



Tennessee Department of Education
Office of Coordinated School Health
Annual School Health Services Report
2014-15 School Year

Annual School Health Services Report

2014-15 School Year

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 § 49-5-415(a)(4). 137 local education agencies (LEAs) out of 141 returned their survey for inclusion in this report.

Public Schools Data

Wellness issues of students are supervised by licensed school nurses with the goals 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
- 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
- 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, psychologist, dentists, health educators, registered dietitians, school counselors, and allied health professionals (e.g., speech therapists, occupational therapists, and physical therapists).

Recommendations

A continuing concern based on health services trend data is the issue of ensuring 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. Following are several facts to support this recommendation:

- During the 2014-15 school year, there were **68,692** students in Tennessee schools with an asthma diagnosis.
- Students diagnosed with asthma represent the most common type of chronic illness/disability among Tennessee students (**32 percent of all diagnoses**).
- Since 2004-05, the number of students diagnosed with asthma increased by **85 percent**.
- Of the **68,692** students identified as having asthma, only **34,011** students or **50 percent** of all students identified as having asthma were provided an individualized action treatment plan.
- Also, only **110** school systems/special schools (**79 percent of all school districts/special schools**) have developed a school-wide asthma action plan for all schools.
- During the 2014-15 school year, **32,159** teachers, coaches, and other school personnel were trained in asthma education using a formal curriculum. This represents a **nine percent decrease** from the previous school year.
- An additional **23,759** asthmatic students received asthma education training in Tennessee public schools. However, this represents only **35 percent** of all students diagnosed with asthma who received asthma education training.
- During the 2014-15 school year, the most common type of emergency procedure provided to students was for other-broken bones, resuscitation, burns, etc. (**51 percent**).
- 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. **Forty-eight percent** (67 school systems/special schools) indicated "yes," while **52 percent** (72 school systems/special schools) reported "no".

2014-15 School Health Services Highlights

Public Schools

Student Diagnoses

During the 2014-15 school year, **215,184** students in Tennessee public schools had a chronic illness or disability diagnosis. This represents **22 percent** of all Tennessee public school students statewide. Of those students with a diagnosis, the most common were asthma (**32 percent**), ADHD/ADD (**22 percent**), and severe allergies (**15 percent**).

The total number of students with selected chronic illnesses or disability diagnoses increased by **85 percent** between 2004-05 and 2014-15. The number of ADHD/ADD diagnoses increased by **141 percent** in ten years. The number of students diagnosed with asthma increased by **78 percent** and the number of students diagnosed with diabetes increased by **52 percent** during the same time period.

Health Services Provided in Tennessee Schools

The most common types of health services provided by licensed health care providers in Tennessee schools include: training and supervision of non-medical personnel (**93 percent** of all schools), skilled nursing services to students with health needs (general education student/504) (**90 percent** of all schools), health counseling/referral (**83 percent** of all schools), care of ill/injured students (**76 percent** of all schools) and care of ill/injured staff (**73 percent** of all schools). The most common types of health services provided by unlicensed health care providers in Tennessee schools include: medication administration (**79 percent** of all schools), BMI screenings (**75 percent** of all schools), and hearing screenings (**59 percent** of all schools).

School Nurses

School systems/special schools hire nurses to serve the general and special education student populations.

Out of the **1,811** public schools in Tennessee, **47 percent** or **844** schools employed a nurse full time in their school. During the 2014-15 school year, **1,370** school nurses worked in Tennessee schools.

Of these, **43** were Master of Science Nurses (MSNs), **354** were Bachelor of Science Nurses (BSNs), **414** were Registered Nurses (RNs) and **559** were Licensed Practical Nurses (LPNs).

Also, **89 percent** of all Tennessee school nurses were hired by the LEA as full time employees, **5 percent** through public health departments, **4 percent** on an agency contract, and **1 percent** through local hospitals.

School systems reported **10 percent** of all school nurses served only special education students and **90 percent** served the general student population.

School districts/special schools reported that **138 out of 139** 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.

During the 2014-15 school year, there were **3,919,823** student visits to a school nurse. **Seventy-eight percent** of those visits resulted in a student's ability to return to class instead of being sent home.

1,096 out of **1,811** public schools in Tennessee used an electronic medical records system during the 2014-15 school year. The most common systems used were Powerschool (**561** schools), Skyward (**263** schools), HealthOffice (**191** schools), SNAP (**65** schools), STAR Student (**16** schools), and other records systems (**227** schools).

Availability of School Nurses

Out of the **1,811** public schools in Tennessee, **47 percent** or **844** schools employed a nurse full time in their school. Also, there were **5,035** incidences during the 2014-15 school year when a school nurse was pulled from their school to take care of an immediate need elsewhere.

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. **Forty-eight percent** (**67** school systems/special schools) indicated "yes" while **52 percent** (**72** 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. **Fifty-eight percent** (**82** school systems/special schools) indicated "yes" while **42 percent** (**57** school districts) 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. **Fifty-eight percent** (**80** school systems) indicated "yes" while **42 percent** (**58** school systems) reported "no."

During the 2014-15 school year, **3,231** "911" emergency calls were made in Tennessee public schools. Of these calls, **2,057 (64 percent)** were made when a nurse was in the school building and **1,174 (36 percent)** were made when a nurse was **NOT** in the school building. Also, **14,236** 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 thirty-one percent increase from the previous school year.

Medications

There were **1,823,521** medication doses administered to students in Tennessee public schools during the 2014-15 school year.

The vast majority of type of doses administered to Tennessee students were oral (**80 percent**) followed by inhaled (**10 percent**) and topical (**8 percent**).

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 reported medications were locked in a secure storage location.

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 would be very hard for him/her to concentrate on school work. Likewise, if a student cannot see the board 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 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 and 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 staffs are encouraged to screen students for oral health problems and screen sixth grade students for scoliosis.

Most school systems/special schools provided vision, hearing, BMI and blood pressure screening for their students. Approximately, **35 percent** of all school districts/special schools provided dental screening and **17 percent** of all school districts/special schools provided scoliosis screening.

During the 2014-15 school year, **74 percent** of all Tennessee students who were recommended to receive school health screenings received them. Also, **80 percent** of all students recommended to receive a vision screening received one, **81 percent** of all students recommended to receive a hearing screening received one, **75 percent** of all students recommended to receive a BMI screening received one, and **62 percent** of all students recommended to receive a blood pressure screening received one.

During the 2014-15 school year, **132,193** student referrals were made to a health care provider as a result of a school health screening. Referral suggestions are provided by the school nurse in the form of a letter sent home to parents. Most referrals were a result of body mass index (BMI) screenings (**41 percent**), vision screenings (**30 percent**) and dental screenings (**11 percent**).

The total number of students referred to health care providers increased **149 percent** between 2006-07 and 2014-15. The most significant increase in referrals from 2006-07 to 2014-15 were for body mass index (BMI) (**644 percent**), blood pressure (**576 percent**) and vision (**98 percent**). Referrals decreased for scoliosis (**-10 percent**).

During the 2014-15 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 school staff that the student actually visited their healthcare provider.

504 - Individual Health Care Plans (T.C.A. §49-5-415)

During the 2014-15 school year, **128** school districts (**92 percent**) reported all students with chronic or long-term illnesses had an individual health care plan (IHP) in place whereas **11** school districts (**8 percent**) reported they had not provided plans for all applicable students.

Procedures

During 2014-15, **18,978** 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: other (**30 percent**), blood glucose monitoring (**20 percent**), carb counting (**16 percent**), and diabetes injections (**11 percent**).

Between 2006-07 and 2014-15, the total number of procedures performed by a licensed health care professional increased by **150 percent**.

During 2014-15, **6,167** students performed their own procedure on a daily or routine basis at school without assistance. The most frequent procedures performed by students without any assistance were diabetes injections (**37 percent**), blood glucose monitoring (**20 percent**), carb counting (**16 percent**), and urine ketone testing (**8 percent**).

During 2014-15, licensed health care providers and unlicensed assistive personnel (UAP's) performed **1,389,183** procedures annually on all students. The most frequent procedures performed were blood glucose monitoring (**31 percent**), carb counting (**21 percent**), and diabetes injections (**19 percent**).

During 2014-15, **1,155** 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 other (**40 percent**), blood glucose monitoring (**29 percent**), and carb counting (**16 percent**).

Emergency Procedures

During the 2014-15 school year, **25,548** students received an emergency procedure in Tennessee schools. Almost all of the emergency procedures were provided to students for asthma (**56 percent**) and in the “other” category (**43 percent**).

The total percentage of students receiving an emergency procedure increased by **238 percent** from 2008-09 to 2014-15. The largest area of increase involved using Diastat® (**169 percent**) and asthma inhaler (**95 percent**) as an emergency procedure with students. The emergency administration of Glucagon® decreased (**-34 percent**).

Asthma

During the 2014-15 school year, there were **71,681** students in Tennessee schools with an asthma diagnosis. Students diagnosed with asthma represent the most common type of chronic illness/disability among Tennessee students (**33 percent of all diagnoses**). Since 2004-05 the number of students diagnosed with asthma increased by **85 percent**.

Of the **71,681** students identified as having asthma, **30,505** students were provided an individualized action treatment plan and **15,984** of the plans were signed by the medical provider (someone who prescribes medication). Also, **108** school systems/special schools (**78 percent of all school districts/special schools**) have developed a school-wide asthma action plan for all schools. Of these **108** school districts/special schools, **105** school districts/special schools report the plan is implemented in all schools.

During the 2014-15 school year, **35,335** teachers, coaches, and other school personnel were trained in asthma education using a formal curriculum. This represents an increase of **84 percent** from the previous school year. An additional **12,697** asthmatic students received asthma education training in Tennessee public schools. This represents only **18 percent** of all students diagnosed with asthma who attend a Tennessee public school.

Also, **20,891** students with asthma have a controller substance available at school.

Allergies

There were **104,126** students diagnosed with allergies in Tennessee schools during the 2014-15 school year. The most common types of allergies among students were environmental (**31 percent**), “other (includes allergies)” (**287 percent**) and “other – food” (**12 percent**).

From 2010-11 to 2014-15 school years, the number of students identified with allergies increased by **29 percent**. Nut (**63 percent**), shellfish (**58 percent**), latex (**55 percent**) and egg (**51 percent**) allergies increased the most from the 2010-11 to 2014-15 school year.

Substantial increases have occurred during the past five years regarding the number of students that have Epi-Pens® available at schools (**64 percent increase**). The number of students requiring administration of the Epi-Pen® at school declined by **-9 percent** and the number of school personnel trained to administer an Epi-Pen® if needed increased by **95 percent**.

During the 2014-15 school year, **forty percent** of all school districts/special schools (**55 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 **3,752** students in Tennessee schools with a diagnosis of diabetes during the 2014-15 school year. Of these, **2,984** students or **80 percent** were diagnosed with Type I diabetes and **768** students or **20 percent** were diagnosed with Type 2 diabetes. The highest percentage of students diagnosed with diabetes attended high schools (**47 percent**) followed by middle schools (**28 percent**) and then elementary schools (**22 percent**).

The number of students diagnosed with Type I and Type II diabetes in Tennessee schools increased overall by **12 percent** from 2009-10 to 2014-15. However, kindergarten and elementary data actually showed a decline in percentages since the 2009-10 school year.

Also, **75 out of 139** 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, **54 percent (75 school systems)** reported "yes" and **46 percent (64 school systems)** reported "no."

Seizure Disorders

In 2014-15 there were **1,746** students with a seizure disorder diagnosis with Diastat® available for use at school compared to **835** students in 2008-09. This represents a **109 percent** increase over a five year period.

A total of **197** doses of Diastat® were administered to students in school systems this year compared to **87** doses in 2008-09. This represents a **126 percent** increase over a five year period.

School health services supervisors in **99 LEAs (71 percent)** reported having a district Diastat® policy in place, while **40 LEAs (23 percent)** reported they did not have a district Diastat® policy.

School districts report **90** school systems (**65 percent**) have a policy allowing the nurse to administer the first dose of Diastat® at school; **18** LEAs did not allow nurses to administer the first dose of Diastat® at school (**13 percent**) and **31** LEAs did not answer the question (**22 percent**).

There were **481** 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, **252** nurses were assigned to a school to serve as a full-time nurse for this student.

During the 2014-15 school year, **27** students received Diastat® more than once per year compared to **24** students in 2008-09.

134 out of **138** 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 **188** times at school by a nurse, **4** times by a trained volunteer and **4** times by parents or guardians during the 2014-15 school year.

Also, **134** school systems/special schools (**97 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. **Four** LEAs answered this was **not** their standard protocol.

During the 2014-15 school year, **58** LEAs (**42 percent**) have a policy allowing trained volunteers to administer Diastat®, **45** LEAs (**32 percent**) did not have a policy and **36** LEAs (**26 percent**) did not answer the question.

School-based Clinics

In 2014-15, **54,136** EPSDTs (well child exam) were provided to Tennessee students either by a school clinic practitioner, a private provider in the schools or county health department via school transport. Of these, **90 percent** received EPSDT through *Well Child, Inc.* or another private provider at school and **10 percent** received an EPSDT through a school-based clinic.

The number of schools with school-based clinics decreased from **186** in 2013-14 to **185** in 2014-15 (**-0.5 percent decrease**). Also, survey respondents said their school districts planned to open **24** new clinics during the 2014-15 school year. Of the **185** schools that provided clinic services in 2014-15, **69 percent** used tele-medicine, **68 percent** provided services to staff as well as students, **15 percent** provided immunizations and **82 percent** provided dental services in the clinics.

Cardio-Pulmonary Resuscitation (CPR) (TCA§49-5-414)

During the 2014-15 school year, **18,914** full-time school employees were currently certified in CPR. LEAs reported that **130 out of 139** school systems/special schools provided CPR training as a professional development opportunity this past school year (2014-15).

In the 2013-14 school year, **276** schools provided CPR training to students. Also, **34,742** students received CPR training during the 2014-15 school year.

HIV and Blood-borne Pathogens Training

During the 2014-15 school year, **138 out of 139** school districts and special schools provided HIV and blood-borne pathogens training to school staff.

Immunizations and Meningococcal Information to Parents

Almost **all** school districts/special schools (**137 out of 139** school districts/special schools) report they require proof of immunization prior to new student admission to any public schools, nursery school, kindergarten, pre-school or day care and provide special provisions for homeless children (TCA §49-6- 5001).

During the 2014-15 school year, **129** school districts (**93 percent**) shared Meningococcal vaccine information with parents, **10** school districts (**7 percent**) did not provide this information with parents.

Head Injury/Concussions

Ninety-seven percent of all school districts/special schools (**135** districts/special schools) have adopted guidelines and policies concerning the nature, risk and symptoms of concussion and head injury.

Automated External Defibrillators (AED)

Eighty-seven percent of all Tennessee public schools have an automated external defibrillator (AED). During the 2014-15 school year, school staff used their AED eleven (**11**) times.

Data Charts

Student Diagnoses

Number of Students and Percent of Total by Chronic Illness or Disability Diagnosis 2014-15

Chronic Illness or Disability Diagnosis	Number of Students 2014-15	Percent of Total
Asthma	68,692	32%
ADHD/ADD	48,128	21%
Severe Allergy	31,470	15%
Intellectual Disability	16,516	8%
Other (Cerebral Palsy, Sickle Cell, Cystic Fibrosis)	19,408	9%
Mental Health	12,401	6%
Autism	7,852	4%
Seizure Disorder	7,031	3%
Diabetes	3,686	2%
Total	215,184	100%

During the 2014-15 school year, **215,184** students in Tennessee public schools had a chronic illness or disability diagnosis. This represents **22 percent** of all Tennessee public school students statewide. Of those students with a diagnosis, the most common diagnoses were asthma (**32 percent**), ADHD/ADD (**21 percent**), and severe allergy (**15 percent**).

**Number and Percent Change of Students by Selected Chronic Illness or Disability Diagnosis
between 2004-05 and 2014-15**

Chronic Illness or Disability Diagnosis	Number of Students 2004-05	Number of Students 2014-15	Percent Change
ADHD/ADD	19,939	48,128	141%
Asthma	38,676	68,692	78%
Diabetes	2,388	3,636	52%
Other (Cerebral Palsy, Sickle Cell, Cystic Fibrosis, Spinal Bifida, etc.)	14,536	19,408	34%
Total	75,539	139,864	85%

The total number of students with selected chronic illnesses or disability diagnoses increased by **85 percent** between 2004-05 and 2014-15. The number of ADHD/ADD diagnoses increased by **141 percent** in ten years. The number of students diagnosed with asthma increased by **78 percent** and the number of students diagnosed with diabetes increased by **52 percent** during the same time period.

Health Services Provided In Schools

Types of Health Services Provided in Public Schools Using Licensed and Unlicensed Health Care Providers and Percent Compared to All Public Tennessee Schools 2014-15

Types of Health Services	Number of schools using licensed health care providers	Percent of All TN Public Schools (N=1,811)	Number of schools using unlicensed health care providers	Percent of All TN Public Schools (N=1,811)
Skilled Nursing Services to Students With Health Needs (general education student/504)	1,631	90%	31	2%
Training and Supervision of Non-Medical Personnel	1,685	93%	58	3%
Health Counseling/Referral	1,501	83%	111	6%
Care of Ill/injured students	1,370	76%	870	43%
Care of Ill/Injured Staff	1,316	73%	667	37%
Medication Administration	1,260	70%	1,423	79%
Immunization Compliance Monitoring	1,184	65%	539	30%
Nursing Services to Students With Special Needs who have an IEP	1,425	79%	41	2%
Blood Pressure Screening	1,072	59%	1,048	58%
Health Education for Students	1,152	63%	1,031	57%
Staff Wellness Activities	913	50%	823	45%

Types of Health Services	Number of schools using licensed health care providers	Percent of All TN Public Schools (N=1,811)	Number of schools using unlicensed health care providers	Percent of All TN Public Schools (N=1,811)
Vision Screening	806	45%	1,047	58%
Hearing Screening	815	45%	1,069	59%
BMI Screening	726	40%	1,356	75%
Dental Screening	562	31%	63	3%
Scoliosis Screening	231	13%	80	4%

The most common types of health services provided by licensed health care providers in Tennessee schools include: training and supervision of non-medical personnel (**93 percent** of all schools), skilled nursing services to students with health needs (general education student/504) (**90 percent** of all schools), health counseling/referral (**83 percent** of all schools), care of ill/injured students (**76 percent** of all schools) and care of ill/injured staff (**73 percent** of all schools). The most common types of health services provided by unlicensed health care providers in Tennessee schools include: medication administration (**79 percent** of all schools), BMI screenings (**75 percent** of all schools), and hearing screenings (**59 percent** of all schools).

Medications

Total Number of Medication Doses Administered in Tennessee Schools Daily and As Needed (PRN) (Count Doses for the Year) 2014-15

Type of Medication Administered	Number of Medication Doses Administered Daily	Number of Medication Doses Administered on an as Needed Basis (PRN)	Total Number	Percent of Total
Oral	1,116,434	349,823	1,466,257	80.1%
Inhaled	71,138	110,015	181,153	10%
Topical	7,949	142,453	150,402	8.2%
Ophthalmic and Otic	5,189	16,016	21,205	1.2%
Parenteral Medications other than INSULIN OR IV	4,441	478	4,919	.269%
Intranasal	645	2,694	3,339	.182%
Parenteral Medication INTRAVENOUS ONLY	160	13	173	.009%
Rectal	83	137	220	.012%
Total	1,206,039	621,629	1,827,668	100%

There were **1,827,668** medication doses administered to students in Tennessee public schools during the 2014-15 school year.

The vast majority of type of doses administered to Tennessee students were oral (**80 percent**) followed by inhaled (**10 percent**) and topical (**8.2 percent**).

Type, Number and Percent of Students Receiving a Health Care Procedure on a Daily or Routine Basis at School from a Licensed Health Care Professional 2014-15

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	13,720	54%
Blood Glucose Monitoring	2,932	11%
Carb Counting	2,874	11%
Diabetes Injections	2,076	8%
Urine Ketone Testing	1,449	6%
Nebulizer Treatment	1,076	4%
Insulin Pump	654	3%
G/T tube feeding	528	2%
C.I.C.	229	1%
Total	25,538	100%

During 2014-15, **25,538** 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: other (**54 percent**), blood glucose monitoring (**11 percent**), carb counting (**11 percent**), and diabetes injections (**8 percent**).

Type, Number and Percent Change of Students Receiving a Health Care Procedure on a Daily or Routine Basis at School from a Licensed Health Care Professional 2006-07 to 2014-15

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 2014-15	Percent Change
Blood Glucose Monitoring	2,490	2,932	18%
Carb Counting	1,532	2,874	88%
Other	776	13,720	1668%
Diabetes Injections	911	2,076	121%
Nebulizer Treatment	735	1,076	46%
Urine Ketone Testing	NA	1,449	NA
Insulin Pump	NA	654	NA
G/T tube feeding	867	528	-39%
C.I.C.	287	229	-20%
Total	7,598	25,538	236%

Between 2006-07 and 2014-15, the total number of procedures performed by a licensed health care professional increased by **236 percent**.

**Type, Number and Percent of Students Performing Own Procedure at School Without Assistance
2014-15**

Procedure Performed by Student	Number of Students Performing Own Procedure on a Daily or Routine Basis at School Without Assistance	Percent of Total
Blood Glucose Monitoring	1,513	31%
Carb Counting	921	19%
Diabetes Injections	708	14%
Urine Ketone Testing	577	12%
Insulin Pump	455	9%
Other	292	6%
Nebulizer Treatment	249	5%
G/T tube Feeding	127	2.5%
C.I.C.	77	1.5%
Total	4,919	100%

During 2014-15, **4,919** students performed their own procedure on a daily or routine basis at school without assistance. The most frequent procedures performed by students without any assistance were blood glucose monitoring (**31 percent**), carb counting (**19 percent**), diabetes injections (**14 percent**), and urine ketone testing (**12 percent**).

Procedures Performed Annually On All Students by Licensed Health Care Provider and UAP 2014-15

Procedure Performed Annually On All Students by Licensed Health Care Provider and UAP	Number of Procedures Performed Annually On All Students By Licensed Health Care Provider and UAP	Percent of Total
Other	15,436	54%
Carb Counting	3,524	12%
Blood Glucose Monitoring	3,080	11%
Diabetes Injections	2,076	7%
Urine Ketone Testing	1,915	7%
Nebulizer Treatment	1,076	4%
Insulin Pump	654	2%
G/T tube Feeding	528	2%
C.I.C.	229	1%
Total	28,518	100%

During 2014-15, Licensed Health Care Providers and Unlicensed Assistive Personnel (UAP's) performed **28,518** procedures annually on all students. The most frequent procedures performed were blood glucose monitoring (**31 percent**), carb counting (**21 percent**), and diabetes injections (**19 percent**).

Type, Number and Percent of Students Receiving a Health Care Procedure on a Daily or Routine Basis at School from an Unlicensed Health Care Professional 2014-15

Procedure Performed by Unlicensed Health Care Professional	Number of Students Receiving Procedure on a Daily or Routine Basis at School from Unlicensed Health Care Professional	Percent of Total
Other	1,716	58%
Blood Glucose Monitoring	148	5%
Carb counting	650	22%
Urine Ketone Testing	466	15%
Total	2,980	100%

During 2014-15, **2,980** 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 “other” (**58 percent**), carb counting (**22 percent**), and urine ketone testing (**15 percent**).

Number and Type of Personnel Trained Annually to Administer Medications 2014-15

Personnel Trained Annually to Administer Medications	Number	Percent of Total
Teachers	10,068	59%
Secretaries	2,272	13%
Teaching Assistants	1,780	11%
Other	784	5%
LPN Nurses	597	4%
Principals	566	3%
Assistant Principals	489	3%
School Counselors	331	2%
Nurse Assistants/Health Room Aide	41	nil
Total	16,928	100%

The majority of school personnel trained annually to handle medications and record keeping in 2014-15 were teachers (**59 percent**) followed by secretaries (**13 percent**) and teaching assistants (**11 percent**).

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 reported medications were locked in a secure storage location.

School Nurses

Type, Number, and Method of Funding for School Nurses 2014-15

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	26	6	0	11	0	43
Special Ed Nurses	1	0	0	0	0	1
Bachelor of Science (BSN's)						
General Student Population School Nurses	297	18	1	23	1	340
Special Ed Nurses	13	0	0	0	0	13
Registered Nurses (RN's)						
General Student Population School Nurses	327	42	4	23	1	397
Special Ed Nurses	17	0	0	0	0	17
Licensed Practical Nurses (LPN's)						
General Student Population School Nurses	428	5	13	2	0	448
Special Ed Nurses	111	0	0	0	0	111
Total	1220	71	18	59	2	1370

*FTE = Full Time Equivalent

**Basic Education Program (BEP) funds specified, other local, or federal sources used to employ or contract

***Special Education funds used to employ or contract

School systems/special schools hire nurses to serve the general and special education student populations. During the 2013-14 school year, **1,370** school nurses worked in Tennessee schools. Out of the 1,811 public schools in Tennessee, 47 percent or 844 schools employed a nurse full time in their school. Of these, **43** were Master of Science Nurses (MSNs), **353** were Bachelor of Science Nurses (BSNs), **414** were Registered Nurses (RNs) and **559** were Licensed Practical Nurses (LPNs). Also, **89 percent** of all Tennessee school nurses were hired by the LEA as full time employees, **5 percent** through public health departments, and **4 percent** on an agency contract. School systems reported **10 percent** of all school nurses served special education students and **90 percent** served the general school population.

School districts reported that **138 out of 139** school systems/special schools meet the requirement 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 (T.C.A. §49-3-359(c) (1)).

Position of Those Who Provided First Aid at the School in the Absence of the RN Nurse 2014-15

Position Title	Total Number of LEAs	Percent of 139 LEAs
Secretary	124	89%
Teacher	113	81%
Principal	106	76%
LPN	96	69%
Other	60	43%
Health Room Aide	27	19%
Parent Volunteer	12	9%

First aid services provided in the absence of a RN school nurse were provided by secretaries in **89 percent** of all school districts/special schools, **81 percent** by teachers and **76 percent** by principals.

Types of Personnel the School Nurse Directs/Delegates/Trains and Supervises In the Performance of Skilled Nursing Tasks 2014-15

Types of Personnel the School Nurse Directs/Delegates/Trains and Supervises In the Performance of Skilled Nursing Tasks	Number	Percent of Total
Teachers	5,970	52%
Secretaries	1,872	16%
Other	1,867	16%
Principals	591	5%
LPN Nurses	556	5%
Bus Driver	288	3%
Parent Volunteer	116	1%
Health Room Aide	158	1%
Personal Care Attendant	122	1%
Total	11,540	100%

Approximately **52 percent** of all personnel who the school nurse directs/delegates/trains and supervises in the performance of skilled nursing tasks are teachers followed by secretaries (**16 percent**) and “other” (**16 percent**).

During the 2014-15 school year, **11,540** people in Tennessee school districts/special schools were supervised by a RN to perform non-skilled tasks.

Health Screenings

Number of School Systems/Special Schools Providing Health Screening Programs 2014-15

Type of Health Screening	Number of School Systems/Special Schools (N=141)	Percent of Total Number of School Systems/Special Schools (N=141)
Vision	137	97%
Blood Pressure	137	97%
Body Mass Index (BMI)	137	97%
Hearing	137	97%
Dental	87	62%
Scoliosis	58	41%

Most school systems/special schools provided vision, hearing, BMI and blood pressure screenings for their students. Approximately, **41 percent** of all school districts/special schools provided scoliosis screenings, a thirteen percent increase from the 2013-14 school year and **62 percent** of all school districts/special schools provided some type of dental screenings, a thirty-two percent increase from the 2013-14 school year.

Type, Number and Percent of Total Number of Students Screened 2014-15

Type of Health Screening	Number of Students Screened	Percent of Total Number School Health Screenings
Vision	323,067	24%
Hearing	324,046	24%
Body Mass Index (BMI)	343,163	25%
Blood Pressure	280,370	20%
Dental	71,043	5%
Scoliosis	13,873	1%
Total	1,355,562	100%

During the 2014-15 school year, **1,355,562** student health screenings occurred in Tennessee schools. The most common type of screenings was body mass index (BMI) (**25 percent**), vision (**24 percent**), hearing (**24 percent**) and blood pressure (**20 percent**).

**Type, Number and Percent of Students Screened 2008-09 and
2014-15**

Type of Health Screening	Number of Students 2008-09	Number of Students 2014-15	Percent Change
Vision	395,415	323,067	-18%
Hearing	320,245	324,046	-1%
Body Mass Index (BMI)	289,617	343,163	18%
Blood Pressure	281,033	280,370	-0.2%
Dental	107,093	71,043	-34%
Scoliosis	29,173	13,873	-52%
Total	1,422,576	1,355,562	-5%

The percentage of school health screenings decreased by **5 percent** overall from 2008-09 to 2014-15 and student BMI screenings increased by **18 percent**.

Hearing screenings decreased by **1 percent**, scoliosis decreased by **52 percent**, dental by **34 percent** and vision screenings by **18 percent** screenings.

Type, Number and Percent of Total Number of Students Recommended to Receive Health Screenings 2014-15

Type of Student Health Screening	Grades Recommended to be Screened	Total Number of Students in Tennessee Schools (in these grades)	Number of Students Screened	Percent of Total Number of Students Recommended to be Screened
Vision	Pre-K, K, 2, 4, 6, 8	402,453	323,067	80%
Hearing	Pre-K, K, 2, 4, 6, 8	402,453	324,046	81%
Body Mass Index (BMI)	K, 2, 4, 6, 8, and 9	455,384	343,163	75%
Blood Pressure	K, 2, 4, 6, 8, and 9	455,384	280,370	62%
Total		481,296	1,270,646	74%

During the 2014-15 school year **74 percent** of all Tennessee students who were recommended to receive school health screenings received them. Also, **80 percent** of all students recommended to receive a vision screening received one, **81 percent** of all students recommended to receive a hearing screening received one, **75 percent** of all students recommended to receive a BMI screening received one and **62 percent** of all students recommended to receive a blood pressure screening received one.

Type, Number and Percent of Students Referred to a Healthcare Provider As a Result of School Health Screening Programs 2014-15

Type of Health Screening	Number of Referral(s) made to a Healthcare Provider	Percent of Total
Body Mass Index	53,824	41%
Vision	39,424	30%
Dental	14,853	11%
Blood Pressure	13,350	10%
Hearing	9,904	7%
Scoliosis	838	1%
Total	132,193	100%

During the 2014-15 school year, **132,193** student referrals were made to a health care provider as a result of a school health screening. Most referrals were a result of body mass index (BMI) screenings (**41 percent**), vision screenings (**30 percent**) and dental screenings (**11 percent**).

Type, Number and Percent of Change for Students Referred to a Health Care Provider As a Result of School Health Screening Programs 2006-07 and 2014-15

Type of Health Screening	Number of Referral(s) made to a Health Care Provider 2006-07	Number of Referral(s) made to a Health Care Provider 2014-15	Percent Change
Body Mass Index	7,232	53,824	644%
Vision	19,875	39,424	98%
Dental	15,757	14,853	-6%
Blood Pressure	1,976	13,350	576%
Hearing	7,330	9,904	35%
Scoliosis	939	838	-10%
Total	53,109	132,193	149%

The total number of students referred to health care providers increased **149 percent** between 2006-07 and 2014-15. The most significant increase in referrals from 2006-07 to 2013-14 were for body mass index (BMI) (**644 percent**), blood pressure (**578 percent**) and vision (**98 percent**). Referrals decreased for scoliosis (**-10 percent**).

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 2014-15 – 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	323,067	39,424	9,089
Hearing	324,046	9,904	2,011
Body Mass Index (BMI)	343,163	53,824	1,891
Blood Pressure	280,370	13,350	1,614
Dental	71,043	14,853	4,472
Scoliosis	13,873	838	146
Total	1,355,562	132,193	19,223

During the 2014-15 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 school staff that the student actually visited their healthcare provider.

Emergency Procedures

Type, Number and Percent of Students Receiving Emergency Procedure by Licensed Health Care Providers in School 2014-15

Emergency Procedure	Number of Students	Percent of Total
Asthma	13,374	48.1%
Other – broken bones, resuscitation, burns, etc.	14,236	51.2%
Epi-Pen®	91	.3%
Diastat®	101	.7%
Glucagon®	19	nil
Total	25,548	100%

During the 2014-15 school year, **25,548** students received an emergency procedure in Tennessee schools. Almost all of the emergency procedures were provided to students in the “other” category (**51.2 percent**) and for asthma (**48.1 percent**).

Type, Number and Percent Change of Students Receiving Emergency Procedures by Licensed Health Care Providers in School 2008-09 and 2014-15

Emergency Procedure	Number of Students 2008-09	Number of Students 2014-15	Percent Change
Asthma	7,388	13,374	81%
Other	NA	14,236	NA
Epi-Pen®	84	91	8%
Diastat®	70	101	44%
Glucagon®	26	19	-26%
Total	7,568	25,548	238%

The total percentage of students receiving an emergency procedure increased by **238 percent** from 2008- 09 to 2014-15. The largest area of increase involved using an asthma inhaler (**81 percent**) and Diastat® (**44 percent**) as an emergency procedure with students. The emergency administration of Glucagon® decreased by (**-26 percent**).

Also, **87 out of 139** school systems/special schools report they have a policy that allows trained volunteers to administer Glucagon® in schools.

Allergies

Allergies – Use of Epi-Pens® 2009-10 and 2014-15

Types of Epi-Pen Use	2009-10	2014-15	Percent Change
Number of students that have Epi-Pens® available at schools	6,230	10,650	71%
Number of students that required administration of the Epi-Pen®	95	91	-4%
Number of teachers and staff trained to administer an Epi-Pen® if needed	19,240	35,208	90%

Substantial increases have occurred during the past six years regarding the number of students that have Epi-Pens® available at schools (**71 percent increase**). The number of students requiring administration of the Epi-Pen® at school declined by **-4 percent** and the number of school personnel trained to administer an Epi-Pen® if needed increased by **90 percent**.

Type, Number and Percent of Student Allergies 2014-15

Type of Student Allergies	Number of Students with Allergies	Percent of Total
Environmental	31,502	28%
Other (Includes Allergies)	32,011	29%
Other - Food	13,644	12%
Nuts	12,920	12%
Insects	9,835	9%
Shellfish	4,045	4%
Eggs	3,339	3%
Latex	2,101	2%
Food/Dye	1,805	1%
Total	111,202	100%

There were **111,202** students diagnosed with allergies in Tennessee schools during the 2014-15 school year. The most common types of allergies among students were “other (includes allergies)” (**29 percent**), environmental (**28 percent**), and “other – food” (**12 percent**).

Type, Number and Percent Change of Student Allergies 2010-11 and 2014-15

Type of Student Allergies	Number of Students with Allergies 2010-11	Number of Students with Allergies 2014-15	Percent Increase
Environmental	26,785	31,502	18%
Other (Includes Allergies)	22,672	32,011	41%
Other - Food	8,938	13,644	53%
Insects	7,737	9,835	27%
Nuts	7,319	12,920	77%
Shellfish	2,254	4,045	79%
Eggs	1,831	3,339	82%
Food/Dye	1,720	1,805	5%
Latex	1,459	2,101	44%
Total	80,715	111,202	38%

From 2010-11 to 2014-15 school year, the number of students identified with allergies increased by **38 percent**. Eggs (**82 percent**), Shellfish (**79 percent**), Nuts (**77 percent**), Other-Foods (**53 percent**), and latex (**44 percent**) allergies increased the most from the 2010-11 to 2014-15 school year.

Seizure Disorders

Seizure Disorders/Diastat Medication 2008-09 and 2014-15

Number of students that had Diastat® available at school 2008-09	Number of students that had Diastat® available at school 2014-15	Percent Change	Number of students that required administration of Diastat® 2008-09	Number of times Diastat® was administered at school 2014-15	Percent Change
835	1,743	109%	87	137	57%

In 2014-15 there were **1,743** students with a seizure disorder diagnosis with Diastat® available for use at school compared to **835** students in 2008-09. This represents a **109 percent** increase over a six year period.

A total of **137** doses of Diastat® were administered to students in school systems this year compared to **87** doses in 2008-09. This represents a **57 percent** increase over a six year period.

School Health Supervisors in **103** LEAs (**75 percent**) reported having a district Diastat® policy in place, while **35** LEAs (**25 percent**) reported they did not have a district Diastat® policy.

School districts report **95** school systems (**69 percent**) have a policy allowing the nurse to administer the first dose of Diastat® at school; **15** LEAs did not allow nurses to administer the first dose of Diastat® at school (**11 percent**) and **28** LEAs did not answer the question (**20 percent**).

There were **475** 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, **249** nurses were assigned to a school to serve as a full-time nurse for this student.

During the 2014-15 school year, **29** students received Diastat® more than once per year compared to **24** students in 2008-09.

134 out of **138** 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 **101** times at school by a nurse, **8** times by a trained volunteer and **10** times by parents or guardians during the 2014-15 school year.

Also, **134** school systems/special schools (**97 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. **Four** LEAs answered this was **not** their standard protocol.

During the 2014-15 school year, **59** LEAs (**43 percent**) have a policy allowing trained volunteers to administer Diastat®, **50** LEAs (**36 percent**) did not have a policy and **29** LEAs (**21 percent**) did not answer the question.

Diabetes

Number of Students Diagnosed with Type I or Type II Diabetes by Grade Level 2014-15

Grade Level	Number of Students Type I Diabetes	Number of Students Type II Diabetes	Total Number of Students Diagnosed with Type I and Type II Diabetes
Pre-school	15	1	16
Kindergarten	77	4	81
Grades 1-5	710	83	793
Grades 6-8	868	223	1,091
Grades 9-12	1,285	413	1,698
Total	2,955	724	3,679

There were **3,679** students in Tennessee schools with a diagnosis of diabetes during the 2014-15 school year. Of these, **2,984** students or **80 percent** were diagnosed with Type I diabetes and 768 students or **20 percent** were diagnosed with Type 2 diabetes. The highest percentage of students diagnosed with diabetes attended high schools (**46 percent**) followed by middle schools (**30 percent**) and then elementary schools (**24 percent**).

Number of Students Diagnosed with Type I or Type II Diabetes by Grade Level 2009-10 and 2014-15

Grade Level	Number of Type I and Type II Students 2009-10	Number of Type I and Type II Students 2014-15	Percent Change
Pre-school	23	16	-30%
Kindergarten	98	81	-17%
Grades 1-5	923	793	-14%
Grades 6-8	867	1,091	26%
Grades 9-12	1,446	1,698	17%
Total	3,357	3,679	10%

The number of students diagnosed with Type I and Type II diabetes in Tennessee schools increased overall by **10 percent** from 2009-10 to 2014-15. However, kindergarten and elementary school data actually showed a decline in percentages since the 2009-10 school year.

Management Tasks for Type 1 Diabetic Students 2014-15

Management Tasks for Type I Diabetic Students	Number of Type I Diabetic Students
Number of students that required management tasks by a licensed health care professional (to provide injections)	1,421
Number of students that require assistance by a school staff member (to provide injections)	204
Number of students managing their own injections but a nurse is required to monitor them at least 2 times per year	528
Number of students that require minimal (at least two times per year) assistance with management of diabetic pumps	428
Number of students that require management of diabetic pumps by a licensed health care professional	695
Number of students that require assistance to manage diabetic pumps by a school staff member	144
Number of times a student's insulin pump malfunctioned at school this year	0
Number of students that have Glucagon® ordered as an emergency treatment for low blood glucose	2,327
Number of LEA's with a policy that allows trained volunteers to administer Glucagon®	75
Number of students with Type I diabetes that have Glucagon® available at school	1916
Number of schools that have a full-time nurse assigned to the school because of a student(s) with Type 1 diabetes	258
Number of students with Type 1 diabetes that require a full-time nurse to be on the premises at all times at that school	796

During the 2014-15 school year, **2,153** students with Type 1 diabetes were managed by using a pen/syringe during the school day. An additional **968** students with Type 1 diabetes were managed by using pumps.

Management Tasks for Type 2 Diabetic Students 2014-15

Management Tasks for Type 2 Diabetic Students	Number of Type II Diabetic Students
Number of students with Type 2 Diabetes that require management tasks by a licensed health care professional (to provide injections)	66
Number of students with Type 2 Diabetes only needs nurse to monitor at least two times per year	53
Number of students with Type 2 Diabetes that are managed by injections	92
Number of students with Type 2 Diabetes that require assistance by a school staff member	11

Of the **724** students in Tennessee public schools with a Type II Diabetes diagnosis, **508** students (**70 percent**) did not require assistance with management tasks during the school day.

School-Based Clinics

Comparisons between Various School-Based Clinic Indicators 2013-14 and 2014-15

School-based Clinic Indicators	2013-14	2014-15	Percent Change
Number of LEAs with school clinics	37	32	-14%
Number of schools with clinics	186	185	-0.5%
Number of students served in school clinics (physical health only)	29,310	21,249	-28%
Number of student referrals to other health care providers	3,223	4,095	27%
Number of student referrals "confirmed" by clinic staff	2,043	1,099	-46%
Number of EPSDT exams by clinic	6,314	5,144	-19%
Number of EPSDT exams by private provider (<i>Well Child Inc., etc.</i>)	41,164	48,992	19%
Number of students received an EPSDT exam due to schools transporting students to the local health depart	4	0	-100%
Number of school-based/school-linked clinics providing behavioral health services for students	93	98	5%
Number of students receiving behavioral health services in school-based/school-linked clinics	NA	3,079	NA
Number of students referred to community behavioral health provider	3,614	1,631	-55%
Number of behavioral health referrals confirmed by clinic staff	1,278	1,389	9%
Number of school clinics using tele-medicine	87	128	47%

Number of school clinics providing dental services	31	152	390%
Number of students receiving dental services in clinics	23,507	7,094	-70%
Number of school clinics providing staff services	99	126	27%
Number of school staff served in school clinics	2,800	2,968	6%
Number of school clinics providing immunizations	73	27	-63%
Number of students receiving immunizations in clinics	3,141	12,657	303%
Number of school-based/school-linked clinics provided immunizations using Vaccine For Children program	42	35	-17%
Number of school-based clinics provided private pay/insurance billable immunizations for students	71	34	-52%

In 2014-15, **4,095** student referrals were made to other health care providers (optometrist, audiologist, pediatrician, etc.). The number of school systems/special schools with school-based clinics decreased from **37** in 2013-14 to **32** in 2014-15 (**-14 percent decrease**).

The number of schools with school-based clinics decreased from **186** in 2013-14 to **185** in 2014-15 (**-0.5 percent decrease**). Also, survey respondents said their school districts planned to open **24** new clinics during the 2014-15 school year. Of the **185** schools that provided clinic services in 2014-15, **69 percent** used tele-medicine, **68 percent** provided services to staff as well as students, **15 percent** provided immunizations and **82 percent** provided dental services in the clinics.

In 2014-15, **54,136** EPSDTs (well child exam) were provided to Tennessee students either by a school clinic practitioner, a private provider in the schools or county health department via school transport. Of these, **90 percent** received EPSDT through *Well Child, Inc.* or another private provider at school and **10 percent** received an EPSDT through a school-based clinic. The total percentage of students receiving immunizations in clinics increased by **303 percent** from 2013-14 to 2014-15.