scarce dental and/or nutrition programs.

Districts requested assistance from the CSDE in a number of areas. The area most frequently commented on was staffing. Respondents cited the following needs:

- Lower nurse-to-student ratio to better serve students.
- Communication with physicians performing mandated physicals to improve compliance with state requirements, including the completion of health forms, thereby reducing the need for follow-up by school health personnel.
- Increased support for the provision of mental health services.
- Increased support for the provision of dental care services.
- Professional development for school nurses.
- Permission to use more tools in the health room.
- Support for improved recordkeeping and documentation, including computer software, documentation standards, and multilingual forms.
- Support for improved nutrition and nutritional instruction.
- Development of a substitute nurse pool.

### III. 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, mostly nuts. Most incidents involved the accidental ingestion of a known food allergen.

#### IV. Student Health

The concerns most frequently mentioned by respondents were the increasing numbers of students with mental health issues, medically complex needs, and obesity. A need for dental health care was also emphasized. Specific concerns expressed by districts included:

- Increased number of students with mental health issues including stress, anxiety, ineffective coping, social/emotional issues, and high-risk behaviors.
- Increased number of students with complex health care needs requiring more nursing time.
- Increased obesity levels and related poor nutrition.
- Increased asthma and allergy levels.

Districts requested assistance from the CSDE in a number of areas related to student health. Assistance requested included the following:

- Increased time mandated for physical education.
- More nutritious lunches and implementation of food-free celebrations.
- Funding for nutritional counselors and nutritional education.
- Increased access to mental health services.
- Increased access to dental services.
- Assistance in providing educational programs to promote lifelong health and wellness.
- Increased provision of professional development and training for school nurses.

#### V. Coordination of Health Services and Health Education

Comments varied as to the degree to which school nurses are involved in coordination and collaboration. 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, IEP/PPT and 504 meetings, and school wellness committees. A number of districts positively commented on the current degree of nurse involvement in many of these areas.

#### VI. Staffing of Health Services in Districts:

Districts commented freely on the staffing of health services in their districts. The concern most frequently heard from respondents was the need for substitute nurses. They also cited a need for additional qualified staff to be able to serve an increasing number of students with complex medical health needs or mental health issues. While some respondents commented positively on the support they receive from their boards of education, others cited cuts in staff because of budget restraints.

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:

- Higher pay scales to attract qualified staff, including substitute nurses.
- Development by the SDE of a school nurse certification to enhance professional recognition.
- 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.
- Increased access to specialists such as psychologists and social workers.

- Increased availability of qualified staff, in particular, substitute nurses.
- Promotion of the role of health services and health services staff among school administrators, boards of education, and others.

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