



Special Medical Services School Nurse Survey 2014

Summary Report of SMS School Nurse Survey

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Executive Summary

We received 505 of completed surveys from both public and private schools. The survey was sent out by email through the NH Department of Education School Nurse Listserve to 634 schools. This analysis focuses primarily on the 459 public schools. We received 430 completed surveys, after follow-up we received additional information from 16 schools.

Response rate 93.7%

Response rate after follow-up 97.2%

Total Public School (459)		Survey Responses (430)	
Pre-School	7 (1%)	Pre-School	4 (1%)
Elementary	302 (66%)	Elementary	282 (66%)
Middle	69 (15%)	Middle	65 (15%)
High	81 (18%)	High	79 (18%)

*Numbers do not include the schools that we followed-up with as those schools were only asked about numbers of students and nursing staff

- The ratio of RN's to students was 1:323 for nurses who reported working full-time at public schools only. This is a slightly lower ratio compared to the 2010 school nurses survey (1:454).
- The ratio of RN's to students who receive Special Education services 1:83 all schools were included even though many respondents were not able to provide exact counts for children receiving special education
- The ratio of nursing staff (includes Part-time RNs, Full-time RNs and LPNs) to students is 1:223
- Also looked at ratio of nursing staff to students and school staff 1:264
- 358 nurses (91%) were employed by the school/town, 17 (4%) by a public health agency including Manchester HD, 13 (4%) by a hospital, 2 nurses were employed by the private sector or contract agencies and 4 nurses left this question blank
- On average full-time nurses only cover one school 357 (87.5%), 38 nurses (9.3%) indicated covering 2 schools and 13 (3.2%) nurses reported covering more than 3 schools. Two elementary schools indicated no school nurse present on location.
- 351 nurses (89.1%) reported not having a school nurse certificate, 32 (8.1%) had a certificate
- The majority of school nurses who responded to the survey indicated 5-10 years of experience as a school nurse 99 out of 394 (25%). 42 nurses (11%) reported more than 25 years of experience
- Nearly half of school nurses were between the ages of 51 and 60 (43%), followed by 108 nurses (27%) indicating they were between the ages of 41-50 years

- Majority of respondents did not answer what their highest general level of education was
 - Nurses were more likely to answer their highest level of nursing education
- 190 nurses (49%) had a bachelor's degree, 129 nurses (33%) associates, 36(9%) master's, 32 (8%) nursing diploma, 2 (1%) PhDs
 - A number of nurses also indicated additional certifications and degrees
 - Master's in education
 - Bachelors in Psych or International Relations
 - Med/surge specialist
 - ANA certified psychiatric and mental health nurse and med health education
- Health Care Procedures: the procedures with the most response
 - Medications: Oral 384 out 424 (90.8%)
 - Blood Glucose testing 259 (61.2%)
 - Nebulizer 237 (56%)
 - Diapering/ Personal Toileting 207 (48.9%)
 - Bowel Program 259 (44.2%)
 - On average nurses had performed 5 of the 21 procedures listed within the past school year, 31 nurses indicated performing more than 10 of the HC procedures in the past year
 - There is a slight positive association between the number of nurses and the number of health care procedures conducted [$r=.108$, $p=.029$]
- On average school nurses were involved in 2 committees, with some nurses involved in as many as 7 committees (n=424)
 - Health Improvement/ Wellness- 288 (66%) most likely higher as many nurses added wellness to the other category
 - Emergency Response- 250 (59%)
 - Crisis Team- 224 (52.8%)
 - Child nutrition/ physical activity- 78 (18.4%)
 - Some nurses even serve on committees within their community
 - Majority of other committees listed were joint loss management, safety as well as 35 additional committees
- On average school nurses carry out 2 additional activities in the school, the two main activities were
 - Emergency Preparedness: 212 (30%)
 - Health Education: 167 (23.4%)
 - Other duties listed included recess and hall duty, filling out incident reports, detention monitor, as well as 23 other activities
 - More full-time nurses were associated with fewer activities being performed
- On average nurses indicated they have more than 30 students who require rescue meds with some schools having more than 400 students
 - Albuterol- 60.9%
 - Epi-pen- 31.2%
 - Glucagon- 4.1%

- Diastat- 2.7%
- Ativan- 0.9%
- Nasal Midazolam- 0.2%
- More full-time nurses were associated with more students with rescue meds (r=0.458, p<0.001)

Regional Differences (South Central, Southeast, Lakes, North Country, Southwest)

- On average full-time nurses only cover 1 building except in the Southeast where on average nurses covered 1.5 buildings
- Full-time nurses to student ratio was highest in the South Central region 1:528, also higher than the overall ratio for NH 1:323
 - Southeast 1:414
 - Lakes Region 1:263
 - North Country 1:257
 - Southwest 1:291
- Ratio of nursing staff (includes Part-time RNs, Full-time RNs and LPNs) to students, was highest in South Central region 1:405 much higher than the overall ratio for NH 1:223
 - Southeast 1:284
 - Lakes Region 1:200
 - North Country 1:127
 - Southwest 1:224
- Highest level of nursing degree
 - South Central: 52 nurses (47%) had a bachelor's degree, 40 nurses (36%) associates, 9(8%) master's, 9(8%) nursing diploma, 1 (1%) PhDs
 - Southeast: 35 nurses (51%) had a bachelor's degree, 15 nurses (22%) associates, 12(18%) master's, 6(9%) nursing diploma
 - Lakes: 39 nurses (51%) had a bachelor's degree, 25 nurses (33%) associates, 5(7%) master's, 7(9%) nursing diploma
 - North Country: 12 nurses (32%) had a bachelor's degree, 20 nurses (54%) associates, 5(14%) nursing diploma
 - Southwest: 46 nurses (53%) had a bachelor's degree, 26 nurses (30%) associates, 9(10%) master's, 5(6%) nursing diploma, 1 (1%) PhDs
- Years of School Nurse Experience
 - South Central- majority nurses had 5-10 years of experience (28%)
 - Southeast- majority nurses had 0-4 years of experience (24%) but a fairly equal distribution across all categories (different from overall number)
 - Lakes- majority nurses had 5-10 years of experience (26%)
 - North Country- majority nurses had 5-10 years of experience (31%), followed by 29% 0-4
 - Southwest- majority nurses had 16-20 years of experience (28%) (diff. From overall number)
 - South Central and Southwest both had PhD level nurses

- Age Distribution
 - South Central- majority nurses were between 51-60 years (49%)
 - Southeast- majority nurses were between 51-60 years (51%)
 - Lakes- majority nurses were between 41-50 years (33%) but followed closely by 51-60 and 61-70 age groups (31,21% respectively)
 - North Country- majority nurses were between 41-50 years (39%)
 - Southwest- majority nurses were between 51-60 years (47%)

- Health Care Procedures
 - The health care procedures that were most frequently mentioned in each county were
 - Glucose testing, bowel program, diapering/ toileting, Nebulizer, medication- oral and medication- subcutaneous
 - The one exception was in the Lakes Region were instead of medication – subcutaneous being one of the most frequently mentioned procedures it was replaced by bladder program

Rescue Medicines

	SC	SE	Lakes	NC	SW
Albuterol	58%	62%	66%	61%	61%
Epi-pen	35%	30%	28%	30%	29%
Glucagon	4%	4%	1%	4%	5%
Diastat	2%	2%	3%	4%	4%
Ativan	1%	2%	1%	1%	1%
Nasal	<1%	<1%	<1%	<1%	<1%

South Central region had one school with over 425 students with rescue medications.
 Southeast region had 2 schools with over 300 students with rescue medications.

Introduction

Research over the past couple decades has demonstrated that children's success in school and later in life is not only determined by each child's cognitive skills, but also their physical and mental health as well as their emotional well-being.¹ With more than 52 million children attending schools in the United States, the school environment is a prime location for health promotion and screening activities.² In recent years, schools have begun to note an increase in the number of children enrolled with physical or mental health concerns. It is estimated that 16% of the current 52 million children attending school have a chronic physical or emotional health condition.³ According to Bloom et al. (2009) from 2002 to 2008 the percentage of children in special education with health impairments resulting from a chronic or acute health condition increased 60%.⁴ Bloom also noted that since 2002 the rate of children with autism has also more than doubled; there has been a 40% increase over the past 10 years of children with asthma and nearly a 50% increase in the incidence of diabetes.^{5,6} With the growing complexity of children's service needs, pediatricians are experiencing difficulties in managing care throughout the school day, and so school nurses become an essential component of a comprehensive health system. The role of school nurses covers both health as well as educational goals. The National Association of School Nurses defines school nursing as:

A specialized practice of professional nursing that advances the well-being, academic success, and lifelong achievement of students. To that end, school nurses facilitate positive student responses to normal development; promote health and safety; intervene with actual and potential health problems; provide case management services; and actively collaborate with others to build student and family capacity for adaptation, self-management, self-advocacy, and learning.

The field of school nursing is constantly in flux and in recent years the demands on school nurses has been increasing. With more than 6.6% of children without health insurance, nationally, the school nurse has become the only source of health care for many of these children.⁷ Despite the growing need for school nurses, funding for such positions is often not a priority or is in competition with other programs.⁸ To date, 45% of public schools, in the United States, have a full-time school nurse on site five days a week, with another 30% working part time in one or more schools.⁹

¹ Hair, E. et al. Children's school readiness in ECLS-K: Predictions to academic, health and social outcomes in first grade. *Early Childhood Research Quarterly*. 2006. 21(4); 431-454.

² Wainwright et al. Health promotion and the role of the school nurse: a systematic review. *Journal of Advanced Nursing*. 2000. 32(5); 1083-1091.

³ http://www.nasn.org/portals/0/binder_papers_reports.pdf

⁴ Bloom B., & Cohen R.A. (2009). Summary health statistics for U.S. children: National Health Interview Survey, 2007. National Center for Health Statistics, *Vital Health Stat 10* (239)

⁵ Centers for Disease Control. (2009). Summary health statistics for U. S. Children: National Interview Health Survey. *Vital and Health Statistics 10* (249). Retrieved from http://www.cdc.gov/nchs/data/series/sr_10/sr10_247.pdf

⁶ Levy, M., Heffner, B, Stewart, T., & Beeman, G. (2006). The efficacy of asthma case management in an urban school district in reducing school absences and hospitalizations for asthma. *Journal of School Health*, 76, 320-324

⁷ <http://www.cdc.gov/nchs/fastats/child-health.htm>

⁸ Guttu, M, Engelke, MK, & Swanson, M. (2004). Does the school nurse ratio make a difference? *Journal of School Health*, 74, 6-10. doi: 10.1111/j.1746-1561.2004.tb06593.x

⁹ National Association of School Nurses. (2007). *School nursing in the United States: A quantitative study*. National Association of School Nurses. Silver Spring, MD

When there is no school nurse on site the responsibility to monitor and manage the health care needs of children falls on the administrators, educators, and staff that are often not trained or prepared to perform the necessary tasks.¹⁰ The National Association of Schools Nurses endorses a 1:750 ratio of nurse to students in the general population and a 1:125 ratio in student populations with complex health care needs.⁹ In a study by Guttu et al., researchers found that schools with lower nurse to student ratios were more capable of identifying students with chronic health care concerns and develop care plans for these students. The increased identification of students with health problems was also found to lead to decreased absences and decreased health care costs. Researchers also noted in schools with lower nurse to student ratios, nurses were able to provide more counseling to students with psychosocial concerns.

New Hampshire values the important role school nurses play in the well-being and safety of its children and youth. The purpose of the Special Medical Services school nurse survey was to help state and professional agencies gain a better understanding of the role requirements and workforce capacity of school nurses in New Hampshire. This report will provide a summary of the results from the school nurse survey and hopefully provide information and insight to assist in future planning and technical assistance development.

Methods

Survey Design

Questions were adapted from a previous school nurse survey conducted by the New Hampshire Board of Education in 2010 as well as the annual school nurse survey conducted by the Arkansas Board of Education. The survey was sponsored by Special Medical Services and New Hampshire Family Voices FACETS of Epilepsy Care Grant. Questions were reviewed by members of the Special Medical Services staff, the New Hampshire School Nurses Association, and the New Hampshire Board of Education.

Distribution

The survey was sent out by email to both administrators and nurses through the NH Department of Education School Nurse Listserve. The survey was sent out to a total of 634 schools via Survey Monkey and was open for 2 weeks at the beginning of June. After two weeks if schools had not completed the survey they received a reminder phone call. After another week schools that had still not completed the survey were contacted again via phone and asked if they could provide basic information on the number of students they serve and the make-up of their nursing staff. Additionally follow-up calls were made to several schools to clarify information. Results were exported from Survey Monkey to Excel and additional information was manually added.

Analysis

Data was managed predominately in Excel, counts, frequencies and ratios were calculated using Excel. Bivariate correlation was conducted using SPSS v17 to compare number of full-time nurses and certain health outcomes.

¹⁰ American Nurses Association. (2007). Assuring safe, high quality health care in pre-k through 12 educational settings. (Monograph). Silver Spring, MD. American Nurses Association.

Results

We received 505 completed surveys from both public and private schools. This analysis focuses primarily on NH's 459 public schools. We received completed surveys from 430 public schools, after follow-up we received additional information from 16 schools. It is important to note that several nurses cover multiple schools and so some calculations will use an N of 394.

Initial response rate for public schools **93.7%**

Response rate after follow-up **97.2%**

Total Public School (459)		Public School Responses (430)	
Pre-School	7 (1%)	Pre-School	5 (1%)
Elementary	302 (66%)	Elementary	281 (66%)
Middle	69 (15%)	Middle	65 (15%)
High	81 (18%)	High	79 (18%)

Table 1: *Numbers do not include the schools that we followed-up with as those schools were only asked information regarding number of students and nursing staff

Approximately 93% of schools completed the survey with representation from all levels of schools and across all regions. Overall the majority of schools who responded to the survey were elementary schools (66%) followed by high schools (18%), a similar make-up to the total public school numbers. [Table 1] All of the schools in the North Country were represented as were most of the schools in the Lakes (99%) and South Central Regions (97.7%). Slightly fewer schools responded from the Southwest (96.4%) and Southeast Regions (92.5%). [Table 2]

Number of Public Schools by Region		Number of Public Schools by Region who Completed Surveys	
North Country	55	North Country	55 (100%)
Lakes Region	84	Lakes Region	83 (99%)
South Central	129	South Central	126 (97.7%)
Southeast	80	Southeast	74 (92.5%)
Southwest	111	Southwest	107 (96.4%)

Table 2: Each region was well represented, especially the North Country where all schools responded to the survey.

Nurse to Student Ratios

The ratio of RN's to students was 1:339 for nurses who reported working full-time at public schools only. This is a slightly lower ratio compared to the 2010 School Nurse Survey distributed by the New Hampshire Board of Education, which found a ratio of 1:454. The ratio of RN's to students who receive Special Education services was 1:86. All schools were included in the calculation of this ratio even

though many respondents were not able to provide exact counts for children receiving special education. The ratio of nursing staff (includes Part-time RNs, Full-time RNs and LPNs) to students was 1:221. Additionally, the ratio of this same nursing staff to overall school population (students and staff) was 1:261.

Type of Employer

Out of the 394 nurses who completed the survey,¹¹ 358 nurses (91%) were employed by the school/town, 17 (4%) by a public health agency including the Manchester Health Department, 13 (4%) by a hospital, 2 nurses were employed by the private sector or contract agency and 4 nurses left this question blank. [Figure 1]

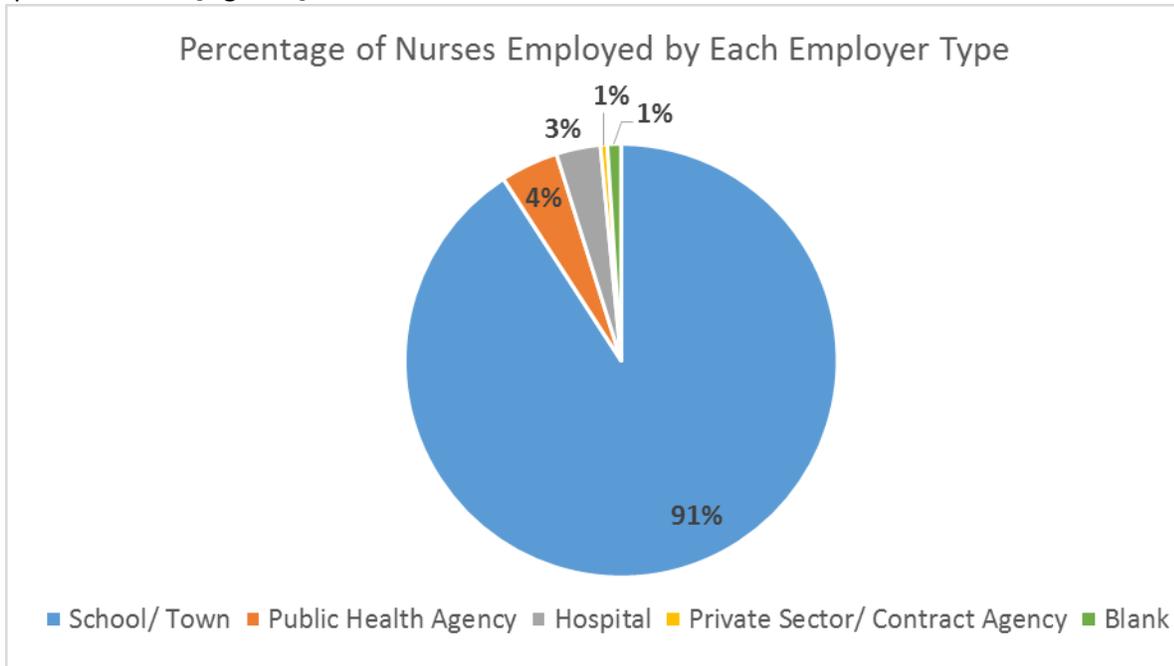


Figure 1: The majority of nurses were employed by the school/town.

Number of Buildings Covered per School Nurse

On average nurses only cover one school building. Of the respondents 308 (72%) covered one building, 33 nurses (8%) indicated covering 2 school buildings and 11 (3%) nurses reported covering more than 3 school buildings. Two elementary schools indicated they do not have a school nurse on the premises.

School Nurse Credentials

Among the 394 school nurses, 384 listed their academic credentials as the following: 380 (99%) were Registered Nurses (RN) and 4 (1%) were Licensed Practical Nurses (LPN). The academic credentials of the RNs was as follows: 190 nurses (49%) had a bachelors degree, 129 nurses (33%) had an associates degrees, 36 (9%) had a masters (degree), 32 (8%) had a nursing diploma, 2 (1%) had PhDs, and 7 nurses left the question blank.¹² [Figure 2]

- A number of nurses also indicated additional certifications and degrees
 - Masters in Education

¹¹ There are 394 nurses and not 430 because nurses cover more than one building- 36 schools were included in responses under other schools.

¹² There are two extra responses as multiple nurses responded from the same school.

- Bachelors in Psych or International Relations
- Med/surg specialist
- ANA certified psychiatric and mental health nurse and med health education

The majority of school nurses indicated they do not have a school nurse certificate: 351 nurses (89.1%) reported not having a school nurse certificate, 32 (8.1%) had a certificate, 11 nurses (2.8%) left the question blank.

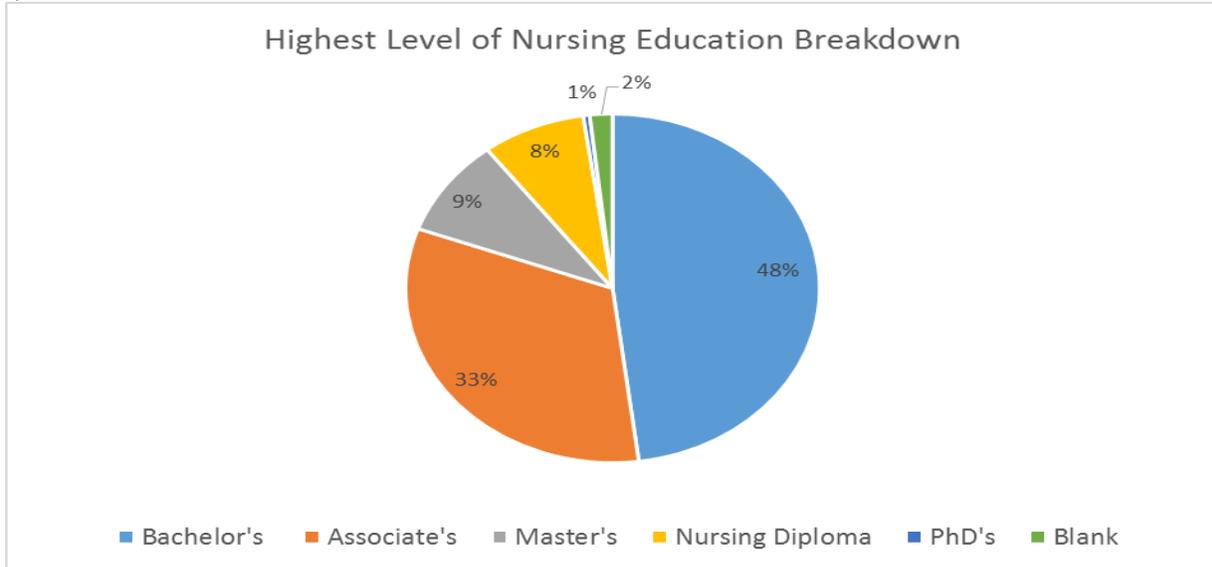


Figure 2: Nearly 50% of nurses have a bachelor's in nursing and a third have an associate's degree.

School Nurse Demographics

The majority of school nurses who responded to the survey indicated 5-10 years of experience as a school nurse, 99 out of 394 (25%), an additional 42 nurses (11%) reported more than 25 years of experience. Nearly half of school nurses were between the ages of 51 and 60 (43%), followed by 108 nurses (27%) indicating they were between the ages of 41-50 years. [Figure 3]

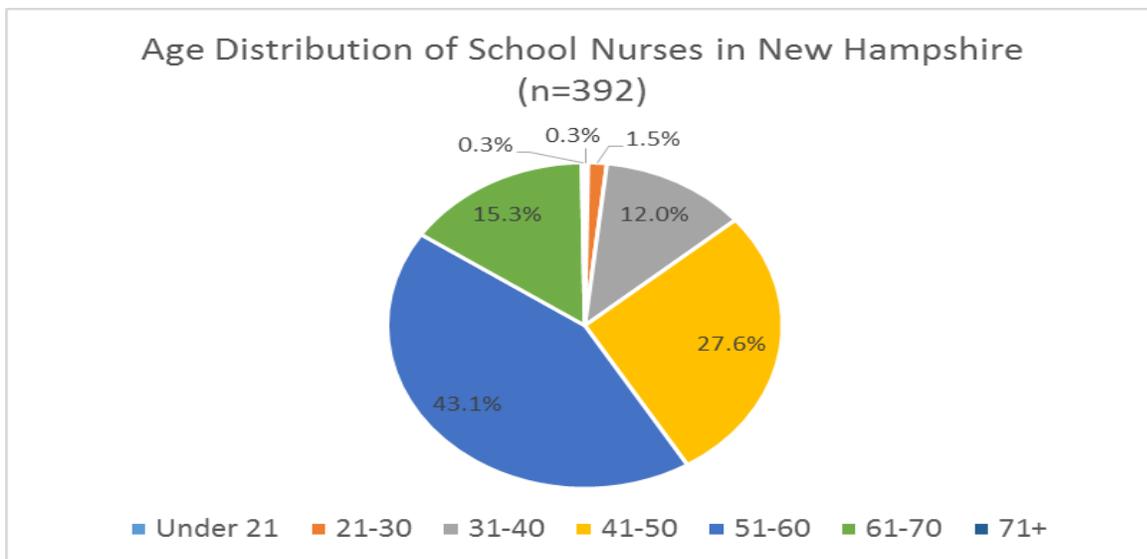


Figure 3: Overall the majority of nurses indicated they were between the ages of 51-60. A small percentage of nurses were under the age of 30 or over 70.

Health Care Procedures Performed by School Nurses

On average, respondents indicated they had performed 5 of the 21 procedures listed in the survey (see Appendix A) within the past school year, while 31 nurses indicated performing more than 10 of the health care procedures in the past year. The most commonly performed procedures based on 424 responses were:

- Providing oral medications by 384 respondents (90.8%);
- Blood glucose testing by 259 respondents (61.2%);
- Nebulizer treatments by 237 respondents (56%);
- Diapering/ personal toileting by 207 respondents (48.9%) and
- Bowel program support by 259 respondents (44.2%).

There did appear to be a slight positive association between the number of nurses on staff and the number of health care procedures conducted in one year [$r=.108$, $p=.029$].

School Committees and Other Responsibilities

On average school nurses were involved in 2 committees, with some nurses involved in as many as seven. Nurses not only serve on committees in the school but also serve on health related committees in the community. Nurses were asked which, if any, of the following four committees they were involved in, the breakdown is as follows:

- Health Improvement/ Wellness- 288 nurses (66%). This number is most likely higher as many nurses added wellness to the “other” category
- Emergency Response- 250 nurses (59%)
- Crisis Team- 224 nurses (52.8%)
- Child nutrition/ physical activity- 78 nurses (18.4%)

In addition to these five committees nurses indicated participation in other committees, the most commonly listed ‘other’ committees were Joint Loss Management and Safety. In total there were 37 additional committees listed. A complete list of the committees can be found in Appendix B.

When asked about additional activities that they are involved in, school nurses reported that they are, on average, responsible for 2 additional activities in the school, the two main activities noted were

- Emergency Preparedness: 212 (30%)
- Health Education: 167 (23.4%)

Other duties listed included recess and hall duty, filling out incident reports, acting as detention monitor, as well as 23 other unique activities. A full list of additional responsibilities can be found in Appendix C. When there were more full-time nurses employed by a school this factor appeared to be associated with fewer additional activities being performed by each individual nurse [$r=-0.102$, $p=.038$]. This is not surprising considering that with more staff available additional duties and responsibilities can be more evenly distributed.

Rescue Medications

On average nurses indicated they have more than 30 students who require rescue medications, with some schools reporting that they had more than 400 students who required oversight of rescue medications. Overall, nurses indicated that of the students who had rescue medications 60.9% of them required albuterol. This is a number that is likely higher as many students, especially as they get older, carry their inhalers on their person and do not inform the school nursing staff. Nurses indicated that 31.2% of students with rescue medications have Epi-pens, 4.1% have glucagon, 2.7% have Diastat, 0.9% have Ativan and 0.2% have nasal Midazolam. When there were more students with rescue meds there

was a correlate to having more full-time nurses ($r=0.458$, $p<0.001$). This is a positive and much encouraged association as students with rescue meds often require more care and attention.

Regional Differences

(Regions are identified as South Central, Southeast, Lakes, North Country, and Southwest – refer to map)

Nurse to Student Ratios

The ratio of full-time nurses to students was greatest in the South Central Region 1:528, which is significantly higher than the overall NH ratio of 1:339.

The regional full-time nurse to student ratios were as follows:

Average = 1:339

- *South Central 1:528*
- *Southeast 1:414*
- *Southwest 1:291*
- *Lakes Region 1:263*
- *North Country 1:257*

The ratio of nursing staff (includes Part-time RNs, Full-time RNs and LPNs) to students, was highest in South Central Region 1:405 much higher than the overall ratio for NH of 1:223.

The regional nursing staff to student ratios were as follows:

Average = 1:233

- *South Central 1:405*
- *Southeast 1:284*
- *Southwest 1:224*
- *Lakes Region 1:200*
- *North Country 1:127*

The number of schools with no full time nurses by region varied from as low as 5% of schools in the Lakes Region to as high as 32% in the North Country.

The regional percentage of schools without a full time nurse were as follows:

- *North Country: 13 schools (32%)*
- *South Central: 10 schools (8%)*
- *Southwest: 9 schools (9%)*

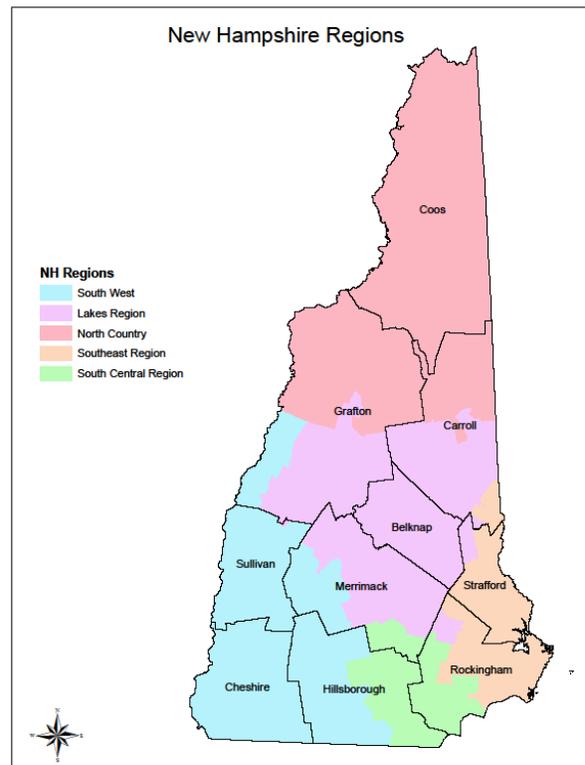


Figure 4: Map of New Hampshire regions and corresponding counties.

- *Southeast*: 5 schools (6%)
- *Lakes*: 4 schools (5%)

Number of Buildings Covered

On average full-time nurses indicated they only covered 1 building except in the Southeast where, on average, nurses covered 1.5 buildings.

School Nurse Credentials

As mentioned earlier in the report 190 nurses (49%) indicated they held a bachelors degree in nursing, 129 nurses (33%) associates, 36(9%) masters, 32 (8%) nursing diploma, 2 (1%) PhDs.

There was a similar distribution across regions except in the North Country where the majority (54%) of nurses held an associate's degree in nursing. There were two regions with PhD level nurses Southwest and South Central.

- *South Central*: 52 nurses (47%) had a bachelors degree, 40 nurses (36%) associates, 9 (8%) masters, 9 (8%) nursing diploma, 1 (1%) PhDs
- *Southeast*: 35 nurses (51%) had a bachelors degree, 15 nurses (22%) associates, 12 (18%) masters, 6 (9%) nursing diploma
- *Lakes*: 39 nurses (51%) had a bachelors degree, 25 nurses (33%) associates, 5 (7%) masters, 7 (9%) nursing diploma
- *North Country*: 12 nurses (32%) had a bachelors degree, 20 nurses (54%) associates, 5 (14%) nursing diploma
- *Southwest*: 46 nurses (53%) had a bachelors degree, 26 nurses (30%) associates, 9 (10%) masters, 5 (6%) nursing diploma, 1 (1%) PhDs

Years of Experience

Overall for the majority of schools nurses for the state of NH indicated they had 5-10 years of school nurse experience. When comparing regional differences the Southeast and the Southwest had unique distributions. In the Southeast the majority (24%) of nurses indicated 0-4 years of experience, it is important to note though that the percentage of nurses in each experience category was fairly equal for the Southeast. In the Southwest the majority of nurses indicated having more experience in the field, 16-20 years.

Age Distribution

As a whole the majority (43%) of schools nurses indicated they were between the ages of 51-60 years of age. Slightly different age distributions were noted in the Lakes Region and North Country. In the Lakes Region the majority of nurses were between the ages of 41-50 years but similar percentages were also noted in the 51-60 and 61-70 age categories. In the North Country, nurses were more likely to indicate they were between the age of 41-50 years (39%) compared to other age categories.

- *South Central*- majority nurses were between 51-60 years (49%)
- *Southeast*- majority nurses were between 51-60 years (51%)
- *Lakes*- majority nurses were between 41-50 years (33%) but followed closely by 51-60 and 61-70 age groups (31% and 21% respectively)
- *North Country*- majority nurses were between 41-50 years (39%)
- *Southwest*- majority nurses were between 51-60 years (47%)

Health Care Procedures

The health care procedures that were most frequently mentioned in each region were: glucose testing, bowel program, diapering/ toileting, nebulizer, dispensing medication orally as well as subcutaneously. The Lakes Region had a slightly different list of top five procedures, instead of administering medications subcutaneously; nurses reported providing more bladder program activities. The rest of the procedures were the same.

Rescue Medicines

The percentage of students nurses indicated have rescue medications was fairly similar across regions, and yet for each rescue med there was at least one region that had a slightly higher percentage than the rest. The only rescue med this did not hold true for was nasal midazolam. [Table 3] There were two regions with schools that had especially high numbers of students who require rescue medications:
South Central: Had one school with over 425 students with rescue meds
Southeast: Had 2 schools with over 300 students with rescue meds

	South Central	Southeast	Lakes	North Country	Southwest
Albuterol	58%	62%	66%	61%	61%
Epi-pen	35%	30%	28%	30%	29%
Glucagon	4%	4%	1%	4%	5%
Diastat	2%	2%	3%	4%	4%
Ativan	1%	2%	1%	1%	1%
Nasal Midazolam	<1%	<1%	<1%	<1%	<1%

Table 3: Overall nurses indicated that albuterol was the most common rescue med especially in the Lakes Region.

Results from Open-Ended Analysis

Nurses were asked to share any additional information that would assist Special Medical Services staff in better understanding the role of the school nurse. The aim of the open-ended format was to provide nurses the opportunity to share information they felt the survey did not cover as well as provide more in-depth responses. This open-ended format also gave nurses the chance to provide new insights and bring to light issues or concerns which SMS staff may not have previously considered. Out of the 436 responses to the survey, 122 completed the open-ended question. The three main themes that emerged from the opened-ended responses were as follows:

- Schools nurses have a large array of responsibilities and duties they must conduct each day
- School nurses work extensively with Children with Special Health Care Needs (CYSHCN)
- There are growing mental health concerns in the student population

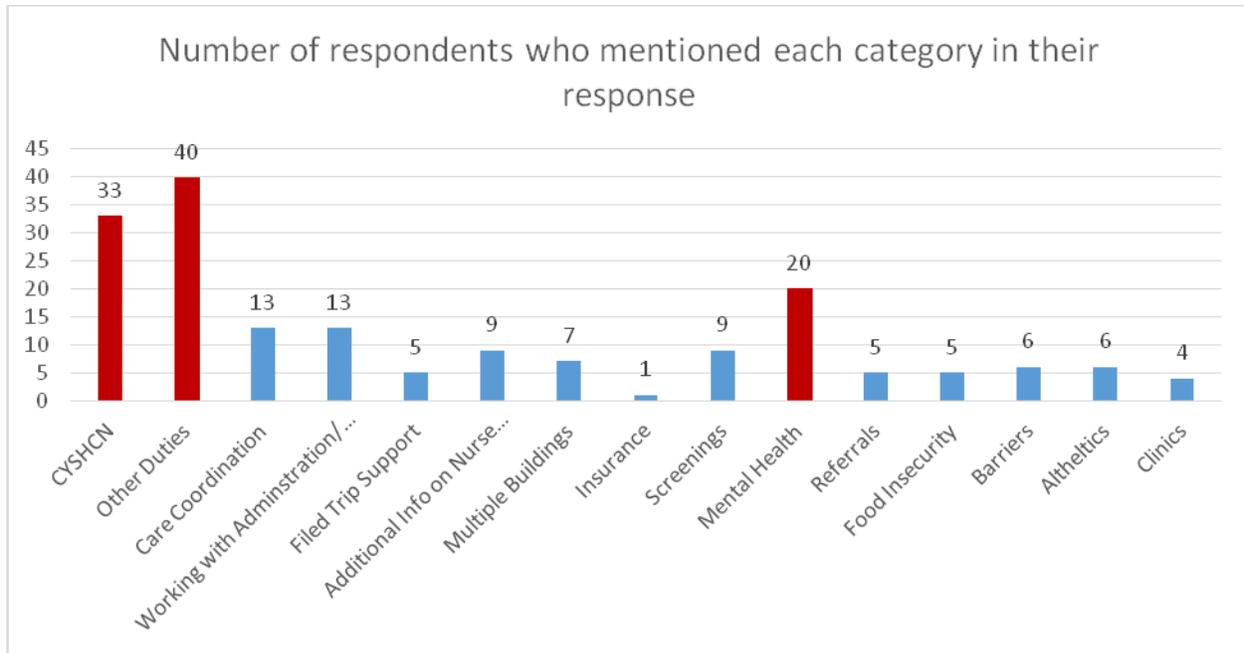


Figure 5: The three main categories mentioned by school nurses in the open-ended section were the array duties conducted each day, their work with CYSHCN, and the growing mental health concerns in schools.

Schools nurses have a large array of responsibilities and duties they must conduct each day

As demonstrated by the data, nurses often conduct numerous health care procedures, care for dozens of students a day, fulfill additional responsibilities at school, and are involved in several committees. The open-ended responses gave a more detailed picture of the breadth of activities and responsibilities nurses conduct, including several activities not specifically mentioned in the survey.

“I feel there is limited time and man power to get done all the clerical work that is asked of school nurses with the care of a busy office. Our first and foremost role is the health and safety of students and staff, but we are also our own office secretary with many other responsibilities of charts, immunization surveys, education and support to classrooms, IEP and 504 involvement, care plan creations, eye and ear screenings, ht. and wt. monitoring, CPR and first aid training , etc. It is nearly impossible to complete all that needs to be done in an office like ours. No doctor’s office would be run by a solo doctor ever! I have seen on a busy day 72 patients that in itself is unheard of in any medical office other than a school nurse.”

Several nurse also pointed out that despite the necessity of their job they often feel under appreciated.

“When no one else wants to do something or hasn’t a clue how to do it “go to the nurse”... missing buttons (“sew them on”) ... bubble gum all over the student’s hands... ‘he didn’t eat breakfast today... you need to feed him”... it is an endless array of non-nursing things that kids are sent to us for... feels disregarded and even disrespected. The role of a school nurse needs to be emphasized so that parents, administrators, and even other health care

personnel know what we do, what we are responsible for... and even more important how we make it happen!!"

Despite the challenging nature of the role of school nurses, a couple nurses took the opportunity to emphasize how much they enjoy their jobs.

"All school nurses do incredible jobs taking care of kids and staff too. We are 'jacks of all trades', and enjoy what we do. Many times we are the only health providers and caring adults in our student's lives. It is a hard job - but one you never regret doing!"

School nurses work extensively with Children with Special Health Care Needs (CYSHCN)

In recent years, research shows there has been an increase in the number of students with complex health care conditions who require additional time and management by the school nursing staff. Thirty-three nurses indicated supporting or providing services to CYSHCNs in the comments section. Numbers can provide critical epidemiological information but may not accurately demonstrate the work and time necessary to provide services for CYSHCN. One nurse shared:

"I manage care for 232 chronic medical conditions... students with food sensitivities such as celiac, seizure disorders without prescribed diastat, orthopedic injuries both chronic and acute, among other disorders. I have to manage 504 plans, write IHPs for these students, facilitate communication with parents and physicians for accommodations, inform the teachers of these conditions, constantly update administration that these services are needed. I medically case manage 232 conditions where as a special ed case manager has a case load of approximately 9 students."

Another nurse illustrates the time it takes to care for students with special health care needs in her school,

"We have approx. 12 medically fragile students which take up to ½ a day to meet their needs with meds, tube feeds, parent contact, staff education etc."

School nurses not only provide services in school, they also can provide assistance before and after the school day,

"I currently ride the bus in the morning for 1 ¼ hours for a student with diastat."

Growing mental health concerns in the student population

An area not addressed in the survey but one that many nurses (20) brought up in the open-ended section was the growing need for mental health services for student populations.

"...I have dealt with MANY mental health issues, especially anxiety & depression. Seems to have sky-rocketed over the past few years. Thus, I work very closely with guidance."

Another nurse talks about how she sees her role changing,

"I work in a very needy school. The children often come to me with complex social and emotional needs. I feel as though I am part therapist, part social worker."

And another nurse says,

"I attend to an ever increasing amount of mental health issues on a daily basis (stress, anxiety, depression), in part because the guidance counselors are so busy with the many behavioral issues in the building."

This is a growing challenge as many schools face financial constraints, there have been reductions in guidance, and school social workers and psychologists are becoming far and few between.

"We do not employ a guidance counselor or a school psychologist so I also fill those roles as needed."

One school nurse discussed how her additional training in mental health is being put to good use,

"In addition to my RN I am an ANA certified psychiatric and mental health nurse as well as a MEd- Health Education. Part of my responsibilities also screening for suicidal/homicidal ideation for referral to emergency services and field sobriety training (had training from NH State police)."

Two additional areas nurses nicely highlighted in their comments were challenges faced when covering multiple buildings and the growing need for care coordination.

Multiple Buildings

"We monitor many health conditions which seem to increase yearly as well as increasing severity. Each year we have more students and staff with Epipens, Inhalers as well as those who have cardiac or other respiratory issues. Not to forget the daily routine events such as; medication, screenings, evaluations and the endless charting. After 20 years of doing school nursing I must say there still seems to be a lack of education as far as job description and actual daily task and responsibilities. For those nurses who cover more than one building I feel sorry for because I have done that in the past and have found you are responsible for the entire day's activities but there only part time. Also you tend to always be in the wrong building when needed at the other. It is a very difficult situation to be in." Another nurse describes her experience covering 3 buildings, "I'm it! I could not do my job without the help of capable, trained school staff. I cover 3 buildings, two share a parking lot, the third is 5 miles away.... I'm always worried about "what if"..... The most difficult part of my job is finding time to document all that I do each day."

Care Coordination

"My day is pretty busy throughout starting when the doors open. Over the last two years I have seen an increase in families using me as their first line to determine if they need to see a doctor. I also work with the local hospital in setting up appointments here at school for someone to come to my school to help families enroll in health insurance. I also arrange for dental screening in the school and nutrition education through Nutrition Connections. It is difficult to put into writing all that is done, it is a lot and a lot of unknown."

Another nurse also describes how she often becomes a care provider not only for students but for families. *"We are a rural community serving 5 towns. My practice is basically a clinic & emergency room! I seem to be primary care for many families!"*

Discussion

School Nurses play a vital role in providing comprehensive health care to children in New Hampshire, conducting a range of activities and responsibilities. New Hampshire's nurse to student ratio is much lower than the NSNA ratio of 1:750. Even in South Central Region which had the highest student to nurse ration 1:528. To determine a more accurate ratio of nurses to children receiving special education services additional analysis would be needed, as many school nurses could not provide accurate counts.

Some of the areas that emerged as potential planning and technical assistance opportunities were:

- Support training for school nurses on mental health
- With increasing numbers of CYSHCN nationally, and the same pattern occurring in New Hampshire- as the needs of children become more complex and require more care coordination on the part of school nurses, school systems should be looking to support/ increase nursing staff, not limit/decrease staffing. This may also mean there are more opportunities for agencies such as SMS to support school nurses
- Improve communication channels between physician offices and school nurses as well as foster connections with other agencies such as SMS
- Educate staff as well as parents on the role of school nurses
- In rural communities, that have limited access to healthcare facilities, particular attention should be paid to supporting school nurses who become a community clinic
- There are a large number of children with albuterol inhalers particularly in the Lakes Region and nurses indicated nearly a 1/3 of students require Epi-pens – these are both areas for additional training and education
- The response to this survey indicated that nurses want to share their experiences and are an engaged and dedicated group looking for ways to improve the care they provide the children and staff. This was clear since despite the fact that June is a very busy month for school nurses there was an incredible response rate, with many nurses taking the time to share additional thoughts in the open ended questions

Conclusion

This was a short survey to gain an overall understanding of the responsibilities and work capacity of school nurses, in the future, it may be beneficial to conduct more detailed surveys especially in regards to mental health activities as well as the services provided to CYSHCN. Throughout the analysis it also became apparent that although numbers can provide important information the open-ended responses gave a more complete picture of the range of activities and the time being spent providing services. Therefore it may be beneficial to conduct focus groups in the five regions in New Hampshire to give nurses the opportunity to share more in-depth information on their responsibilities and ways in which they feel they could be better supported by organizations such as Special Medical Services and other state agencies.

Appendix A: List of choices of Health Care Procedures

Bladder Program;

Blood Glucose Testing;

Bowel Program;

Catheterization by Nurse or Aide;

Catheterization by child/youth;

Dialysis (Peritoneal);

Diapering/Personal Toileting;

Feeding Assistance (oral);

Nebulizer;

Medications - Intramuscular;

Medications - Intravenous;

Medication - Oral;

Medications - Sub-cutaneous;

Range of Motion Exercises;

Respiratory Care (i.e. oxygen, postural drainage);

Stoma Care;

Suctioning;

Tracheostomy Care;

Tube Feedings;

Ventilator Assisted Care;

Vaccinations;

Other (please specify).

Appendix B: List of Additional Committees

Additional Committees
Joint Loss Committee
Student Intervention Team
SpEd Team (504, IEP)
Child Study Team
Safety Team
Team Leaders Group
Student Services Team
Evaluation Committee
Employee Safety Committee
Community Health Improvement Plan
Dental Connection
Diabetes Prevention Program
Regional Planning Commission
Garden Committee
NEASC
Homeless Liaison
Core Team
Resource committee
Integrated Arts Committee
Title IX Committee
Facility Development
Tobacco, Drugs, Alcohol Coalition
Holiday Assistance Committee
Safety, Behavior Action Team
SAU Nurses
Behavioral Program Team
KMS Committee
Student Support Team
PBIS (multi-level discipline team).
Attendance
Curriculum Enrichment
Farm to School
Child Protection Services Team
Bullying Committee
PTA
Health Insurance committees
Building Safety

Appendix C: List of Additional Activities/ Responsibilities

Additional Activities
Monitor Dismissal
Call about Absences
Working with accreditation with staff
Counseling for students
JLMC
Monitor AED's
Homeroom Assistant teacher
Perform sobriety assessments on staff & students
Sport coach
Puberty Education
Drop off Duty
CPR/ First Aid Instructor
Medicaid Reporting
Parking lot monitor
Financial Needs Assistance Coordinator
Breakfast Duty
IT Technology coordinator
ACT Test Supervisor
Cover on grounds sporting events if no medical coverage available for game to occur.
Substitute teacher coordinator
Teach HS Food Prep class
7th grade Home Ec class
Assist K/1 classroom