Care Management Outcomes

School nurse care management of selected students with complex health needs involves use of a plan of care that includes specific interventions with achievable goals, measurable outcomes and regular evaluations. Students may have one or more planned outcomes based on identified needs. School nurses may care manage students with a variety of diagnoses. Not all chronic condition diagnosed students are in need of care management services. Care management outcomes for the following diagnoses are reported each school year:

Asthma
- Consistently verbalized accurate knowledge of the pathophysiology of their condition: 78%
- Consistently demonstrated correct use of an inhaler and/or spacer: 83%
- Accurately listed his/her asthma triggers: 62%
- Remained within peak flow/pulse oximeter plan goals: 88%
- Improved amount and/or quality of regular physical activity: 77%
- Improved grades: 84%
- Decreased number of absences: 70%

Diabetes
- Consistently verbalized an accurate knowledge of the pathophysiology of their condition: 82%
- Demonstrated improvement in the ability to correctly count carbohydrates: 81%
- Improved skill in testing own blood sugar: 83%
- Showed improvement in Hgb A1C (if measured and available): 75%
- Consistently (90% of the time) calculated accurate insulin dose: 84%
- Improved ability to deliver insulin dose: 84%
- Improved grades: 87%
- Decreased number of absences: 75%

Mental/Behavioral Health
- Consistently verbalized recognition of feelings, behaviors, and/or physical complaints associated with diagnosis/condition: 72%
- Consistently documented compliance, or improved compliance, with provider treatment plan: 73%
- Regulated reported examples of increased quality of life and/or enjoyable activities: 74%
- Regularly reported examples of increased ability to function satisfactorily at school: 74%
- Improved grades: 73%
- Decreased number of absences: 73%

Seizure Disorder
- Consistently verbalized accurate knowledge of the pathophysiology of his/her condition: 75%
- Consistently recognized seizure triggers: 71%
- Reduced side effects of seizure medications: 75%
- Reduced complications from seizure activity: 79%
- Improved grades: 79%
- Decreased number of seizures: 82%

Severe Allergy
- Consistently verbalized accurate knowledge of the pathophysiology of his/her condition: 77%
- Consistently avoided allergy triggers: 75%
- Improved skill in recognizing hidden sources of allergen: 75%
- Improved skill in epinephrine administration: 80%
- Reduced episodes of severe allergic reactions: 78%
- Improved grades: 72%
- Decreased number of absences: 70%

Weight Management
- Consistently verbalized accurate knowledge of the relationship of food and activity to weight: 75%
- Kept a daily food diary as planned: 58%
- Increased physical activity (PE or after school): 58%
- Improved frequency of healthy food choices: 75%
- Consistently able to identify appropriate portion sizes: 77%
- Improved BMI: 52%
- Improved grades: 54%
- Decreased number of absences: 62%

Summary

School nursing services are one component of a local School Health Program. By working with multiple partners in health and education, including the North Carolina Division of Public Health, North Carolina Division of Medical Assistance, North Carolina Department of Public Instruction, North Carolina Pediatric Society, North Carolina Academy of Family Physicians, North Carolina Dental Society, Prevent Blindness North Carolina, North Carolina School and Community Health Alliance, local health departments, and more, school nurses are working to help students achieve at levels they might not otherwise reach. In many school health areas North Carolina can serve as a model for school health programs. In others, services are limited as a result of relatively slow growth in the number of school nurse positions in relation to student population growth and complexity of health care needs. Working towards an increase in the number of school nurses in North Carolina could positively impact overall student health and well-being, resulting in improved student attendance and successful academic outcomes.

CONTACT FOR ADDITIONAL INFORMATION & DATA REQUESTS:
Ann.Nichols@dhhs.nc.gov • Carol.Tyson@dhhs.nc.gov
This data represents key information shared by North Carolina School Nurses via the Annual School Health Report Surveys. The information is based on students known to school nurses who received health-related services in North Carolina public schools. It is not intended as surveillance data. Except where indicated the data does not include students in North Carolina charter schools. Additional data is collected and is available upon request.
School Nurse Staffing and Nurse-to-Students Ratios

School nurses are Registered Nurses (RN) with varied educational preparation. In addition to being a RN, national certification in school nursing is the standard by which North Carolina school nurses are assured to have the advanced knowledge and skills required in this independent specialty practice. A baccalaureate is the minimum degree required for certification eligibility.

At the close of the 2014-2015 school year 52% of the total number of school nurses were nationally certified. NC school nurse degree status is illustrated in the following graph.

NC Public Charter Schools that Employ a School Nurse

While NC LEA public schools are required to provide the services of a Registered Nurse to plan for the health needs of students, public charter schools are not. During the 2014-15 year 21.3% of public charter schools reported employing a school nurse, full or part-time.

Common School Nurse Activities:

North Carolina school nurses are assigned a varying case load dependent upon school district resources and serve between one and six schools per nurse. Common school nurse activities include:

- Preventing and responding to communicable disease outbreaks
- Developing and implementing plans for emergency health related assistance
- Planning and providing specialized clinical services and related health instruction
- Medication and health care procedure oversight
- Assessment, referral, and assuring care for identified health needs
- Assuring that mandated health related activities are completed
- Provision of health education and health counseling
- Helping to assure a safe and healthy school environment

School Nurse Profile

School nurses are Registered Nurses (RN) with varied educational preparation. In addition to being a RN, national certification in school nursing is the standard by which North Carolina school nurses are assured to have the advanced knowledge and skills required in this independent specialty practice. A baccalaureate is the minimum degree required for certification eligibility. At the close of the 2014-2015 school year 52% of the total number of school nurses were nationally certified. NC school nurse degree status is illustrated in the following graph.

NC Students

Chronic Disease

School nurses assess needs, complete health care plans, and provide instruction to meet the health needs of students with chronic conditions.

### 2014-2015 Most Common Chronic Conditions

- Asthma: 93,116
- ADD/ADHD: 57,020
- Severe Allergies: 42,163
- Nonspecific Emotional/Behavioral/Psychiatric: 11,375

Percent of student population receiving school nurse services related to chronic disease

Procedures

School nurses completed or supervised completion of 12,373 individual student health care procedures that were needed many times over the course of the school year.

Students and Suicide

<table>
<thead>
<tr>
<th></th>
<th>Elementary School</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide attempt</td>
<td>38</td>
<td>96</td>
<td>51</td>
</tr>
<tr>
<td>Death from suicide</td>
<td>0</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>Suicide occurred at school</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Selected Services Provided

**School Nurse/Student Encounters and Return to Class**

A student with a health concern who sees a school nurse is more likely to remain in school. During the 2014-15 school year NC school nurses reported 2,030,274 student encounters. Of those, 88% of students seen were returned to class. Nationally, 91% of students seen by a school nurse were returned to class.

**Medication Delivery and Oversight**

School nurses provide oversight for medication administration in schools through training, administration, auditing for medication variances and assuring compliance with requirements.

### 2014-2015 Student Medications

<table>
<thead>
<tr>
<th>Medication Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students on long term medications (more than 3 weeks)</td>
<td>57,926</td>
</tr>
<tr>
<td>Students on short term medications (less than 3 weeks)</td>
<td>44,561</td>
</tr>
<tr>
<td>Students on PRN (non-emergency) medications</td>
<td>35,642</td>
</tr>
<tr>
<td>Students on emergency medications (including 20,919 orders for epinephrine auto-injectors)</td>
<td>67,563</td>
</tr>
</tbody>
</table>

**Screening Data**

School nurses manage screening programs to identify health conditions that may impact education. The most common screening program is for visual issues.

### 2014-2015 School Year

- % Target Population Screened: 31.2%
- % Referred for vision care: 8.1%
- % Referred who secured vision care: 71.7%

**Counseling**

School nurses provide health counseling which is defined as any encounter with a student where direct service, instruction and advice for health promotion, health improvement and health maintenance were discussed.

### Mental Health Issue Counseling

<table>
<thead>
<tr>
<th>category</th>
<th>Total Number of Counseling Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>352,026</td>
</tr>
<tr>
<td>Other Mental Health Issues</td>
<td>459,011</td>
</tr>
<tr>
<td>Depression</td>
<td>4,504</td>
</tr>
<tr>
<td>Suicide Ideation</td>
<td>1,232</td>
</tr>
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