



School, Community, Growth

Connecticut State Department of Education

# Health Services Program Information Survey

Final Report

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Developed for:

**The Connecticut State Department of Education**

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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, has completed the second year of data collection regarding school health services. The data collection process is designed to assist the Department of Education to gain an understanding of 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.

Based on the results of the 2003-2004 survey administration, the online survey was adapted prior to administration during 2004-2005. The Connecticut State Department of Education and the Connecticut State Health Records Committee assisted Dr. Newsom-Stewart of EDUCATION CONNECTION to adapt the survey to meet the needs of school districts and the Connecticut State Department of Education.

The online survey, instructions for completion, and the final report for the 2003-2004 administration were posted to the EDUCATION CONNECTION website to increase ease of 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). Numerical totals, 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 and twelve (112) received in time to be analyzed, yielding a response rate of sixty-six percent (66%).

Respondents were approximately equally distributed across ERGs. The majority of respondents (95%) were public school districts, with an additional 2% being charter schools and approximately 4% of respondents working for a Regional Educational Service Center (RESC). The majority of respondents provided services to public schools (91%) and 41% provided services to private, non-public schools.

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

Overall, Connecticut school district 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 second year of survey administration were examined by the Connecticut State Department of Education and EDUCATION CONNECTION staff and indicate the following:

- In responding school districts, over 2% of students are provided voluntary mental health screening. Of these students, 36% are referred to mental health providers. Similarly, over 1,500 students were provided voluntary dental screening. Of these, 21.1% were referred to dental health providers.
- The majority of nursing staff in participating districts are funded by the Boards of Education.
- 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.

- Over one quarter (27%) of responding districts have less than one FTE registered nurse available in each public school and 62% of districts have less than one FTE registered nurse available in each private school.
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions. The most common conditions reported were asthma, latex and food allergies, speech defects, ADHD/ADD, developmental delays and other behavioral/emotional conditions. It can be expected that the high incidence of these conditions among Connecticut students will increase the responsibilities of school nursing staff. Additionally, it can be expected that these conditions may impact the academic performance of affected children.
- The majority (93%) of respondents reported that 76-100% of students that 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.
- Five percent of districts reported that 26-75% of students did not have 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.
- Districts provided a wide range of suggestions for services to increase district satisfaction with provision of health services to students. District suggestions include fiscal resources, information on available resources, non-fiscal 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.

## TABLE OF CONTENTS

Introduction .....	1
Theoretical Framework.....	1
Review of the Literature .....	1
Data Collection Process.....	1
Survey Development.....	1
Survey Administration.....	2
Data Analysis Methodology .....	3
Results .....	3
Services Provided in Connecticut School Districts .....	3
Staffing of Health Services in Connecticut School Districts .....	4
I. Nursing Staff.....	4
II. Additional Staff .....	4
III. Staffing Levels.....	5
IV. Staff Qualifications .....	6
V. Perceived Importance of Factors to Staffing .....	7
Student Health in Connecticut School Districts.....	8
I. Student Health Care Needs .....	8
Allocation of Nurses Time in Connecticut School Districts.....	8
I. Types of Interventions .....	9
II. Impact of Nursing Interventions .....	10
III. Other Factors Impacting Student Health .....	10
IV. Health Coordination/Education.....	10
Demographics .....	13
Survey Open-Ended Questions.....	14
I. Health Services Provided to Students in District.....	14
II. District Requests for Improvement of Health Services.....	14
III. Staffing of Health Services in Districts .....	14
School Health Services Conclusions .....	15
Recommendations for Future Data Collection .....	15

### Tables

Table 1: Students Receiving Services as Percent of Total.....	3
Table 2: Numbers and Funding Sources of Staff.....	4
Table 3: Funding Sources for District Dental Services .....	5
Table 4: Nurse-to-Student Ratio.....	5
Table 5: Full Time Nurses by School.....	5
Table 6: Qualifications of District Nurses .....	6
Table 7: Qualifications of Nurse Leaders.....	6
Table 8: Additional Specialists Employed by District .....	7
Table 9: Importance of Factors to Staffing Levels .....	7
Table 10: Number of Students with Specific Health Needs .....	8
Table 11: Percent of Nurses' Time Spent on Specific Activities .....	9
Table 12: Types of Procedures Performed by Connecticut School Nurses.....	9
Table 13: Students Returned to Classroom Within One Half Hour .....	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.....	11

Table 18: Involvement of School Health Staff in Health Coordination .....	11
Table 19: Existence of Specific Programs.....	12
Table 20: District Needs .....	12
Table 21: Involvement of School Health Services Staff in Teaching.....	12
Table 22: Types of Teaching Techniques Used by Health Services Staff.....	13
Table 23: Educational Reference Group of Responding Districts.....	13
Table 24: Demographic Location of Responding Districts .....	13

## **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 2004-2005 school year. This is the second 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
- 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 2003-2004 survey administration, minor changes were made in the number and type of survey questions to maximize the ability of the survey to meet the needs of Connecticut school districts. All changes were implemented in close partnership, and with the final approval of, Ms. Cheryl Carotenuti, Health Promotion Consultant for the Connecticut State Department of Education and in collaboration with Connecticut's State Records Advisory Committee.

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
- Numbers of students with and 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
- Demographic information including:
  - Educational Reference Group (ERG)
  - 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 Records 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 2003-2004 administration 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, Ms. Cheryl Carotenuti, introduced participants to the purpose and history of the survey and shared the survey with the group online. Ms. Carotenuti answered questions concerning the practicalities of survey completion and state expectations for survey completion.

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 and twelve were received in time to be analyzed yielding a response rate of 66%.

**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 are 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 112 districts who responded to the questionnaire was 361,622 students.

	<b>Total Number of Students Reported by Participating Districts</b>	<b>Total Number of Students Receiving Service Reported by Participating Districts</b>	<b>Percent Receiving Service</b>	<b>Number of Students Referred to Outside Provider as a Result of Screening</b>	<b>Percent of Students Receiving Service Referred to Outside Provider as a Result of Screening</b>
<b><i>Optional Services</i></b>					
Body Mass Index Screening	294,604	24,777	8.4%	300	1.2%
Pediculosis	280,607	45,876	16.3	1,297	2.8
Nutrition Screening	288,370	3,442	1.1	317	9.2
Mental Health Consultation	280,947	5,742	2.0	1,521	26.5
Dental Screening	222,305	1,789	0.8	378	21.1
<b><i>Mandatory Services</i></b>					
Vision	317,479	317,479		22,459	7.0%
Scoliosis	356,583	356,583		5,478	1.5
Hearing	355,154	355,154		3,965	1.1
Mandated Health Assessments	260,584	260,584		12,400	4.7

The number of students provided optional services was relatively small compared to the total number of students in participating districts, suggesting that many districts may not have optional services. However, the fact that these services were voluntarily provided to 81,626 Connecticut students, and that 3,813 of these students were referred to outside providers as a result, highlights the potential need for these services throughout Connecticut schools.

As a result of mandatory screenings in the responding districts, 44,302 Connecticut students were referred to outside providers for further assistance.

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



I. Nursing Staff:

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

	<b>Total Number of Staff in Participating Districts (FTE)</b>	<b>Percentage Funded by Board of Health</b>	<b>Percentage Funded by Board of Education</b>	<b>Percentage Funded by Public Health/VNA</b>
<b>Nurse Leaders</b>	82.6	11.1 %	81.2 %	7.6 %
<b>School Nurses</b>	632.5	22.4	69.2	8.4
<b>Nurse Practitioners</b>	17.0	16.6	76.5	5.9
<b>Permanent Float Nurses</b>	16.1	12.4	87.6	0
<b>One-to-One Nurses</b>	24.0	0	78.4	21.6
<b>Contracted Nursing Staff</b>	26.5	0	100	0
<b>Licensed Practical Nurses</b>	21.5	4.7	95.3	0
<b>Nurse Aides</b>	85.3	25.8	51.9	22.3
<b>Nursing Support Staff</b>	39.2	26.6	73.4	0

Connecticut school districts employ registered nurses funded through a variety of sources. The majority of nursing staff are funded by the Board of Education. It should be noted that data suggest the majority of districts do not have nursing support staff such as LPNs, health aides or nursing clerks or other support staff. Respondent comments indicate a high need for these services.

II. Additional Staff:

District Medical Advisor:

Of the 112 responding districts, 102 (94%) received services from a medical adviser 0-1 hours per month. Four districts (3.7%) received these 11-20 hours of services per month, and two districts received 21 to 40 hours of these services per month.

Eighty-three percent of district medical advisers were funded by the Board of Education, 6% by the Board of Health, 3% by Public Health or Visiting Nurses Association (VNA) funding, 1% through grant funding and 7% through other funding sources.

The district medical advisers serving Connecticut school districts specialize in the following areas:

- |                     |     |                   |     |
|---------------------|-----|-------------------|-----|
| • Adolescent Health | 25% | • Pediatrics      | 57% |
| • Family Medicine   | 33% | • Public Health   | 7%  |
| • General Medicine  | 13% | • Sports Medicine | 4%  |
| • Internal Medicine | 12% | • Other           | 9%  |
| • Orthopedics       | 1%  |                   |     |

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

District Dental Services:

The majority (81%) of responding districts did not provide dental services to their students. Of the districts that do provide these services, 47% use a dentist and 53% use a dental hygienist to provide these services. Of the districts providing dental services, funding sources are listed below:

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

Funding Source	Percent
Board of Education	15.0%
Board of Health	10.0
Public Health/VNA	10.0
Grant	25.0
Other	40.0

III. Staffing Levels:

In the responding districts, there were a total of 765.6 Full-Time Equivalent (FTE) registered nurses and 105.8 FTE nursing support staff.

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	71.6%	24.5%	3.9%
Secondary nurse-to-student ratio in district	18.4	46.9	34.7

The majority of Connecticut schools meet national guidelines that suggest a school district have a nurse-to-student ratio no greater than one nurse to 750 students. However, 35% of Connecticut secondary schools do 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	26.5%	55.9%	14.7%	2.9%
RNs in each private school	62.3	29.5	4.9	3.3
LPNs in each school	91.5	6.4	2.1	.0

The majority of Connecticut school districts have at least one full-time registered nurse in each public school. However, almost three quarters of districts have fewer than one registered nurse in each private school. Over ninety percent of districts do not have at least one LPN in each school.

IV. Staff Qualifications:

Connecticut school districts employ nurses with a wide range of qualifications. A summary of nurse qualifications is below.

**Table 6: Qualifications of District Nurses  
Total Number of Staff**

	<b>Total Number of Staff</b>
<b>Diploma Registered Nurses</b>	212
<b>Registered Nurses with AD/AS degree</b>	110
<b>Registered Nurses with BS in Nursing</b>	375
<b>Registered Nurses with another Bachelor's degree</b>	43
<b>Registered Nurses with MS in Nursing</b>	42
<b>Registered Nurses with MPH</b>	12
<b>Registered Nurses with MA in Education</b>	11
<b>Registered Nurses with another Master's degree</b>	16
<b>Registered Nurses with a doctoral degree</b>	1
<b>Registered Nurses with another degree</b>	2
<b>Registered Nurses with a national certification in School Nursing</b>	66
<b>Registered Nurses with a national certification in any OTHER nursing field</b>	19

The majority of district nurses have a BS in Nursing, are Diploma Registered Nurses or are Registered Nurses with an AD/AS degree. However, a wide range of districts also report 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. Many districts also have registered nurses with national certifications in school nursing and other nursing fields.

**Table 7: Qualifications of Nurse Leaders  
Percent Response**

	<b>Diploma Registered Nurse</b>	<b>AD</b>	<b>Other Associates Degree</b>	<b>BS in Nursing</b>	<b>Other Bachelor's degree</b>	<b>MS in Nursing</b>	<b>MPH</b>
Nurse Leader 1	19.6%	9.3%	1.0%	37.1%	12.4%	11.3%	9.3%
Nurse Leader 2	50.0	0.0	0.0	16.7	16.7	16.7	0.0
Nurse Leader 3	0.0	0.0	0.0	100.0	0.0	0.0	0.0

Districts also reported the qualifications of each nurse leader in their districts. Districts with more than one nurse leader reported additional qualifications under nurse leader 2 or 3 above. The majority of districts reported nurse leaders having a BS in Nursing, another Bachelor's degree, or an MS in Nursing.

**Table 8: Additional Specialists Employed by Districts  
Percent Response**

	Yes	No
<b>Nutritionist</b>	10.4%	89.6%
<b>Mental Health Consultant</b>	50.5	49.5
<b>Psychiatrist</b>	23.2	76.8
<b>Assistive Technology Specialist</b>	47.5	52.5
<b>Other</b>	30.8	69.2

V. Perceived Importance of Factors to Staffing Level

Respondents rated their perception of the importance of a variety of factors related to staffing levels in their district. Results of these ratings are listed below in decreasing order of mean response.

**Table 9: Importance of Factors to Staffing Levels  
Percent Respondents and Mean**

<i>How important are each of the following in determining staffing patterns in your district?</i>	Very Unimportant	Unimportant	Neither Unimportant nor Important	Important	Very Important	Mean
<b>Budget</b>	12.0%	2.8%	2.8%	13.0%	69.4%	<b>4.25</b>
<b>Needs of students</b>	12.1	0.0	8.4	17.8	61.7	<b>4.17</b>
<b>District understanding of service needs</b>	13.9	0.9	6.5	26.9	51.9	<b>4.02</b>
<b>Availability of qualified staff</b>	13.9	5.6	7.4	23.1	50.0	<b>3.90</b>

Budget was perceived to be the most important determinant of staffing patterns in the districts. However, all other items were also considered important or very important to staffing patterns.

***Student Health in Connecticut School Districts:***

Districts also provided data on a wide range of topics related to student health. Tables summarizing their responses are provided below.

I. Student Health Care Needs:

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

	K-5	6-8	9-12	Total
Bee Sting Allergy	1,140	794	1,375	3,309
Food Allergy	5,846	2,398	2,393	10,637
Latex/Environmental Allergy	5,518	3,603	3,101	12,222
Arthritis	269	145	152	566
Asthma	16,945	10,314	11,841	39,100
Autism Spectrum Disorders	1,334	400	315	2,049
Hemophilia	45	20	32	97
Sickle Cell Trait	189	88	69	346
Other Blood Dyscrasias	347	177	219	743
Cancer	101	64	88	253
Cardiac Conditions	921	459	552	1,932
Developmental Delays	3,953	792	771	5,516
Diabetes Type I	294	257	340	891
Diabetes Type II	35	69	93	197
Migraine Headaches	966	978	1451	3,395
Cerebral Palsy	474	198	199	871
Spina Bifida	74	28	35	137
Seizure Disorder	1,164	536	664	2,364
Speech Defects	6,804	970	811	8,585
Severe Vision Impairment	669	227	458	1,354
Severe Hearing Impairment	634	307	402	1,343
Other Health Impairment	1,920	1261	1503	4,684
Oral Health Needs	541	181	190	912
Neurological Impairment	919	441	525	1,885
Orthopedic Impairment	639	357	574	1,570
ADHD/ADD	5,483	3,841	4,273	13,597
Depression	673	809	2,431	3,913
Eating Disorders	168	191	424	783
Other Behavioral/Emotional Conditions	2,517	1,507	2,341	6,365

Connecticut school nurses provide services to students with a wide range of physical and emotional health needs. The most prevalent conditions reported included latex/environmental and food allergies, asthma, and ADHD/ADD.

***Allocation of Nurses' Time in Connecticut School Districts:***

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

I. Types of Interventions

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

	<b>0-30%</b>	<b>31-70%</b>	<b>71-100%</b>
<b>Routine Nursing Intervention</b>	5.5 %	34.5 %	60 %
<b>Referral to health care provider</b>	93.6	4.5	1.8
<b>Daily medication administration</b>	91.7	4.6	3.7
<b>As needed medication administration</b>	87.3	10	2.7
<b>Performing special health care procedures</b>	93.6	5.5	0.9
<b>Monitor health care needs</b>	66.4	21.8	11.8
<b>Case management</b>	90.9	7.3	1.8

The majority of Connecticut school nurses; daily work time is spent on routine nursing interventions. However, districts also report a large amount of time spent on a range of other activities including case management, special health care procedures, medication administration, monitoring health care needs and referral to health care providers.

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

	<b>Districts Performing This Procedure</b>
Gastrostomy Tube Feedings	47.7%
Nasogastric Tube Feedings	1.9
Suctioning	33.6
Tracheostomy Care	23.4
Nebulizer Treatments	94.6
Blood Sugar Testing	91.1
Insulin Pump Management	78.6
Catheterizations	43.4
Ventilator Care	6.5
IV Therapy	11.2
Ostomy Care	16.0
Oxygen Therapy	22.2
Other Treatment	54.8

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

II. Impact of Nursing Interventions:

**Table 13: Percentage of Students Returned to Classroom within one half hour after a nursing intervention:  
Percent Response**

Percentage of Students Returned Within One Half Hour	Percent Response
0-25%	2.7%
26-50%	0.9
51-75%	3.6
76-100%	92.9

III. Other Factors Impacting Student Health:

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

Percent of Students Without Health Insurance	Percent of Districts Reporting
0-25%	94.6%
26-50%	4.3
51-75%	1.1

The majority of districts reported that 0-25% of their students did not carry health insurance.

**Table 15: Number of 911 Calls Per Year  
Percent Response**

Number of 911 Calls Per Year	Percent Response
0-10	70.0%
11-20	16.4
21-30	6.4
31-40	2.7
41-50	1.8
More than 100	2.7

Thirty percent of districts report eleven or more 911 calls per year with almost three percent reporting more than one hundred calls/year.

Respondents identified the most common reason for 911 calls to be injuries, followed by other reasons, seizure and anaphylaxis.

IV. Health Coordination/Education:

Connecticut school nurses and their districts are also 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 Healthcare Plan	0.0%	43.2%	56.8%
Development of Individual Emergency Plan	0.0	25.5	74.5
Development of 504 Plan	0.0	31.8	68.2
Staff Training to Meet Individual Student Health Needs	0.0	22.7	77.3

The majority of districts report that health care management services are always provided. However, the number of districts that report services “sometimes” being provided ranges from 26% to 43%, suggesting that approximately one-third 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	10.8%	16.2	73.0%
Development of Individual Emergency Plan	7.3	10.1	82.6
Development of 504 Plan	7.4	27.8	64.8
Staff Training to Meet Individual Student Health Needs	5.5	20.0	74.5

The majority of respondents are satisfied with the quality of each health care management service provided by their district. However, almost 11% are not satisfied with the quality of the Individual Healthcare Plans developed by the district. Over five percent are not satisfied with the quality of each of the other healthcare management services.

In responding districts, 86% of health service staff are involved in the development of Individual Education Plans.

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

	<b>Yes</b>	<b>No</b>	<b>District Does Not Provide</b>
Bloodborne Pathogen Exposure Plan	94.6%	5.4%	0.0%
Staff Wellness Programs	56.6	17.9	25.5
School-based Outreach to Enroll Students in HUSKY	59.0	23.8	17.1
Staff Education to Meet Health Program Needs	86.3	9.8	3.9
Indoor Air Quality Program	68.0	27.0	5.0
Maintenance of Health Room and Equipment	96.4	2.7	0.9
School Safety/Crisis Plan	93.6	6.4	0.0
PPT Process	93.8	6.3	0.0
Child Abuse Reporting and Prevention	100.0	0.0	0.0
504 Coordination	86.8	12.3	0.9

The majority of districts report that school health staff are involved in the majority of health coordination and education activities. However, it is notable that a number of districts report that school health staff



are not involved in staff wellness programs, school-based outreach to enroll students in HUSKY, indoor air quality programs and 504 coordination.

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

<i>My district has:</i>	No	Yes
School Health Council	77.5%	22.5%
Automatic External Defibrillator program in place	39.6	60.4

The majority of districts do not have a school health council. Over sixty percent have an Automatic External Defibrillator program in place.

**Table 20: District Needs  
Percent Response**

<i>To increase my satisfaction with services provided in my district, I would need:</i>	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	Mean
Fiscal resources	2.8%	.9%	13.2%	39.6%	43.4%	<b>4.20</b>
Information on available resources	2.8	6.4	16.5	52.3	22.0	<b>3.84</b>
Training for staff	3.7	8.3	20.2	47.7	20.2	<b>3.72</b>
Non-fiscal resources	1.9	5.8	29.1	46.6	16.5	<b>3.70</b>
Improved communication within the district	1.9	12.1	24.3	38.3	23.4	<b>3.69</b>
Improved communication with state agencies	2.8	13.2	31.1	39.6	13.2	<b>3.47</b>
On-site consultation for staff	1.9	16.8	30.8	36.4	14.0	<b>3.44</b>

The highest number of respondents perceived fiscal resources and information on available resources as important to increase satisfaction with services provided. On-site consultation was the item least frequently perceived as important by respondents. However, the mean response of 3.44 is greater than neutral, and suggests that on-site consultation is also viewed as important to satisfaction with services by districts.

**Table 21: Involvement of School Health Service Staff in Teaching  
Percent Response**

<i>In my district, school health staff are involved in teaching health promotion or prevention in the following areas:</i>	Never	Sometimes	Always
Nutrition/Physical Activity	10.9%	73.6%	15.5%
Human Sexuality Education	29.1	51.8	19.1
Disease Prevention	6.4	57.3	36.4
Injury Prevention	7.3	63.3	29.4
Substance Abuse Prevention	26.2	61.7	12.1
Other	9.3	78.7	12.0

The majority of districts report that school health staff are sometimes involved in teaching each area.

**Table 22: 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	6.2%	27.8%	16.5%	13.4%	36.1%
Classroom Teaching Alone	38.8	52.0	6.1	2.0	1.0
Classroom Teaching with Educator	20.4	66.3	5.1	4.1	4.1
Program Management	40.6	43.8	11.5	2.1	2.1
Group Counseling	50.0	48.0	1.0	1.0	0.0
Other Teaching Technique	40.2	48.8	6.1	2.4	2.4

When health service staff are involved in teaching, they are involved in a range of activities including teaching individual students, teaching in classrooms both alone and with an educator, as well as program management, group counseling, and other teaching techniques.

**Demographics:**

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

**Table 23: Educational Reference Group (ERG) of Responding Districts  
Percent Response**

<b>ERG</b>	<b>Percent</b>
A	6.6%
B	11.0
C	16.5
D	18.7
E	7.7
F	15.4
G	11.0
H	7.7
I	5.5

Respondents represent all Educational Reference Groups found in Connecticut in approximately equivalent numbers.

**Table 24: Demographic Location of Responding Districts  
Percent Response**

<b>Demographic Location</b>	<b>Percent</b>
Urban	10.9%
Suburban	55.5
Rural	33.6

The majority of respondents represented suburban districts. However, 11% were urban and one-third were rural districts.

The majority of respondents provide health services to public school districts. Approximately two-fifths of districts also report providing services to private school districts.

***Survey Open-Ended Questions:***

I. Health Services Provided to Students in the District:

Respondents appear to be generally satisfied with the state of health services in the districts. Respondents commented freely on a number of areas including a lack of structure within the districts to allow the collection of accurate data on services provided and students referred out as a result of services, a need to re-evaluate the demand for mandated screening in certain areas, particularly for scoliosis, and a need for additional staff to support both data collection and service provision needs for students.

II. District Requests for Improvement of Health Services:

Districts requested assistance from the Connecticut State Department of Education in a number of areas. Some of the areas in which assistance was requested including the following:

- Communication with health service providers regarding mandated information on health forms and new mandates as they arise.
- Increased support for the provision of mental health and dental services.
- Provision of immunizations to foreign students.
- Support for data collection regarding health services.
- Guidelines for referrals, with a particular focus on obesity.
- Advocacy for equality of managed care plans and other services provided to HUSKY students.
- Professional development for school nurses.

III. Staffing of Health Services in Districts:

Districts commented freely on the qualifications of school nursing staff. Some of the areas in which comments were frequently made include the following:

- Difficulty in recruiting highly qualified staff due to low salary schedules.
- Need for increased access to specialists such as psychologists and social workers.
- Lack of monetary or other incentives from employers to pursue certification/re-certification.
- Overall satisfaction with the qualifications of staff available.
- Insufficient staffing levels, particularly in secondary schools.
- Increased demands on existing staff due to increased number of medically fragile students.
- Need for substitute nurses.
- Need for mandated nurse-to-student ratio.
- Need for feedback to nursing staff as to results of data collection efforts.
- Need for clerical and support staff.

All open-ended comments have been provided to the Connecticut State Department of Education and are available upon request.

**School Health Services Conclusions**

Overall, Connecticut school district 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 second year of survey administration were examined by the Connecticut State Department of Education and EDUCATION CONNECTION staff and lead to the following conclusions regarding school health services in Connecticut:

- Data indicate that, in responding school districts, over 2% of students are provided voluntary mental health screening. Of these students, 36% are referred to mental health providers. Similarly, over 1,500 students were provided voluntary dental screening. Of these, 21.1% were referred to dental health providers.
- 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.
- Data indicate that 27% of districts have less than one FTE registered nurse available in each public school and 62% 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. The most common conditions reported were asthma, latex and food allergies, speech defects, ADHD/ADD, developmental delays and other behavioral/emotional conditions. It can be expected that the high incidence of these conditions among Connecticut students will increase the responsibilities of school nursing staff. Additionally, it can be expected that these conditions may impact the academic performance of affected children.
- The majority (93%) 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.
- Five percent of districts reported that 26-75% of students did not have 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.
- Districts provided a wide range of suggestions of services that would increase district satisfaction with the provision of health services to students. District suggestions include fiscal and non-fiscal resources, information on available resources, communication with state agencies and training for staff.

### **Recommendations for Future Data Collection**

A number of specific recommendations for the 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. However, this first year of data collection on the number of students served in a district and the number of referrals made as a result of these services highlighted difficulties districts faced which impacted their ability to collect accurate data. Specifically, a number of districts expressed difficulty regarding the ability to track referrals. As a result, many districts did not enter the number of referrals. It is recommended that support be provided to districts to assist them to accurately track this information. Additionally, a number of districts provide health services to students in both public and private schools. This “dual” provision of services created confusion among respondents as to which numbers to include when recording the total population of students served. It is recommended that

future data collection ask districts to provide the total number of students served in each category, as opposed to requesting the combined total number of students served.

- Based on responses to open-ended questions, it is recommended that efforts be made to further align the data collection documents provided to each school in a district with the online survey completed by a district representative.
- 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. It is recommended that future data collection include activities designed to increase the overall survey response rate and ensure that all survey questions are completed by districts.

## **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, has completed the second year of data collection regarding school health services. The data collection process is designed to assist the Department of Education to gain an understanding of 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.

Based on the results of the 2003-2004 survey administration, the online survey was adapted prior to administration during 2004-2005. The Connecticut State Department of Education and the Connecticut State Health Records Committee assisted Dr. Newsom-Stewart of EDUCATION CONNECTION to adapt the survey to meet the needs of school districts and the Connecticut State Department of Education.

The online survey, instructions for completion, and the final report for the 2003-2004 administration were posted to the EDUCATION CONNECTION website to increase ease of 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). Numerical totals, 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 and twelve (112) received in time to be analyzed, yielding a response rate of sixty-six percent (66%).

Respondents were approximately equally distributed across ERGs. The majority of respondents (95%) were public school districts, with an additional 2% being charter schools and approximately 4% of respondents working for a Regional Educational Service Center (RESC). The majority of respondents provided services to public schools (91%) and 41% provided services to private, non-public schools.

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

Overall, Connecticut school district 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 second year of survey administration were examined by the Connecticut State Department of Education and EDUCATION CONNECTION staff and indicate the following:

- In responding school districts, over 2% of students are provided voluntary mental health screening. Of these students, 36% are referred to mental health providers. Similarly, over 1,500 students were provided voluntary dental screening. Of these, 21.1% were referred to dental health providers.
- The majority of nursing staff in participating districts are funded by the Boards of Education.
- 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.

- Over one quarter (27%) of responding districts have less than one FTE registered nurse available in each public school and 62% of districts have less than one FTE registered nurse available in each private school.
- Connecticut school districts are caring for children with a wide range of physical, developmental, behavioral and emotional conditions. The most common conditions reported were asthma, latex and food allergies, speech defects, ADHD/ADD, developmental delays and other behavioral/emotional conditions. It can be expected that the high incidence of these conditions among Connecticut students will increase the responsibilities of school nursing staff. Additionally, it can be expected that these conditions may impact the academic performance of affected children.
- The majority (93%) of respondents reported that 76-100% of students that 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.
- Five percent of districts reported that 26-75% of students did not have 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.
- Districts provided a wide range of suggestions for services to increase district satisfaction with provision of health services to students. District suggestions include fiscal resources, information on available resources, non-fiscal 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.

## TABLE OF CONTENTS

Introduction .....	1
Theoretical Framework.....	1
Review of the Literature .....	1
Data Collection Process.....	1
Survey Development.....	1
Survey Administration.....	2
Data Analysis Methodology .....	3
Results .....	3
Services Provided in Connecticut School Districts .....	3
Staffing of Health Services in Connecticut School Districts .....	4
I. Nursing Staff.....	4
II. Additional Staff .....	4
III. Staffing Levels.....	5
IV. Staff Qualifications .....	6
V. Perceived Importance of Factors to Staffing .....	7
Student Health in Connecticut School Districts.....	8
I. Student Health Care Needs .....	8
Allocation of Nurses Time in Connecticut School Districts.....	8
I. Types of Interventions .....	9
II. Impact of Nursing Interventions .....	10
III. Other Factors Impacting Student Health .....	10
IV. Health Coordination/Education.....	10
Demographics .....	13
Survey Open-Ended Questions.....	14
I. Health Services Provided to Students in District.....	14
II. District Requests for Improvement of Health Services.....	14
III. Staffing of Health Services in Districts .....	14
School Health Services Conclusions .....	15
Recommendations for Future Data Collection .....	15

### Tables

Table 1: Students Receiving Services as Percent of Total.....	3
Table 2: Numbers and Funding Sources of Staff.....	4
Table 3: Funding Sources for District Dental Services .....	5
Table 4: Nurse-to-Student Ratio.....	5
Table 5: Full Time Nurses by School.....	5
Table 6: Qualifications of District Nurses .....	6
Table 7: Qualifications of Nurse Leaders.....	6
Table 8: Additional Specialists Employed by District .....	7
Table 9: Importance of Factors to Staffing Levels .....	7
Table 10: Number of Students with Specific Health Needs .....	8
Table 11: Percent of Nurses' Time Spent on Specific Activities .....	9
Table 12: Types of Procedures Performed by Connecticut School Nurses.....	9
Table 13: Students Returned to Classroom Within One Half Hour .....	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.....	11



Table 18: Involvement of School Health Staff in Health Coordination .....	11
Table 19: Existence of Specific Programs.....	12
Table 20: District Needs .....	12
Table 21: Involvement of School Health Services Staff in Teaching.....	12
Table 22: Types of Teaching Techniques Used by Health Services Staff.....	13
Table 23: Educational Reference Group of Responding Districts.....	13
Table 24: Demographic Location of Responding Districts .....	13

## **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 2004-2005 school year. This is the second 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
- 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 2003-2004 survey administration, minor changes were made in the number and type of survey questions to maximize the ability of the survey to meet the needs of Connecticut school districts. All changes were implemented in close partnership, and with the final approval of, Ms. Cheryl Carotenuti, Health Promotion Consultant for the Connecticut State Department of Education and in collaboration with Connecticut's State Records Advisory Committee.

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
- Numbers of students with and 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
- Demographic information including:
  - Educational Reference Group (ERG)
  - 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 Records 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 2003-2004 administration 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, Ms. Cheryl Carotenuti, introduced participants to the purpose and history of the survey and shared the survey with the group online. Ms. Carotenuti answered questions concerning the practicalities of survey completion and state expectations for survey completion.

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 and twelve were received in time to be analyzed yielding a response rate of 66%.

**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 are 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 112 districts who responded to the questionnaire was 361,622 students.

	<b>Total Number of Students Reported by Participating Districts</b>	<b>Total Number of Students Receiving Service Reported by Participating Districts</b>	<b>Percent Receiving Service</b>	<b>Number of Students Referred to Outside Provider as a Result of Screening</b>	<b>Percent of Students Receiving Service Referred to Outside Provider as a Result of Screening</b>
<b><i>Optional Services</i></b>					
Body Mass Index Screening	294,604	24,777	8.4%	300	1.2%
Pediculosis	280,607	45,876	16.3	1,297	2.8
Nutrition Screening	288,370	3,442	1.1	317	9.2
Mental Health Consultation	280,947	5,742	2.0	1,521	26.5
Dental Screening	222,305	1,789	0.8	378	21.1
<b><i>Mandatory Services</i></b>					
Vision	317,479	317,479		22,459	7.0%
Scoliosis	356,583	356,583		5,478	1.5
Hearing	355,154	355,154		3,965	1.1
Mandated Health Assessments	260,584	260,584		12,400	4.7

The number of students provided optional services was relatively small compared to the total number of students in participating districts, suggesting that many districts may not have optional services. However, the fact that these services were voluntarily provided to 81,626 Connecticut students, and that 3,813 of these students were referred to outside providers as a result, highlights the potential need for these services throughout Connecticut schools.

As a result of mandatory screenings in the responding districts, 44,302 Connecticut students were referred to outside providers for further assistance.

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

I. Nursing Staff:

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

	<b>Total Number of Staff in Participating Districts (FTE)</b>	<b>Percentage Funded by Board of Health</b>	<b>Percentage Funded by Board of Education</b>	<b>Percentage Funded by Public Health/VNA</b>
<b>Nurse Leaders</b>	82.6	11.1 %	81.2 %	7.6 %
<b>School Nurses</b>	632.5	22.4	69.2	8.4
<b>Nurse Practitioners</b>	17.0	16.6	76.5	5.9
<b>Permanent Float Nurses</b>	16.1	12.4	87.6	0
<b>One-to-One Nurses</b>	24.0	0	78.4	21.6
<b>Contracted Nursing Staff</b>	26.5	0	100	0
<b>Licensed Practical Nurses</b>	21.5	4.7	95.3	0
<b>Nurse Aides</b>	85.3	25.8	51.9	22.3
<b>Nursing Support Staff</b>	39.2	26.6	73.4	0

Connecticut school districts employ registered nurses funded through a variety of sources. The majority of nursing staff are funded by the Board of Education. It should be noted that data suggest the majority of districts do not have nursing support staff such as LPNs, health aides or nursing clerks or other support staff. Respondent comments indicate a high need for these services.

II. Additional Staff:

District Medical Advisor:

Of the 112 responding districts, 102 (94%) received services from a medical adviser 0-1 hours per month. Four districts (3.7%) received these 11-20 hours of services per month, and two districts received 21 to 40 hours of these services per month.

Eighty-three percent of district medical advisers were funded by the Board of Education, 6% by the Board of Health, 3% by Public Health or Visiting Nurses Association (VNA) funding, 1% through grant funding and 7% through other funding sources.

The district medical advisers serving Connecticut school districts specialize in the following areas:

- Adolescent Health 25%
- Family Medicine 33%
- General Medicine 13%
- Internal Medicine 12%
- Orthopedics 1%
- Pediatrics 57%
- Public Health 7%
- Sports Medicine 4%
- Other 9%

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

District Dental Services:

The majority (81%) of responding districts did not provide dental services to their students. Of the districts that do provide these services, 47% use a dentist and 53% use a dental hygienist to provide these services. Of the districts providing dental services, funding sources are listed below:

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

<b>Funding Source</b>	<b>Percent</b>
Board of Education	15.0%
Board of Health	10.0
Public Health/VNA	10.0
Grant	25.0
Other	40.0

III. Staffing Levels:

In the responding districts, there were a total of 765.6 Full-Time Equivalent (FTE) registered nurses and 105.8 FTE nursing support staff.

Staffing by Grade Level and School:

**Table 4: Nurse-to-Student Ratio  
Percent Respondents**

	<b>One nurse to 250-500 students</b>	<b>One nurse to 501-750 students</b>	<b>One nurse to more than 750 students</b>
Elementary nurse-to-student ratio in district	71.6%	24.5%	3.9%
Secondary nurse-to-student ratio in district	18.4	46.9	34.7

The majority of Connecticut schools meet national guidelines that suggest a school district have a nurse-to-student ratio no greater than one nurse to 750 students. However, 35% of Connecticut secondary schools do not meet this guideline.

**Table 5: Full Time Nurses by School  
Percent Respondents**

	<b>&lt;1 FTE</b>	<b>1 FTE</b>	<b>&gt;1-2 FTE</b>	<b>&gt;2 FTE</b>
RNs in each public school	26.5%	55.9%	14.7%	2.9%
RNs in each private school	62.3	29.5	4.9	3.3
LPNs in each school	91.5	6.4	2.1	.0

The majority of Connecticut school districts have at least one full-time registered nurse in each public school. However, almost three quarters of districts have fewer than one registered nurse in each private school. Over ninety percent of districts do not have at least one LPN in each school.

IV. Staff Qualifications:

Connecticut school districts employ nurses with a wide range of qualifications. A summary of nurse qualifications is below.

**Table 6: Qualifications of District Nurses  
Total Number of Staff**

	<b>Total Number of Staff</b>
<b>Diploma Registered Nurses</b>	212
<b>Registered Nurses with AD/AS degree</b>	110
<b>Registered Nurses with BS in Nursing</b>	375
<b>Registered Nurses with another Bachelor's degree</b>	43
<b>Registered Nurses with MS in Nursing</b>	42
<b>Registered Nurses with MPH</b>	12
<b>Registered Nurses with MA in Education</b>	11
<b>Registered Nurses with another Master's degree</b>	16
<b>Registered Nurses with a doctoral degree</b>	1
<b>Registered Nurses with another degree</b>	2
<b>Registered Nurses with a national certification in School Nursing</b>	66
<b>Registered Nurses with a national certification in any OTHER nursing field</b>	19

The majority of district nurses have a BS in Nursing, are Diploma Registered Nurses or are Registered Nurses with an AD/AS degree. However, a wide range of districts also report 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. Many districts also have registered nurses with national certifications in school nursing and other nursing fields.

**Table 7: Qualifications of Nurse Leaders  
Percent Response**

	<b>Diploma Registered Nurse</b>	<b>AD</b>	<b>Other Associates Degree</b>	<b>BS in Nursing</b>	<b>Other Bachelor's degree</b>	<b>MS in Nursing</b>	<b>MPH</b>
Nurse Leader 1	19.6%	9.3%	1.0%	37.1%	12.4%	11.3%	9.3%
Nurse Leader 2	50.0	0.0	0.0	16.7	16.7	16.7	0.0
Nurse Leader 3	0.0	0.0	0.0	100.0	0.0	0.0	0.0

Districts also reported the qualifications of each nurse leader in their districts. Districts with more than one nurse leader reported additional qualifications under nurse leader 2 or 3 above. The majority of districts reported nurse leaders having a BS in Nursing, another Bachelor's degree, or an MS in Nursing.

**Table 8: Additional Specialists Employed by Districts  
Percent Response**

	Yes	No
<b>Nutritionist</b>	10.4%	89.6%
<b>Mental Health Consultant</b>	50.5	49.5
<b>Psychiatrist</b>	23.2	76.8
<b>Assistive Technology Specialist</b>	47.5	52.5
<b>Other</b>	30.8	69.2

V. Perceived Importance of Factors to Staffing Level

Respondents rated their perception of the importance of a variety of factors related to staffing levels in their district. Results of these ratings are listed below in decreasing order of mean response.

**Table 9: Importance of Factors to Staffing Levels  
Percent Respondents and Mean**

<i>How important are each of the following in determining staffing patterns in your district?</i>	Very Unimportant	Unimportant	Neither Unimportant nor Important	Important	Very Important	Mean
<b>Budget</b>	12.0%	2.8%	2.8%	13.0%	69.4%	<b>4.25</b>
<b>Needs of students</b>	12.1	0.0	8.4	17.8	61.7	<b>4.17</b>
<b>District understanding of service needs</b>	13.9	0.9	6.5	26.9	51.9	<b>4.02</b>
<b>Availability of qualified staff</b>	13.9	5.6	7.4	23.1	50.0	<b>3.90</b>

Budget was perceived to be the most important determinant of staffing patterns in the districts. However, all other items were also considered important or very important to staffing patterns.



***Student Health in Connecticut School Districts:***

Districts also provided data on a wide range of topics related to student health. Tables summarizing their responses are provided below.

I. Student Health Care Needs:

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

	K-5	6-8	9-12	Total
Bee Sting Allergy	1,140	794	1,375	3,309
Food Allergy	5,846	2,398	2,393	10,637
Latex/Environmental Allergy	5,518	3,603	3,101	12,222
Arthritis	269	145	152	566
Asthma	16,945	10,314	11,841	39,100
Autism Spectrum Disorders	1,334	400	315	2,049
Hemophilia	45	20	32	97
Sickle Cell Trait	189	88	69	346
Other Blood Dyscrasias	347	177	219	743
Cancer	101	64	88	253
Cardiac Conditions	921	459	552	1,932
Developmental Delays	3,953	792	771	5,516
Diabetes Type I	294	257	340	891
Diabetes Type II	35	69	93	197
Migraine Headaches	966	978	1451	3,395
Cerebral Palsy	474	198	199	871
Spina Bifida	74	28	35	137
Seizure Disorder	1,164	536	664	2,364
Speech Defects	6,804	970	811	8,585
Severe Vision Impairment	669	227	458	1,354
Severe Hearing Impairment	634	307	402	1,343
Other Health Impairment	1,920	1261	1503	4,684
Oral Health Needs	541	181	190	912
Neurological Impairment	919	441	525	1,885
Orthopedic Impairment	639	357	574	1,570
ADHD/ADD	5,483	3,841	4,273	13,597
Depression	673	809	2,431	3,913
Eating Disorders	168	191	424	783
Other Behavioral/Emotional Conditions	2,517	1,507	2,341	6,365

Connecticut school nurses provide services to students with a wide range of physical and emotional health needs. The most prevalent conditions reported included latex/environmental and food allergies, asthma, and ADHD/ADD.

***Allocation of Nurses' Time in Connecticut School Districts:***

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

I. Types of Interventions

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

	<b>0-30%</b>	<b>31-70%</b>	<b>71-100%</b>
<b>Routine Nursing Intervention</b>	5.5 %	34.5 %	60 %
<b>Referral to health care provider</b>	93.6	4.5	1.8
<b>Daily medication administration</b>	91.7	4.6	3.7
<b>As needed medication administration</b>	87.3	10	2.7
<b>Performing special health care procedures</b>	93.6	5.5	0.9
<b>Monitor health care needs</b>	66.4	21.8	11.8
<b>Case management</b>	90.9	7.3	1.8

The majority of Connecticut school nurses; daily work time is spent on routine nursing interventions. However, districts also report a large amount of time spent on a range of other activities including case management, special health care procedures, medication administration, monitoring health care needs and referral to health care providers.

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

	<b>Districts Performing This Procedure</b>
Gastrostomy Tube Feedings	47.7%
Nasogastric Tube Feedings	1.9
Suctioning	33.6
Tracheostomy Care	23.4
Nebulizer Treatments	94.6
Blood Sugar Testing	91.1
Insulin Pump Management	78.6
Catheterizations	43.4
Ventilator Care	6.5
IV Therapy	11.2
Ostomy Care	16.0
Oxygen Therapy	22.2
Other Treatment	54.8

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

II. Impact of Nursing Interventions:

**Table 13: Percentage of Students Returned to Classroom within one half hour after a nursing intervention:  
Percent Response**

Percentage of Students Returned Within One Half Hour	Percent Response
0-25%	2.7%
26-50%	0.9
51-75%	3.6
76-100%	92.9

III. Other Factors Impacting Student Health:

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

Percent of Students Without Health Insurance	Percent of Districts Reporting
0-25%	94.6%
26-50%	4.3
51-75%	1.1

The majority of districts reported that 0-25% of their students did not carry health insurance.

**Table 15: Number of 911 Calls Per Year  
Percent Response**

Number of 911 Calls Per Year	Percent Response
0-10	70.0%
11-20	16.4
21-30	6.4
31-40	2.7
41-50	1.8
More than 100	2.7

Thirty percent of districts report eleven or more 911 calls per year with almost three percent reporting more than one hundred calls/year.

Respondents identified the most common reason for 911 calls to be injuries, followed by other reasons, seizure and anaphylaxis.

IV. Health Coordination/Education:

Connecticut school nurses and their districts are also 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 Healthcare Plan	0.0%	43.2%	56.8%
Development of Individual Emergency Plan	0.0	25.5	74.5
Development of 504 Plan	0.0	31.8	68.2
Staff Training to Meet Individual Student Health Needs	0.0	22.7	77.3

The majority of districts report that health care management services are always provided. However, the number of districts that report services “sometimes” being provided ranges from 26% to 43%, suggesting that approximately one-third 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	10.8%	16.2	73.0%
Development of Individual Emergency Plan	7.3	10.1	82.6
Development of 504 Plan	7.4	27.8	64.8
Staff Training to Meet Individual Student Health Needs	5.5	20.0	74.5

The majority of respondents are satisfied with the quality of each health care management service provided by their district. However, almost 11% are not satisfied with the quality of the Individual Healthcare Plans developed by the district. Over five percent are not satisfied with the quality of each of the other healthcare management services.

In responding districts, 86% of health service staff are involved in the development of Individual Education Plans.

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

	<b>Yes</b>	<b>No</b>	<b>District Does Not Provide</b>
Bloodborne Pathogen Exposure Plan	94.6%	5.4%	0.0%
Staff Wellness Programs	56.6	17.9	25.5
School-based Outreach to Enroll Students in HUSKY	59.0	23.8	17.1
Staff Education to Meet Health Program Needs	86.3	9.8	3.9
Indoor Air Quality Program	68.0	27.0	5.0
Maintenance of Health Room and Equipment	96.4	2.7	0.9
School Safety/Crisis Plan	93.6	6.4	0.0
PPT Process	93.8	6.3	0.0
Child Abuse Reporting and Prevention	100.0	0.0	0.0
504 Coordination	86.8	12.3	0.9

The majority of districts report that school health staff are involved in the majority of health coordination and education activities. However, it is notable that a number of districts report that school health staff

are not involved in staff wellness programs, school-based outreach to enroll students in HUSKY, indoor air quality programs and 504 coordination.

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

<i>My district has:</i>	No	Yes
School Health Council	77.5%	22.5%
Automatic External Defibrillator program in place	39.6	60.4

The majority of districts do not have a school health council. Over sixty percent have an Automatic External Defibrillator program in place.

**Table 20: District Needs  
Percent Response**

<i>To increase my satisfaction with services provided in my district, I would need:</i>	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	Mean
Fiscal resources	2.8%	.9%	13.2%	39.6%	43.4%	<b>4.20</b>
Information on available resources	2.8	6.4	16.5	52.3	22.0	<b>3.84</b>
Training for staff	3.7	8.3	20.2	47.7	20.2	<b>3.72</b>
Non-fiscal resources	1.9	5.8	29.1	46.6	16.5	<b>3.70</b>
Improved communication within the district	1.9	12.1	24.3	38.3	23.4	<b>3.69</b>
Improved communication with state agencies	2.8	13.2	31.1	39.6	13.2	<b>3.47</b>
On-site consultation for staff	1.9	16.8	30.8	36.4	14.0	<b>3.44</b>

The highest number of respondents perceived fiscal resources and information on available resources as important to increase satisfaction with services provided. On-site consultation was the item least frequently perceived as important by respondents. However, the mean response of 3.44 is greater than neutral, and suggests that on-site consultation is also viewed as important to satisfaction with services by districts.

**Table 21: Involvement of School Health Service Staff in Teaching  
Percent Response**

<i>In my district, school health staff are involved in teaching health promotion or prevention in the following areas:</i>	Never	Sometimes	Always
Nutrition/Physical Activity	10.9%	73.6%	15.5%
Human Sexuality Education	29.1	51.8	19.1
Disease Prevention	6.4	57.3	36.4
Injury Prevention	7.3	63.3	29.4
Substance Abuse Prevention	26.2	61.7	12.1
Other	9.3	78.7	12.0

The majority of districts report that school health staff are sometimes involved in teaching each area.

**Table 22: 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	6.2%	27.8%	16.5%	13.4%	36.1%
Classroom Teaching Alone	38.8	52.0	6.1	2.0	1.0
Classroom Teaching with Educator	20.4	66.3	5.1	4.1	4.1
Program Management	40.6	43.8	11.5	2.1	2.1
Group Counseling	50.0	48.0	1.0	1.0	0.0
Other Teaching Technique	40.2	48.8	6.1	2.4	2.4

When health service staff are involved in teaching, they are involved in a range of activities including teaching individual students, teaching in classrooms both alone and with an educator, as well as program management, group counseling, and other teaching techniques.

**Demographics:**

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

**Table 23: Educational Reference Group (ERG) of Responding Districts  
Percent Response**

<b>ERG</b>	<b>Percent</b>
A	6.6%
B	11.0
C	16.5
D	18.7
E	7.7
F	15.4
G	11.0
H	7.7
I	5.5

Respondents represent all Educational Reference Groups found in Connecticut in approximately equivalent numbers.

**Table 24: Demographic Location of Responding Districts  
Percent Response**

<b>Demographic Location</b>	<b>Percent</b>
Urban	10.9%
Suburban	55.5
Rural	33.6

The majority of respondents represented suburban districts. However, 11% were urban and one-third were rural districts.

The majority of respondents provide health services to public school districts. Approximately two-fifths of districts also report providing services to private school districts.

### ***Survey Open-Ended Questions:***

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

Respondents appear to be generally satisfied with the state of health services in the districts. Respondents commented freely on a number of areas including a lack of structure within the districts to allow the collection of accurate data on services provided and students referred out as a result of services, a need to re-evaluate the demand for mandated screening in certain areas, particularly for scoliosis, and a need for additional staff to support both data collection and service provision needs for students.

#### **II. District Requests for Improvement of Health Services:**

Districts requested assistance from the Connecticut State Department of Education in a number of areas. Some of the areas in which assistance was requested including the following:

- Communication with health service providers regarding mandated information on health forms and new mandates as they arise.
- Increased support for the provision of mental health and dental services.
- Provision of immunizations to foreign students.
- Support for data collection regarding health services.
- Guidelines for referrals, with a particular focus on obesity.
- Advocacy for equality of managed care plans and other services provided to HUSKY students.
- Professional development for school nurses.

#### **III. Staffing of Health Services in Districts:**

Districts commented freely on the qualifications of school nursing staff. Some of the areas in which comments were frequently made include the following:

- Difficulty in recruiting highly qualified staff due to low salary schedules.
- Need for increased access to specialists such as psychologists and social workers.
- Lack of monetary or other incentives from employers to pursue certification/re-certification.
- Overall satisfaction with the qualifications of staff available.
- Insufficient staffing levels, particularly in secondary schools.
- Increased demands on existing staff due to increased number of medically fragile students.
- Need for substitute nurses.
- Need for mandated nurse-to-student ratio.
- Need for feedback to nursing staff as to results of data collection efforts.
- Need for clerical and support staff.

All open-ended comments have been provided to the Connecticut State Department of Education and are available upon request.

### **School Health Services Conclusions**

Overall, Connecticut school district 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 second year of survey administration were examined by the Connecticut State Department of Education and EDUCATION CONNECTION staff and lead to the following conclusions regarding school health services in Connecticut:

- Data indicate that, in responding school districts, over 2% of students are provided voluntary mental health screening. Of these students, 36% are referred to mental health providers. Similarly, over 1,500 students were provided voluntary dental screening. Of these, 21.1% were referred to dental health providers.
- 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.
- Data indicate that 27% of districts have less than one FTE registered nurse available in each public school and 62% 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. The most common conditions reported were asthma, latex and food allergies, speech defects, ADHD/ADD, developmental delays and other behavioral/emotional conditions. It can be expected that the high incidence of these conditions among Connecticut students will increase the responsibilities of school nursing staff. Additionally, it can be expected that these conditions may impact the academic performance of affected children.
- The majority (93%) 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.
- Five percent of districts reported that 26-75% of students did not have 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.
- Districts provided a wide range of suggestions of services that would increase district satisfaction with the provision of health services to students. District suggestions include fiscal and non-fiscal resources, information on available resources, communication with state agencies and training for staff.

### **Recommendations for Future Data Collection**

A number of specific recommendations for the 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. However, this first year of data collection on the number of students served in a district and the number of referrals made as a result of these services highlighted difficulties districts faced which impacted their ability to collect accurate data. Specifically, a number of districts expressed difficulty regarding the ability to track referrals. As a result, many districts did not enter the number of referrals. It is recommended that support be provided to districts to assist them to accurately track this information. Additionally, a number of districts provide health services to students in both public and private schools. This “dual” provision of services created confusion among respondents as to which numbers to include when recording the total population of students served. It is recommended that



future data collection ask districts to provide the total number of students served in each category, as opposed to requesting the combined total number of students served.

- Based on responses to open-ended questions, it is recommended that efforts be made to further align the data collection documents provided to each school in a district with the online survey completed by a district representative.
- 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. It is recommended that future data collection include activities designed to increase the overall survey response rate and ensure that all survey questions are completed by districts.