



Department of
Education

Coordinated
School Health

Tennessee Department of Education
Office of Coordinated School Health
Annual School Health Services Report
2016-17 School Year

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The office of coordinated school health surveys public and private school systems annually to monitor compliance with state school health laws and to assess the scope of school health services provided to Tennessee public school students as mandated in T.C.A § 49-50-1602. One hundred and forty-two (142) local education agencies (LEAs) and 57 private schools returned their survey for inclusion in this report.

Public Schools Data

Wellness issues of students are supervised by licensed school nurses with the goal of appraising, protecting, and promoting health needs. Services provided by the school nurse include, but are not limited to, assessment, planning, coordination, and direct care to all students including those with special needs or conditions. Also, the school nurse has the responsibility of collaborating with and/or referring students to community health care professionals to:

- ensure early intervention;
- ensure access and referral to primary care services;
- foster appropriate use of primary health care services;
- prevent and control communicable diseases and other health problems;
- provide emergency care for students and staff illness and injury;
- provide daily and continuous services for children with special health care needs;
- promote and provide optimum sanitary conditions for a safe school facility and school environment; and
- provide educational and counseling opportunities for promoting and maintaining individual, family, and community health.

In addition, many services are provided by licensed and qualified professionals such as physicians, psychiatrists, psychologists, dentists, health educators, registered dietitians, school counselors, and allied health professionals (e.g., speech therapists, occupational therapists, and physical therapists).

2016-17 School Health Services Highlights

Student Diagnoses

During the 2016-17 school year, **213,295** students in Tennessee public schools had a chronic illness or disability diagnosis. This represents **22 percent** of all Tennessee public school students statewide.

The most common chronic illnesses or disability diagnoses of the public schools were:

- Asthma (**34 percent**)
- ADHD/ADD (**26 percent**)
- Severe allergies (**17 percent**)

The total number of students with selected chronic illnesses or disability diagnoses increased by **98 percent** between 2004-05 and 2016-17. During the 2016-17 school year, **1,587** private school students had a chronic illness or disability diagnosis.

Number of Public School Students and Percent of Total by Chronic Illness or Disability Diagnosis 2016-17

Chronic Illness or Disability Diagnosis	Number of Students 2016-17	Percent of Total
Asthma	70,886	30%
ADHD/ADD	49,439	21%
Severe Allergy	32,937	14%
Intellectual Disability	17,238	7%
Other (Cerebral Palsy, Sickle Cell, Cystic Fibrosis)	25,639	11%
Mental Health	14,985	6%
Autism	9,885	5%
Seizure Disorder	8,525	4%
Diabetes	3,675	2%
Total	233,209	100%

Number and Percent Change of Public School Students by Selected Chronic Illness or Disability Diagnosis between 2004-05 and 2016-17

Chronic Illness or Disability Diagnosis	Number of Students 2004-05	Number of Students 2016-17	Percent Change
ADHD/ADD	19,939	49,439	148%
Asthma	38,676	70,886	83%
Diabetes	2,388	3,675	54%
Other (Cerebral Palsy, Sickle Cell, Cystic Fibrosis, Spinal Bifida, etc.)	14,536	25,639	76%
Total	75,539	149,639	98%

The most common of the private schools were:

- Mental health (e.g., depression, anxiety, obsessive compulsive disorder, etc.) (**26 percent**)
- ADD/ADHD (**25 percent**)
- Asthma (**17 percent**)
- Intellectual disabilities (**10 percent**)
- Severe allergies (**10 percent**)

Asthma

Asthma continues to be the number one chronic illness causing student absenteeism. A continuing concern based on health services trend data is the issue of ensuring that students with asthma are receiving the support they need to effectively manage their medical condition, so students stay safe and can attend school ready to learn. Specific areas of concern include the availability of school nurses to respond to an emergency involving an asthmatic student, the development of individual and school-level action plans for all diagnosed students, and the provision of asthma education to students. The following are data to support this concern:

- During the 2016-17 school year, there were **70,886** students in Tennessee

- public schools and **275** private school students with an asthma diagnosis.
- Students diagnosed with asthma represent the most common type of chronic illness/disability among Tennessee students (**30 percent of all diagnoses**).
 - Of the **70,886** public school students identified as having asthma, only **31,851** students or **45 percent** of all students identified as having asthma were provided an individualized action treatment plan. Private schools reported that **199** students identified with asthma have an individualized action treatment plan, **72 percent** of the diagnosed students.
 - Also, only **123** public school systems/special schools (**85 percent**) and **17** private schools (**42 percent**) have reported that they have developed a school-wide asthma action plan for all schools. There were **16** private schools that left this question blank.
 - During the 2016-17 school year, **38,641** teachers, coaches, and other school personnel were trained in asthma education using a formal curriculum. This represents a **1 percent increase** from the previous school year. In addition, private schools reported that there were **163** teachers, coaches, and other school personnel trained in asthma education.
 - An additional **18,799** asthmatic public school students received asthma education training in Tennessee public schools. However, this represents only **27 percent** of all students diagnosed with asthma who received asthma education training. Private schools reported that **70** of the students diagnosed with asthma received asthma education.
 - School health services directors were asked if a nurse was present all day in schools where a student might need **asthma** medication administered during an emergency situation. **55 percent** (77 school systems/special schools) indicated “yes,” while **45 percent** (63 school systems/special schools) reported “no.”
 - Also, **64,885** public school students and **227** private school students with asthma have a prescribed medication available at school.

Seizure Disorders

The amount of public and private school students with the diagnosis of seizures continues to rise as well as the number of students that have the emergency medication Diastat® available at school. Education and training of non-medical staff members for administering Diastat® has increased.

- There were **2,062** public school students in 2016-17 with a seizure disorder diagnosis with Diastat® available for use at school compared to **835** students in 2008-09. This represents a dramatic increase over the past eight years.

- There were **18** students reported to have a seizure disorder with medication available at school by Tennessee private schools.
- A total of **215** doses of Diastat[®] were administered to students in public school systems during the 2016-17 school year.
- Private schools report that emergency seizure medication was administered **three** times during the 2016-17 school year.
- School health services supervisors in **110** LEAs (**77 percent**) reported having a district Diastat[®] policy in place, while **30** LEAs (**22 percent**) reported they did not have a district Diastat[®] policy.
- School districts report that **98** school systems (**70 percent**) have a policy allowing the nurse to administer the first dose of Diastat[®] at school; **22** LEAs did not allow nurses to administer the first dose of Diastat[®] at school (**15 percent**); and **22** LEAs did not answer the question (**15 percent**).
- There were **714 students** with an order to administer Diastat[®] during the 2016-17 school year who did not have a full-time nurse assigned to the school compared to **172** students in 2008-09. In addition, **259** nurses were assigned to a school to serve as a full-time nurse for the student with an order to administer Diastat[®].
- During the 2016-17 school year, **53** students received Diastat[®] more than once per year compared to **24** students in 2008-09.
- **138** out of **142** school systems/special schools called 911 immediately as the standard protocol when Diastat[®] was administered compared to **117** school systems in 2008-09. Diastat[®] was administered **103** times at school by a nurse, **three** times by a trained volunteer, and **three** times by parents or guardians during the 2016-17 school year.
- Also, **136** school systems/special schools (**96 percent**) reported if a student who has Diastat[®] at school has a seizure and no nurse is available to administer the medication, then a 911 call serves as standard protocol. **Six** LEAs answered that this was **not** their standard protocol.
- During the 2016-17 school year, **63** LEAs (**44 percent**) had a policy allowing trained volunteers to administer Diastat[®], **54** LEAs (**38 percent**) did not have a policy, and **25** LEAs (**18 percent**) did not answer the question.

Seizure Disorders/Diastat Medication 2008-09 and 2016-17

Number of students that had Diastat® available at school 2008-09	Number of students that had Diastat® available at school 2016-17	Percent Change	Number of students that required administration of Diastat® 2008-09	Number of times Diastat® was administered at school 2016-17	Percent Change
835	2062	147%	87	109	25%

In 2016-17, there were **2062** students with a seizure disorder diagnosis with Diastat® available for use at school compared to **835** students in 2008-09. This represents a **147 percent** increase over a seven-year period.

A total of **109** doses of Diastat® were administered to students in school systems this year compared to **87** doses in 2008-09. This represents a **25 percent** increase over a seven-year period. School health supervisors in **106 LEAs (75 percent)** reported having a district Diastat® policy in place, while **36 LEAs (25 percent)** reported they did not have a district Diastat® policy.

School districts report **98** school systems (**69 percent**) have a policy allowing the nurse to administer the first dose of Diastat® at school; **22** LEAs did not allow nurses to administer the first dose of Diastat® at school (**15 percent**); and **22** LEAs did not answer the question (**15 percent**).

There were **714** students with an order to administer Diastat® who did not have a full-time nurse assigned to the school compared to **172** students in 2008-09. In addition, **259** nurses were assigned to a school to serve as a full-time nurse for this student.

During the 2016-17 school year, **53** students received Diastat® more than once per year compared to **24** students in 2008-09. **138** out of **142** school systems/special schools called 911 immediately as the standard protocol when Diastat® was administered compared to **117** school systems in 2008-09. Diastat® was administered **100** times at school by a nurse, **three** times by a trained volunteer, and **three** times by parents or guardians during the 2016-17 school year.

Also, **136** school systems/special schools (**96 percent**) reported that if a student

who has Diastat® at school has a seizure and no nurse is available to administer the medication, then a 911 call serves as standard protocol. **Six** LEAs answered that this was **not** their standard protocol.

Allergies

- There were **32,937** students diagnosed with allergies in Tennessee public schools during the 2016-17 school year. School districts across Tennessee have reported that there is a dramatic increase in the number of students who were diagnosed with severe allergies. Staff members are choosing to obtain education regarding the signs and symptoms of anaphylactic reactions and how to administer the emergency medication, Epinephrine.
- There were **925** private school students who had the diagnoses of severe allergies.

Substantial increases have occurred during the past five years regarding the number of students:

- that have Epi-Pens® available at schools (**57 percent increase**).
- requiring administration of the Epi-Pen® at school (**83 percent increase**)

Additionally, the number of school personnel trained to administer an Epi-Pen® if needed increased by **128 percent**.

Types of Epi-Pen Use	2009-10	2016-17	Percent Change
Number of students who have Epi-Pens® available at schools	6,230	9,773	57%
Number of students who required administration of the Epi-Pen®	95	174	83%
Number of teachers and staff trained to administer an Epi-Pen® if needed	19,240	43,879	128%

Type, Number and Percent of Student Allergies 2016-17

Type of Student Allergies	Number of Students with Allergies	Percent of Total
Environmental	39,809	29%
Other - (Includes allergies to medication)	37,303	26%
Other - Food	18,029	13%
Nuts	18,689	13%
Insects	12,368	9%
Shellfish	5,353	4%
Eggs	3,587	3%
Latex	2,412	2%
Dye	2,061	1%
Total	139,611	100%

Between the 2010-11 and 2016-17 school years, the number of students identified with allergies increased by **73 percent**. Nut (**155 percent**), shellfish (**137 percent**), and egg (**96 percent**) allergies increased the most between the 2010-11 and 2016-17 school years.

The most common types of allergies among Tennessee students were:

- Environmental (**29 percent**)
- “Other” – including medications (**26 percent**)
- Nuts (**13 percent**)
- “Other” foods (**13 percent**)

Type, Number and Percent Change of Student Allergies 2010-11 and 2016-17

Type of Student Allergies	Number of Students with Allergies 2010-11	Number of Students with Allergies 2016-17	Percent Increase
Environmental	26,785	39,809	49%
Other (Including medication allergies)	22,672	37,303	65%
Other - Food	8,938	18,029	102%
Insects	7,737	12,368	60%
Nuts	7,319	18,689	155%
Shellfish	2,254	5,353	137%
Eggs	1,831	3,587	96%
Dye	1,720	2,061	20%
Latex	1,459	2,412	65%
Total	80,715	139,611	73%

There were **925** private school students that had the diagnoses of severe allergies. The most common allergies were environmental (**34 percent**), “other,” which includes medicine allergies (**28 percent**), nuts (**20 percent**), and “other foods” (**14 percent**).

During the 2016-17 school year, **61 percent** of all public school districts/special schools chose to maintain epinephrine auto-injectors in at least two unlocked, secure locations with the intent to be administered to any student believed to be having a life-threatening or anaphylactic reaction.

Diabetes

There were **3,831** students in Tennessee public schools with a diagnosis of diabetes during the 2016-17 school year.

- **3,022** students (**79 percent**) were diagnosed with Type I diabetes.
- **809** students (**21 percent**) were diagnosed with Type II diabetes.

***Number of Students Diagnosed with Type I or Type II Diabetes by Grade Level
2016-17***

Grade Level	Number of Students Type I Diabetes	Number of Students Type II Diabetes
Pre-school	18	3
Kindergarten	70	1
Grades 1-5	643	91
Grades 6-8	833	222
Grades 9-12	1,458	492
Total	3,022	809

The highest percentage of students diagnosed with diabetes attended high schools (**51 percent**) followed by middle schools (**28 percent**) and then preschool, kindergarten, and grades 1–5 (**21 percent**).

Also, **87 out of 142** public school systems/special schools report they have a policy that allows trained volunteers to administer Glucagon® in schools. When asked if school systems/special schools had developed a policy permitting emergency administration of Glucagon® by school personnel, **65 percent (93 school systems/special schools)** reported “yes” and **35 percent (49 school systems/special schools)** reported “no.”

School health services directors were asked if a nurse was present all day in schools where a student might need **Glucagon®** medication administered during an emergency situation. **Sixty-two percent (88 school systems/special schools)** indicated “yes,” while **38 percent (54 school systems/special schools)** reported “no.”

Management Tasks for Type I Diabetic Students	Number of Type I Diabetic Students
Number of students who require management tasks by a licensed health care professional (to provide injections)	1,321
Number of students who require assistance by a school staff member (to provide injections)	240
Number of students managing their own injections but a nurse is required to monitor them at least two times per year	519
Number of students who require minimal (at least two times per year) assistance with management of diabetic pumps	428
Number of students who require management of diabetic pumps by a licensed health care professional	651
Number of students who require assistance to manage diabetic pumps by a school staff member	250
Number of students who have Glucagon® ordered as an emergency treatment for low blood glucose	2,751
Number of LEAs with a policy that allows trained volunteers to administer insulin	93
Number of students with Type I diabetes that who have Glucagon® available at school	2,111
Number of schools that have a full-time nurse assigned to the school because of a student(s) with Type I diabetes	307
Number of students with Type I diabetes who require a full-time nurse to be on the premises at all times at that school	831

Management Tasks for Type 2 Diabetic Students 2016-17

Management Tasks for Type 2 Diabetic Students	Number of Type II Diabetic Students
Number of students with Type II diabetes who require management tasks by a licensed health care professional (to provide injections)	70
Number of students with Type II diabetes only needs nurse to monitor at least two times per year	48
Number of students with Type II diabetes who are managed by injections	85
Number of students with Type II diabetes who require assistance by a school staff member	38

Health Services Provided in Tennessee Schools

The most common types of health services provided to students by a licensed health care provider in Tennessee public schools include:

- care of ill and injured students (**11 percent** of all students);
- medication administration to students (**4 percent** of all students);
- BMI screenings (**<1 percent** of all students); and
- vision, hearing, blood pressure, scoliosis, and dental

The most common types of health services provided by unlicensed health care providers in Tennessee schools include:

- vision screenings,
- hearing screenings,
- blood pressure screenings,
- scoliosis screenings,
- dental screenings, and
- BMI screenings.

Tennessee private schools reported that **87** students received routine procedures at school from a licensed health care provider, **15** students performed their own procedure without assistance, and **five** students received their procedure care from an unlicensed staff member within their school.

School Nurses

Public and private school systems/special schools hire nurses to serve the general and special education student populations. During the 2016-17 school year, **1,527** school nurses worked in Tennessee public schools, and **38** nurses worked in Tennessee private schools.

- Out of the **1,739** public schools in Tennessee that answered this question on the survey, **55 percent** employed a nurse full time in their school, and **14** private schools reported that they have a nurse full time in their school (**33 percent**).
- Of the public school nurses, **33** were Master of Science nurses (MSNs), **428** were Bachelor of Science Nurses (BSNs), **435** were registered nurses (RNs), and **632** were licensed practical nurses (LPNs).
- Private schools reported that **eight** were Bachelor of Science nurses (BSNs), **19** were registered nurses, and **11** were licensed practical nurses (LPNs).
- Also, **89 percent** of all Tennessee school nurses were hired by the LEA as full-time employees, **three percent** through public health departments, **six percent** on an agency contract, **one percent** through local hospitals, and **<.01 percent** from education service centers.
- School systems reported **12 percent** of all school nurses served only special education students and **88 percent** served the general student population.
- School districts/special schools reported that **141 out of 142** school systems/special schools meet the recommendation contained in the BEP formula for number of nurses per student ratio of 1:3,000. (This calculation does not include nurses who are contracted or hired to provide procedures or treatments only.) Most school systems in Tennessee are in compliance with this law.
- School health services directors were asked if a nurse was present all day in schools where a student might need **asthma** medication administered during an emergency situation. **Fifty-four percent (77** school systems/special schools) indicated “yes” while **46 percent (65** school systems/special schools) reported “no.”
- School health services directors were asked if a nurse was present all day in schools where a student might need **Diastat®** medication administered during an emergency situation. **Sixty-two percent (87** school systems/special schools) indicated “yes” while **39 percent (55** school districts) reported “no.”

Type, Number, and Method of Funding for School Nurses 2016-17

School Nurses	FTE's Employed by School System/Special Schools	FTE's Employed by Health Department	FTE's Employed by Hospital	FTE's Contracted by Agency	FTE's Ed Services Center	Totals
Master of Science (MSN's)						
General Student Population School Nurses	21	2.13	2.68	6.12	0	31.93
Special Ed Nurses	0	0	0	0	0	0
Bachelors of Science (BSN's)						
General Student Population School Nurses	362.1	23.88	3.04	18.7	0	407.72
Special Ed Nurses	21	0	0	.2	0	21.2
Registered Nurse (RN's)						
General Student Population School Nurses	370	22.59	1	23.51	1	418.10
Special Ed Nurses	15.5	0	1	0	0	16.5
Licensed Practical Nurse (LPN's)						
Special Ed Nurses	92.5	0	0	49	0	141.5
Total	1,352.95	48.6	21.72	102.78	1	1,527.05

**Position of Those Who Provided First Aid at the School in the Absence of the RN
Nurse
2016-17**

Position Title	Total Number of LEAs	Percent of LEAs (142 Reporting)
Secretary	124	22%
Teacher	119	22%
School Health Aide	24	4%
Principal/Assistant Principal	114	21%
LPN	98	18%
Parent Volunteer	5	<1%
Other	68	12%
Total:	552	100%

Return to Class

During the 2016-17 school year, there were **4,031,420** student visits to a public school nurse. **Eighty-six percent** of those visits resulted in a student’s ability to return to class instead of being sent home.

Electronic Health Record

918 out of **1,738** public schools in Tennessee used an electronic medical records system during the 2016-17 school year.

The most common electronic systems used were PowerSchool (**523** schools), Skyward (**420** schools), HealthOffice (**166** schools), SNAP (**66** schools), STAR Student (**eight** schools), and the remaining **47 percent** of schools reported that they do not use electronic medical records or stated “other” as their selection.

Tennessee private schools reported that only **one** of their schools uses an electronic medical records system (PowerSchool).

During the 2016-17 school year, **2,909** 911 emergency calls were made in Tennessee public schools. Of these calls, **2,190 (75 percent)** were made when a

nurse was in the school building and **719 (25 percent)** were made when a nurse was **not** in the school building.

Emergencies

Additionally, Tennessee private schools reported that 911 emergency calls were made **21** times. Of the private school calls, **six (29 percent)** were made when a nurse was in the school building and **15 (71 percent)** of those were made when a nurse was not in the school building.

Also, **11,359** students received emergency treatment for medical conditions caused by trauma or sudden illness such as broken bones, resuscitation, seizure, and burns during the school year. This represents a **nine percent** decrease from the previous school year.

Medications

There were **2,421,590** medication doses administered to students in Tennessee public schools during the 2016-17 school year. The total number of medication doses administered to students in Tennessee public schools increased dramatically by **74 percent** between 2011-12 and 2016-17.

- All medications except those designated by an individual healthcare plan (IHP) must be maintained in a secure location under the supervision of a school nurse and/or other school personnel who have been oriented/trained and assigned to handle medications and record keeping per state guidelines.
- **All** school districts, including private schools, reported that medications were locked in a secure storage location.

Most doses administered to Tennessee students were:

- Oral (**80 percent**)
- Inhaled (**12 percent**)
- Topical (**7 percent**)

There were **1,528** medication doses administered to students in Tennessee private schools during the 2016-17 school year.

The most common medication administered the private school students were:

- Behavioral medications (**23 percent**)
- Antibiotics (**17 percent**)

- Topical applications (**17 percent**)

Type of Medication Administered	Number of Medication Doses Administered Daily	Number of Medication Doses Administered on an as Needed Basis	Total Number	Percent of Total
Oral	1,226,469	698,861	1,925,330	80%
Inhaled	57,674	23,6351	294,025	12%
Topical	6703	1,558	8261	<1%
Ophthalmic and Otic	327	230	557	<1%
Parenteral Medications Other than INSULIN OR IV	63	3	66	<1%
Intranasal	8708	15,454	24,162	<1%
Parenteral Medication INTRAVENOUS ONLY	9,754	156,756	166,510	7%
Rectal	1,552	1,127	2,679	<1%
Total	1,311,250	1,110,340	2,421,590	100%

Additionally, **16** private schools reported administered emergency medications during the 2016-17 school year. Private schools reported that **22** students with asthma received rescue medication and **three** students received emergency seizure medication; severe allergy medication (Epinephrine) and severe hypoglycemia medication (Glucagon) were not required during this school year.

Student Health Screenings

Every year, parents of Tennessee public school students are notified by school staff of the availability of free student school health screenings.

Why screen students for health concerns?

- We know that healthy children learn better. For example, if a child cannot hear very well it will be difficult for him/her to concentrate on school work. Likewise, if a student cannot see the board where the teacher writes lesson notes, then it will be difficult for him/her to comprehend a classroom lesson.
- When a health concern is identified early through a regular school health screening, steps can be taken to access needed health care so that health and academic issues do not develop into serious problems.
- All parents are given the opportunity to exclude their child from screenings if they wish to not take advantage of this service.
- According to the *Tennessee School Health Screening Guidelines*, students in grades pre-K, K, 2, 4, 6, and 8 are screened annually for vision and hearing.
- Students in grades K, 2, 4, 6, 8, and one year of high school (usually Lifetime Wellness class) are screened annually for blood pressure and body mass index (BMI) in addition to vision and hearing.
- School staff members are encouraged to screen students for oral health problems and screen sixth grade students for scoliosis.
- Approximately **49 percent** of all school districts/special schools provided dental screening.
- **Thirty-two percent** of all school districts/special schools provided scoliosis screening.
- **Forty-six** private schools reported that they performed vision, hearing, and BMI screenings, and **six** schools reported that they screened for scoliosis.

During the 2016-17 school year, **1,426,367** student health screenings occurred in Tennessee public schools.

Tennessee private schools reported that there were **2,247** health screenings performed during the 2016-17 school year. There were **1,307** students screened for vision, **528** students screened for hearing, **462** students screened for blood pressure, **504** students for body mass index (BMI), **150** students screened for dental, and **172** students screened for scoliosis.

**Type, Number and Percent of Total Number of Screenings
2016-17**

Type of Health Screening	Number of Students Screened	Percent of Total Number School Health Screenings
Vision	331,342	23%
Hearing	333,545	23%
Body Mass Index (BMI)	364,646	26%
Blood Pressure	319,189	23%
Dental	57,395	4%
Scoliosis	20,250	1%

Additionally, **46** Tennessee private schools reported that they performed vision, hearing, and BMI screenings, and **six** schools reported that they screened for scoliosis. There were **2,247** health screenings performed during the 2016-17 school year. **1,307** students were screened for vision, **528** students screened for hearing, **462** students screened for blood pressure, **504** students for body mass index (BMI), **150** students screened for dental, and **172** students screened for scoliosis.

During the 2016-17 school year, **145,048** student referrals were made to a health care provider as a result of a public school health screening. Referral suggestions are provided to the parent/guardians.

Most referrals were a result of:

- Dental screenings (**20 percent**)
- Body mass index (BMI) screenings (**16 percent**)
- Vision screenings (**13 percent**)

Private schools reported that **425** of the students screened were referred to a health care provider.

- Much of the referrals made by private schools were hearing (**23 percent**) and vision (**nine percent**).

The most significant increase in referrals between 2006-07 and 2016-17 were for:

- Body mass index (BMI) (**686 percent**),
- Vision (**121 percent**), and
- Blood pressure (**1018 percent**).

During the 2016-17 school year, **10 percent** of students who participated in school health screenings received a referral to a healthcare provider. Of those students who were referred to a healthcare provider, **15 percent** were confirmed by a public school staff member and **41 percent** were confirmed by a private school staff member that the student actually visited their healthcare provider.

Type, Number and Percent of Students Referred to a Health Care Provider as a Result of School Health Screening Programs 2016-17

Type of Health Screening	Number of Referral(s) made to a Healthcare Provider	Percent of Total
Body Mass Index	56,812	39%
Vision	43,923	30%
Dental	11,252	8%
Blood Pressure	22,088	15%
Hearing	9,884	7%
Scoliosis	1,089	1%
Total	145,048	100%

***Type and Number of Students Screened, Referred to a Healthcare Provider and Confirmed Follow-ups by School Staff As a Result of School Health Screening Programs
2016-17 Public Schools***

Type of Health Screening	Number of Students Screened	Number of Students Referred to Healthcare Provider	Number of Confirmed Referral Follow-ups by School Staff
Vision	331,342	43,923	8,986
Hearing	333,545	9,884	1,625
Body Mass Index (BMI)	364,646	56,812	1,469
Blood Pressure	319,189	22,088	3,664
Dental	57,395	11,252	5,307
Scoliosis	20,250	1,089	145

Forty-one percent of follow-up recommendations were confirmed by a private school staff member that the student visited their healthcare provider.

Individual Health Care Plans (T.C.A. § 49-50-1602)

During the 2016-17 school year, **131** school districts (**92 percent**) reported that all students with chronic or long-term illnesses had an individual health care plan (IHP) in place, whereas **11** school districts (**eight percent**) reported they had not provided plans for all applicable students.

Health Care Procedures Performed at School

During 2016-17, **23,546** public school students received a procedure on a daily or routine basis at school from a licensed health care professional. The most frequent procedures performed by licensed health care professionals were:

- Blood glucose monitoring (**30 percent**)
- Carb counting (**20 percent**)

- Diabetes injections (**13 percent**)

During 2016-17, **3,988** students performed their own procedure on a daily or routine basis at school without assistance.

Frequent procedures performed by students without any assistance were:

- Blood glucose monitoring (**28 percent**)
- Carb counting (**23 percent**)
- Diabetic injections (**16 percent**)

Tennessee private schools reported that **87** students received routine procedures at school from a licensed health care provider, **15** students performed their own procedure without assistance, and **five** students received their procedure care from an unlicensed staff member within their school.

During 2016-17, licensed health care providers and unlicensed assistive personnel (UAPs) performed procedures annually on all students.

The most frequent procedures performed were:

- Blood glucose monitoring (**30 percent**)
- Carb counting (**19 percent**)
- Insulin injection (**12 percent**)

During 2016-17, **437** students received a procedure on a daily or routine basis at school from an unlicensed health care professional.

The most frequent procedures performed by unlicensed health care professionals were:

- Blood glucose monitoring (**46 percent**)
- Carb counting (**22 percent**)
- "Other" procedures (**19 percent**)

Type, Number, and Percent of Public School Students Receiving a Health Care Procedure on a Daily or Routine Basis at School from a Licensed Health Care Professional 2016-17

Procedure Performed by Licensed Health Care Professional	Number of Students Receiving Procedure on a Daily or Routine Basis at School from Licensed Health Care Professional	Percent of Total
Other	2454	10%
Blood Glucose Monitoring	5639	24%
Carb Counting	3612	15%
Diabetes Injections	2394	10%
Urine Ketone Testing	1214	5%
Nebulizer Treatment	991	4%
Insulin Pump	1989	8%
G/T Tube Feeding	642	3%
C.I.C.	186	<1%
Total	19,121	81%

Type, Number, and Percent Change of Public School Students Receiving a Health Care Procedure on a Daily or Routine Basis at School from a Licensed Health Care Professional 2006-07 to 2016-17

Procedure Performed by Licensed Health Care Professional	Number of Students Receiving Procedure on a Daily or Routine Basis at School from Licensed Health Care Professional 2006-07	Number of Students Receiving Procedure on a Daily or Routine Basis at School from Licensed Health Care Professional 2016-17	Percent Change
Blood Glucose	2,490	5,639	126%
Carb Counting	1,532	3,612	136%
Other	776	2,454	216%
Diabetes Injections	911	2,394	163%
Nebulizer Treatment	735	991	35%
Urine Ketone Testing	NA	1,214	NA
Insulin Pump	NA	1,989	NA
G/T tube feeding	867	642	-26%
C.I.C.	287	186	-35%
Total	7,598	23,546	210%

***Number and Type of Personnel Trained Annually to Administer Medications
2016-17***

Personnel Trained Annually to Administer Medications	Number	Percent of Total
Teachers	12,641	65%
Secretaries	2,954	15%
Personal Care Attendant	141	<1%
Other	2925	14%
LPN Nurses	632	3%
Principals/Assistant Principals	897	4%
Parent Volunteer	146	<1%
Bus Driver	1039	5%
School/Health Aides	247	<1%

Emergency Procedure

During the 2016-17 school year, **15,098** students received an emergency procedure in Tennessee public schools. Almost all of the emergency procedures were provided to students for asthma (**98 percent**) and in the “other” category (**two percent**).

Additionally, **16** private schools reported administering emergency medications during the 2016-17 school year. Private schools reported that **22** students with asthma received rescue medication.

Head Injury/Concussions

Ninety-nine percent of all public school districts/special schools (**140** districts/special schools) have adopted guidelines and policies concerning the nature, risk, and symptoms of concussion and head injury.

HIV and Blood-borne Pathogens Training

During the 2016-17 school year, **142 out of 142** school districts/special schools provided HIV and blood-borne pathogens training to school staff.

Private schools reported that **26** schools provided HIV and blood-borne pathogen training to school staff during the 2016-17 school year.

Cardio-Pulmonary Resuscitation (CPR) (T.C.A. § 49-5-414)

During the 2016-17 school year, **25,093** full-time school employees were currently certified in CPR.

Districts reported that **134 out of 142** public school systems/special schools provided CPR training as a professional development opportunity this past school year (2016-17).

During the 2016-17 school year, **392** schools provided CPR to students (T.C.A. § 49-5-414) and **56,830** students were trained in CPR.

Tennessee private schools reported that **eight** schools provided CPR to **285** students within those schools. In addition, it was reported that **574** staff members are currently certified in cardio-pulmonary resuscitation (CPR).

Automated External Defibrillators (AED)

Ninety-one percent of all Tennessee public schools have an automated external defibrillator (AED). Data was not received regarding private school's possession of automated external defibrillators (AEDs).

Immunizations and Meningococcal Information to Parents

Public school districts/special schools (**140 out of 142** school districts/special schools) report that they require proof of immunization prior to new student admission to any public school, nursery school, kindergarten, pre-school, or day care and provide special provisions for homeless children (T.C.A. § 49-6-5001). Data was not received from private schools regarding immunizations.

During the 2016-17 school year, **136** school districts (**96 percent**) shared Meningococcal vaccine information with parents. **Six** school districts (**4 percent**) did not provide this information with parents.

Private schools reported that **12** schools provided Meningococcal vaccine information with parents. The remaining private schools either answered “no” or the question was left unanswered.

School-based Clinics

In 2016-17, **50,402** EPSDTs (well child exams) were provided to Tennessee students either by a school clinic practitioner, a private provider in the schools, or a county health department via school transport. Of these, **87 percent** received EPSDT through *Well Child, Inc.* or another private provider at school, and **13 percent** received an EPSDT through a school-based clinic.

- Increased to **276** school-based/school-linked clinics in 2016-17 (**48 percent increase**)
- Survey respondents said their school districts planned to open **eight** new clinics during the 2017-18 school year.
- Of the **276** schools that provided clinic services in 2016-17, **67 percent** used tele-medicine, **68 percent** provided services to staff as well as students, **25 percent** provided immunizations, and **eight percent** provided dental services in the clinic.

**Comparisons between Various School-Based Clinic Indicators
2013-14 and 2016-17**

School-based Clinic Indicators	2013-14	2016-17	Percent Change
Number of LEAs with school clinics	37	39	5%
Number of schools with clinics	186	276	48%
Number of students served in school clinics (physical health only)	29,310	57,955	98%
Number of student referrals to other health care providers	3,223	6,778	110%
Number of student referrals "confirmed" by clinic staff	2,043	3,522	72%
Number of EPSDT exams by clinic	6,314	6,767	7%
Number of EPSDT exams by private provider (<i>Well Child Inc.</i> , etc.)	41,164	43,618	6%
Number of students received an EPSDT exam due to schools transporting students to the local health depart	4	17	325%
Number of school-based/school-linked clinics providing behavioral health services for	93	142	53%
Number of students receiving behavioral health services in school-based/school-linked	NA	5,547	100%
Number of students referred to community behavioral health provider	3,614	2,893	-20%
Number of behavioral health referrals confirmed by clinic staff	1,278	2140	67%
Number of school clinics using tele-medicine	87	186	114%