

Office of Coordinated School Health

Annual Data and Compliance Report

2009-2010 School Year



**SCHOOL HEALTH, WELLNESS,
MEDICATIONS and PROCEDURES**

TENNESSEE PUBLIC SCHOOLS



Tennessee Department of Education
Division of College and Career Readiness

Annual Data and Compliance Report 2009-2010 School Year

The Office of Coordinated School Health surveys all public 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. All 136 Local Education Agencies (LEAs) and the four state special schools returned their survey for inclusion in this report.

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 or referring 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 dieticians, school counselors, and allied health professionals (i.e. speech therapists, occupational therapists, and physical therapists).

2009-2010 SCHOOL HEALTH HIGHLIGHTS

Student Diagnoses

In Tennessee schools, **166,222** students had a medical diagnosis. This represents approximately **17%** of all Tennessee public school students. Most students were diagnosed with Asthma (**31%**), ADHD/ADD (**19%**), Intellectual Disability (**15%**) and Severe Allergy (**11%**).

The total number of students with selected chronic illnesses or disability diagnoses increased by **32%** between 2004-2005 and 2009-2010.

The most challenging health diagnosis to manage was diabetes (**55%**) followed by asthma (**10%**) and mental health issues (**10%**).

Medications

During the 2009-2010 school year, **50,018** students self-administered medications. The most common medications administered by students were Inhalants (**36.5%**), Other/Non-Specified drugs (**30%**), and Topical (**16%**).

There was a significant increase (**24%**) in the number of student self-administered medications between 2004-2005 and 2009-2010.

In 2009-2010, **71,919** students received medication administered by a licensed health professional. The most common medications administered in schools by a Licensed Health Care Professional were: Topical (**50%**), Other (**27.6%**), and Aerosol (**9%**).

Persons most frequently administering medications in schools in 2009-2010 were teachers (**41%**), secretaries (**24%**) and Other (**11%**).

Between 2004-2005 and 2009-2010 the number of procedures performed by a Licensed Health Care Professional increased by **19%**.

The vast majority of school personnel trained annually to handle medications and record keeping were teachers (**47.8%**) followed by secretaries (**22%**) and nurses (**13%**).

School Nurses

During the 2009-2010 school year, **1,043** school nurses worked in Tennessee schools. Of these, **537** were Registered Nurses (RN) and **506** were Licensed Practical Nurses (LPNs). LEAs reported that **88%** of all Tennessee school nurses were hired by the LEA as full time employees, **7%** through public health departments, **4%** on a contractual basis, and **2%** through local hospitals. **224 (21%)** nurses (LPN's and RN's) served special education students and **819 (79%)** nurses (LPN's and RN's) served the general school population.

The total percentage of school nurses (RN and LPN) both employed, contracted and donated that worked in Tennessee school systems **increased** by **39%** from 2005-2006 to 2009-2010. (**752** nurses in 2005-2006 compared to **1,043** nurses in 2009-2010.)

The percentage of school nurses (RN and LPN) employed by Tennessee school systems **increased** by **21%** between 2005-2006 and 2009-2010.

The percentage of RN school nurses employed by Tennessee school systems to serve the general student population **increased** by **9%** from 2005-2006 to 2009-2010. The percentage of LPN nurses employed by Tennessee school systems to serve the general student population **increased** by **35%** from 2005-2006 to 2008-2009.

The percentage of RN school nurses employed by Tennessee school systems to serve the special education student population **declined** by **25%** between 2005-2006 and 2009-2010. The percentage of LPN nurses employed by Tennessee school systems to serve the special education student population **increased** by **77%** from 2005-2006 to 2009-2010.

The percentage of school nurses (RN and LPN) contracted by Tennessee school systems **decreased** by **81%** from 2005-2006 to 2009-2010. The percentage of RN school nurses contracted by Tennessee school systems to serve the general student population **declined** by **86%** from 2005-2006 to 2009-2010. The percentage of LPN nurses contracted by Tennessee school systems to serve the general student population **decreased** by **85%** from 2005-2006 to 2009-2010.

The percentage of RN nurses contracted by Tennessee school systems to serve the special education student population **declined** by **94%** from 2005-2006 to 2009-2010. The percentage of LPN nurses contracted by Tennessee school systems to serve the special education student population **decreased** by **8%** from 2005-2006 to 2009-2010.

Student Health Screenings

Most school systems provided vision, hearing, BMI and blood pressure screening for their students.

Approximately, **48%** of all LEAs provided scoliosis screening and **47%** of all LEAs provided some type of dental screening.

During the 2009-2010 school year, **1,526,980** students received a health screening. **All** students who were required to receive a hearing and vision screening received one in 2009-2010. Of the total number of students required to receive a BMI screening, **71%** of all students received one whereas **69%** received a Blood Pressure screen and **85%** of all students who were required to receive a school health screening received one during the 2009-2010 school year.

The percentage of all school health screenings increased by **7%** from 2008-2009 to 2009-2010. The most significant increases occurred with Hearing (**19%**), Dental (**10%**) and BMI (**9%**) screenings. Decreases occurred in the percentage of students screened for Scoliosis (**-6%**) and Vision (**-4%**).

During the 2009-2010 school year, **189,533** student referrals were made to a healthcare provider. Most referrals made to a Health Care Provider were a result of BMI screenings (**45%**), vision screenings (**23%**) and dental screenings (**9%**). There were **189,533** referrals made to Health Care Providers as a result of school screenings this past year.

The total number of students referred to Healthcare Providers increased **257%** between 2006-2007 and 2009-2010. The most significant increase in referrals from 2006-2007 to 2009-2010 were for Scoliosis (**1,328%**), BMI (**1,072%**) and Blood Pressure screening (**749%**).

Procedures

During 2009-2010, **15,119** 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 (**47%**), Blood Glucose Monitoring (**14%**), Carb Counting (**12%**), Nebulizer Treatment (**9%**) and Injections (**8%**).

Emergency Procedures

School systems reported that **7,351** students received an emergency procedure in Tennessee schools during the 2009-2010 school year. Almost all of the emergency procedures were provided to students with asthma (**91%**).

The total percentage of students receiving an emergency procedure declined by **9%** from 2008-2009 to 2009-2010. The largest area of increase occurred with using Glucagon (**92%**) whereas asthma declined by **9%**.

LEA reported that **26,804** emergency procedures were performed in Tennessee schools during the 2009-2010 school year. The most common type of emergency procedures performed by a Licensed Health Care Provider was for asthma (**94%**) followed by "Other" (**3%**) and Diastat (**2%**).

The number of emergency procedures performed by Licensed Health Care Providers in schools **declined 27%** from 2008-2009 to 2009-2010.

Allergies

There were **66,345** students diagnosed with allergies in Tennessee schools during the 2009-2010 school year. The most common types of allergies among students were environmental (**33%**), Medications (**24%**), "Other" (**10%**) and Nuts (**10%**).

Glucagon

In 2009-2010, **1,978** students had Glucagon available at school compared to **1,898** students in 2008-2009. The usage of glucagon increased by 4% from 2008-2009 to 2009-2010.

Glucagon was administered **49** times in Tennessee schools compared to **24** times in 2008-2009.

School systems reported that **72** LEAs have a policy that allows trained volunteers to administer glucagon.

LEAs reported that **52%** of all school systems have a nurse present all day in schools where a student might need glucagon administered in an emergency situation.

Diastat

In 2009-2010 there were **975** students with a seizure disorder diagnosis that had the drug Diastat available for use at school compared to **835** students in 2008-2009. The number of students with a seizure diagnosis increased by **17%** from 2008-2009 to 2009-2010.

A total of **100** doses of Diastat were administered to students in school systems this year compared to **87** doses in 2008-2009. This represents a **15%** increase from the prior school year.

Diabetes

There were **3,367** students in Tennessee schools with a diagnosis of Diabetes in 2009-2010. The highest percentage of students diagnosed with diabetes attend high school (**43%**) followed by elementary school (**27%**) then middle school (**26%**).

During the 2009-2010 school year, **2,703** students (**80%**) were diagnosed with Type I Diabetes compared to **664** students (**20%**) diagnosed with Type II Diabetes.

School-Based Clinics

The number of school systems with school-based clinics increased from **12** in 2008-2009 to **17** in 2009-2010. The number of schools with school-based clinics increased from **54** in 2008-2009 to **65** in 2009-2010. The number of students served in school clinics increased by **354%** from 2008-2009 to 2009-2010.

Of the **65** schools that provided clinic services in 2009-2010, **55%** schools provided students with physicals, **55%** used tele-medicine, **72%** provided services to staff as well as students and **31%** provided dental services in the clinics.

In 2009-2010, **67,120** Early Periodic Screening Diagnosis and Treatment (EPSDT) exams were provided to Tennessee students either by a school clinic practitioner or a private provider in the schools. Of these students **12,571** received an EPSDT (wellness exam) through a school-based clinic and **54,549** students received EPSDT through *Well Child, Inc.* or another private provider at school. The percentage of students receiving EPSDT exams in school clinics declined by **57%** from 2008-2009 to 2009-2010. Data was not collected in 2008-2009 to measure the number of EPSDTs administered by a private provider in schools but it is assumed the number has increased substantially from 2008-2009 to 2009-2010 based on anecdotal information.

Physical Education/Activity Law (T.C.A. 49-6-1021)

In 2009-2010 **only 24%** of all school systems provided daily physical education for their students.

- ▶ Twenty seven percent (**27%**) of all school systems provided daily physical education for their elementary school students.

- ▶ Twenty-nine percent (**29%**) of all school systems provided daily physical education for their middle school students.
- ▶ Sixteen percent (**16%**) of all school systems provided daily physical education for their high school students.

In 2009-2010 **75%** of all school systems implemented the 90 minutes of physical activity law for all students.

- ▶ Eighty-nine percent (**89%**) of all school systems implemented the physical activity law for all elementary school students.
- ▶ Seventy-seven percent (**77%**) of all school systems implemented the physical activity law for all middle school students.
- ▶ Fifty-nine percent (**59%**) of all school systems implemented the physical activity law for all high school students.

Food Vending and A La Carte Law (T.C.A. 49-6-230)

During the 2009-2010 school year, **86%** of Tennessee school systems were in compliance with the food vending and a la carte law.

HIV Staff Training Law (*Tennessee State Board of Education HIV/AIDS Policy for Employees and Students of Tennessee Public Schools 5.300*)

LEAs reported that **89%** of Tennessee school systems were in compliance with the HIV and Blood-borne Pathogens staff training law.

Annual Staff Suicide Prevention Training Law (T.C.A. 49-6-3004)

School systems reported that **84%** of all school systems provided annual staff training on suicide prevention during the 2009-2010 school year.

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

During the 2009-2010 school year, **15,465** full-time school employees are currently certified in CPR:

LEAs reported that **130** school systems provided CPR training as a professional development opportunity this past school year (2007-2008). **Ten** school systems did not provide CPR training.

Type of payment source for training and re-certification in CPR by school systems:

- ◆ Staff incurs cost - **27** school systems
- ◆ LEA incurs cost – **117** school systems
- ◆ Staff and LEA share costs – **17** school systems
- ◆ Did Not Answer – **7** school systems

In 2009-2010 school year, **328** schools provided CPR training to students.

Also, **29,357** students received CPR training during the 2009-2010 school year.

Tobacco Education Program

LEAs are not required to provide tobacco education to students however, **81%** of all school systems report that some type of tobacco prevention program was provided to their students during the 2009-2010 school year.

Data Charts

STUDENT DIAGNOSES

Number of Students and Percent of Total by Chronic Illness or Disability Diagnosis 2009-2010

Chronic Illness or Disability Diagnosis	Number of Students 2009-2010	Percent of Total
Asthma	51,564	31%
ADHD/ADD	31,924	19%
Intellectual Disability	25,289	15%
Severe Allergy	18,237	11%
Other	12,679	8%
Mental Health	10,513	6%
Seizure Disorder	5,476	3%
Autism	4,548	3%
Diabetes	3,233	2%
Mobility Limited	2,759	2%
Total	166,222	100%

During the 2009-2010 school year, **166,222** students in Tennessee public schools had a chronic illness or disability diagnosis. Of those students with a diagnosis, the most common diagnoses were Asthma (**31%**), ADHD/ADD (**19%**), Intellectual Disability (**15%**) and Severe Allergy (**11%**).

Number and Percent Change of Students by Selected Chronic Illness or Disability Diagnosis between 2004-2005 and 2009-2010

Chronic Illness or Disability Diagnosis	Number of Students 2004-2005	Number of Students 2009-2010	Percent Change
Asthma	38,676	51,564	33%
ADHD/ADD	19,939	31,924	60%
Other	14,536	12,679	-13%
Diabetes	2,388	3,233	35%
Total	75,539	99,400	32 %

The total number of students with selected chronic illnesses or disability diagnoses increased by **32%** between 2004-2005 and 2009-2010. The number of ADHD/ADD diagnoses increased by **60%** in five years.

Most Challenging Health Diagnosis Managed in the School Setting 2009-2010

CHRONIC ILLNESS OR DISABILITY DIAGNOSIS	Number of School Systems	Percent of Total Number of School Systems
Diabetes:	78	55%
Asthma:	14	10%
Mental Health (depression, anxiety disorder, obsessive compulsive disorder, etc.)	14	10%
ADHD/ADD:	9	6%
No Answer:	9	6%
Severe Allergies:	5	4%
Seizure Disorders:	4	3%
Autism	4	3%
Mobility Limited	1	1%
Intellectual Disabilities	1	1%
Other:	1	1%
TOTAL:	140	100%

School systems reported that **55%** of all LEAs indicated diabetes is the most challenging health diagnosis to manage followed by asthma (**10%**) and mental health issues (**10%**).

HEALTH SERVICES PROVIDED IN SCHOOLS

Type, Number and Percent of Health Services Provided In Schools 2009-2010

Health Services	Number of Schools	% of All TN Schools (N= 1,758)
Emergency Planning With School Staff and Community Partners (EX: member of First Responder Team)	1,701	97%
Medication Administration	1,698	97%
Care of Ill/Injured Staff	1,696	96%
Care of Ill/injured students	1,686	96%
Training and Supervision of Non-Medical Personnel	1,672	95%
Vision Screening	1,614	92%
Health Counseling/Referral	1,605	91%
BMI Screening	1,604	91%
Hearing Screening	1,590	90%
Blood Pressure Screening	1,585	90%
Health Education for Students	1,562	89%
Immunization compliance monitoring	1,526	87%
Staff Wellness Activities	1,517	86%
CSH Healthy School Team Member	1,489	85%
Nursing Services to Students With Special Needs (CDC/Special Education Classroom)	1,277	73%
Scoliosis Screening	662	38%
Home Visiting by Nurses	551	31%
Dental Screening	492	28%
CSH School Health Advisory Council Member	478	27%
Nursing Services to Students With Special Needs (IEP/504)	145	8%

The most common types of health services provided in Tennessee schools include emergency planning (**97%**), medication administration (**97%**), Care of Ill/Injured Staff and Students (**96%**) and training/supervision of non-medical personnel (**95%**).

MEDICATIONS

Type, Number and Percent of Students Self-Administering Medications at School 2009-2010

Type of Medicines <u>Self-Administered</u> at School During the School Year Under Supervision of School Personnel	Number of Students <u>Self-Administering</u> Medications at School 2009-2010	Percent of Total
Inhalants	18,306	36.5%
Other – Non-Specified Drugs (For example: Tylenol, Advil, Pamprin, Motrin, Tums, Pepcid, Sudafed, Antihistamines)	15,132	30%
Topical	7,772	16%
Behavioral	4,539	9%
Antibiotic	2,230	4%
Insulin	1,470	3%
Seizure control/prevention	340	1%
Oral Diabetes Medicine	228	.5%
Total	50,018	100%

During the 2009-2010 school year **50,018** students self-administered medications. The most common medications administered by students were Inhalants (**36.5%**), Other/Non-Specified drugs (**30%**), and Topical (**16%**).

***Type, Number and Percent Change of Students Self-Administering Medications at School
2004-2005 and 2009-2010***

Type of Medicines <u>Self-Administered</u> at School During the School Year Under Supervision of School Personnel	Number of Students <u>Self-Administering</u> these Medications at School 2004-2005	Number of Students <u>Self-Administering</u> these Medications at School 2009-2010	Percent Change
Inhalants	13,296	18,306	38%
Other	5,542	15,132	173%
Topical	8,266	7,772	-6%
Behavioral	6,386	4,539	-29%
Antibiotic	3,340	2,230	-33%
Insulin	1,444	1,470	2%
Seizure control/prevention	455	340	-25%
Oral Diabetes Medicine	NA	228	NA
Total	38,729	50,018	29%

There was a significant increase (**29%**) in the total number of students who self-administered medications between 2004-2005 and 2009-2010.

***Type, Number and Percent of Students Receiving Medications
Administered by a Licensed Health Care Professional
2009-2010***

Type of Medicines	Number of Students Receiving Medication <u>Administered by a Licensed Health Care Professional</u> 2009-2010	Percent of Total
Topical	35, 862	50%
Other	19,832	27.6%
Aerosol	6,626	9%
Behavioral	3,877	5%
Antibiotic	2,584	4%
Insulin	1,075	1%
Insulin Pump assistance	923	1%
Seizure / Other	433	1%
Diastat	420	1%
G Tube (any medicines)	277	.4%
Total	71,919	100%

In 2009-2010, **71,919** students received medication administered by a licensed health professional. The most common medications administered in schools by a Licensed Health Care Professional were: Topical (**50%**), Other (**27.6%**), and Aerosol (**9%**).

***Type, Number and Percent Change of Students Receiving Medications
Administered by a Licensed Health Care Professional
2004-2005 and 2009-2010***

Type of Medicines	Number of Students Receiving Medication Administered by Licensed Health Care Professional 2004-2005	Number of Students Receiving Medication Administered by Licensed Health Care Professional 2009-2010	Percent Change
Topical	25,706	35,786	40%
Other	29,769	19,798	-33%
Aerosol	3,517	6,533	88%
Behavioral	3,582	3,799	8%
Antibiotic	2,489	2,560	4%
Insulin	645	1,046	67%
Insulin Pump assistance	NA	904	NA
Seizure / Other	757	433	-41%
Diastat	NA	418	NA
G Tube (any medicines)	339	269	-18%
Total	66,804	71,919	8%

The total number of students receiving medication administered by a Licensed Health Care Professional increased by **8%** from 2004-2005 to 2009-2010. The largest increase in medications was aerosol (**88%**), insulin (**67%**), topical (**40%**). The largest decline in use of medications was seizure/other (**-41%**), Other (**-33%**) and G Tube (**-18%**).

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 2009-2010

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	7,075	47%
Blood glucose monitoring	2,122	14%
Carb counting	1,830	12%
Nebulizer treatment	1,307	9%
Injections	1,193	8%
Insulin Pump	808	5.4%
G/T tube feeding	524	3%
C.I.C.	167	1%
Trach care	93	.6%
Total	15,119	100%

During 2009-2010, **15,119** 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 (**47%**), Blood Glucose Monitoring (**14%**), Carb Counting (**12%**), Nebulizer Treatment (**9%**) and Injections (**8%**).

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 - 2004-2005 to 2009-2010

Procedure Performed by Licensed Health Care Professional	# of Students Receiving Procedure on a Daily or Routine Basis at School from Licensed Health Care Professional -2004-05	# of Students Receiving Procedure on a Daily or Routine Basis at School from Licensed Health Care Professional 2009-10	Percent Change
Other	7,097	7,075	-.3%
Blood glucose monitoring	1,746	2,122	22%
Injections	1,209	1,830	-1.3%
Carb counting	1,123	1,307	63%
Nebulizer treatment	819	1,193	60%
Insulin Pump	NA	808	NA
G/T tube feeding	411	524	27%
C.I.C.	270	167	-38%
Trach care	74	93	26%
Total	12,749	15,119	19%

Between 2004-2005 and 2009-2010 the number of procedures performed by a Licensed Health Care Professional increased by **19%**.

Number and Type of Personnel Trained Annually and Assigned to Handle Medications and Record Keeping 2009-2010

Personnel Trained Annually and Assigned to Handle Medications and Record Keeping	Number	Percent of Total
Teachers	4,902	47.8%
Secretaries	2,220	22.0%
Nurses	1,301	13.0%
Other (specify)	724	7.0%
Principals	486	5.0%
Assistant Principals	358	3.0%
School Counselors	246	2.0%
Nurse Assistants	24	.2%
Total	10,261	100%

The vast majority of school personnel trained annually to handle medications and record keeping were teachers (**47.8%**) followed by secretaries (**22%**) and nurses (**13%**).

**Type, Number and Percent of Persons Most Frequently
Administering Medications at Schools 2009-2010**

Persons Most Frequently Administering Medications at Schools	Number	Percent of Total
Teachers	2,730	40%
Secretaries	1,783	26%
Other (specify)	693	10%
RN Nurses	711	9%
LPN Nurses	528	8%
Principals	387	6%
Nurse Assistants	53	1%
Total	6,885	100%

Persons most frequently administering medications at schools in 2009-2010 were teachers (**41%**), secretaries (**24%**) and Other (**11%**).

SCHOOL NURSES

Type, Number and Method of Funding for School Nurses 2009-2010

School Nurses	FTE's* Employed by School System	FTE's* Contracted by School System	FTE's Employed by Hospital	FTE's Employed by Health Dept.	Totals
Registered Nurses School Nurses**	385	21	5	60	471
Special Ed Nurses ***	55	1	1	9	66
Licensed Practical Nurses School Nurses **	333	3	11	1	348
Special Ed Nurses ***	140	12	0	6	158
Total	913	37	17	76	1,043

*FTE = Full Time Equivalent (use whole numbers with decimals to show totals for each)

**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 hire nurses to serve the general and special education student school populations. During the 2009-2010 school year, **1,043** school nurses worked in Tennessee schools. Of these, **537** were RNs and **506** were LPNs. Also, **88%** of all Tennessee school nurses were hired by the LEA as full time employees, **7%** through public health departments, **4%** on a contractual basis, and **2%** through local hospitals. School systems reported that **224 (21%)** nurses (LPN's and RN's) served special education students and **819 (79%)** nurses (LPN's and RN's) served the general school population.

LEAs reported that **131 out of 140** school systems 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.

Number, Type and Percent Change of School Nurses 2005-2006 and 2009-2010

School Nurses	FTE's* Employed by School System 2005-2006	FTE's* Employed by School System 2009-2010	Percent Change		FTE's Contracted by School System 2005-2006	FTE's Contracted by School System 2009-2010	Percent Change
Registered Nurses							
School Nurses	354	385	9%		146	21	-86%
Special Ed Nurses	73	55	-25%		18	1	-94%
Licensed Practical Nurses							
School Nurses	246	333	35%		20	3	-85%
Special Ed Nurses	79	140	77%		13	12	-8%
Total	752	913	21%		197	37	-81%

The total number of school nurses (RN and LPN) both employed and contracted that worked in Tennessee school systems **remained steady** from 2005-2006 to 2009-2010. (949 nurses in 2005-2006 compared to 950 nurses in 2009-2010.) However, in 2009-2010, 93 additional nurses were supplied by area hospitals or county health departments. The percentage of school nurses (RN and LPN) employed by Tennessee school systems **increased by 21%** between 2005-2006 and 2009-2010.

The percentage of RN school nurses employed by Tennessee school systems to serve the general student population **increased by 9%** from 2005-2006 to 2009-2010. The percentage of LPN nurses employed by Tennessee school systems to serve the general student population **increased by 35%** from 2005-2006 to 2008-2009.

The percentage of RN school nurses employed by Tennessee school systems to serve the special education student population **declined by 25%** between 2005-2006 and 2009-2010. The percentage of LPN nurses employed by Tennessee school systems to serve the special education student population **increased by 77%** from 2005-2006 to 2009-2010.

The percentage of school nurses (RN and LPN) contracted by Tennessee school systems **decreased by 81%** from 2005-2006 to 2009-2010. The percentage of RN school nurses contracted by Tennessee school systems to serve the general student population **declined by 86%** from 2005-2006 to 2009-2010. The percentage of LPN nurses contracted by Tennessee school systems to serve the general student population **decreased by 85%** from 2005-2006 to 2009-2010.

The percentage of RN nurses contracted by Tennessee school systems to serve the special education student population **declined by 94%** from 2005-2006 to 2009-2010. The percentage of LPN nurses contracted by Tennessee school systems to serve the special education student population **decreased by 8%** from 2005-2006 to 2009-2010.

Position of Those Who Provide First Aid at the School in the Absence of the RN Nurse 2009-2010

POSITION TITLE	TOTAL NUMBER IN LEAs	PERCENT OF TOTAL
Teacher:	7,692	61%
Secretary:	1,970	15%
Other:	1,282	10%
Principal:	787	6%
LPN:	470	4%
Parent Volunteer:	357	3%
Health Room Aide:	75	1%
TOTAL:	12,633	100%

First aid was provided to **12,633** students in the absence of a RN nurse in 2009-2010. Of the total number of first aid services provided at schools in the absence of a RN school nurse, **61%** was provided by teachers followed by secretaries (**15%**) and “Other” (**10%**).

Types of Personnel the School Nurse Directs/Delegates/Trains and Supervises in the Performance of Skilled Nursing Tasks 2009-2010

POSITION	TOTAL NUMBER IN LEA	PERCENT OF LEAs
Teacher:	3,693	61.8%
Secretary:	912	15%
LPN:	409	7%
Other:	349	6%
Principal:	300	5%
Health Room Aide:	41	1%
Bus Driver:	195	3%
Personal Care Attendant:	39	1%
Parent Volunteer:	14	.2%
TOTAL:	5,952	100%

Approximately, **62%** of all personnel who the school nurse directs/delegates/trains and supervises in the performance of skilled nursing tasks are teachers followed by secretaries (**15%**) and LPNs (**7%**).

504 - Individual Health Care Plans

During the 2009-2010 school year **955** students had a *504 Plan* in place. School systems reported that **77%** had developed an Individual Health Plan (IHP) for all students with chronic or long-term illnesses (i.e. Asthma, Diabetes, Seizures, Sickle Cell Anemia, Cardiac Conditions, and Severe Allergic Reactions).*

911 Calls

During the 2009-2010 school year **2,887** 911 calls were made. Of these calls, **1,057 (37%)** were made when a nurse was in the school building and **1,830 (63%)** were made when a nurse was NOT in the school building.

RN Supervision

Most school systems (**118**) reported that a RN supervises nursing staff including LPNs and UAPs while **13** school systems reported that a RN did NOT supervise all nursing staff and **9** LEAs did not answer this question on the survey.

HEALTH SCREENINGS

According to the *Tennessee School Health Screening Guidelines*, students in grades PreK, 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). School staff are encouraged to screen students for oral health problems and screen 6th grade students for scoliosis.

Number of School Systems that Provide Health Screening Programs 2009-2010

Type of Health Screening	Number of School Systems (N=140)	Percent of Total # of School Systems
Blood Pressure	138	99%
Vision	137	98%
Hearing	137	98%
Body Mass Index (BMI)	136	97%
Scoliosis	67	48%
Dental	67	47%

Most school systems provided vision, hearing, BMI and blood pressure screening for their students. Approximately **48%** of all LEAs provided scoliosis screening and **47%** of all LEAs provided some type of dental screening.

*(Section 504 of the Rehabilitation Act of 1973 and T.C.A. 49-5-415)

**Type, Number and Percent of Total Number of Students
Required to be Screened 2009-2010**

Type of Health Screening	Grades Required to be Screened	Number of Students Screened	Percent of Total Number of Students Required to be Screened
Hearing	PreK, K, 2, 4, 6, 8	382,382	100%
Vision	PreK, K, 2, 4, 6, 8	380,735	99%
Body Mass Index (BMI)	K, 2, 4, 6, 8, and one grade of HS	314,614	71%
Blood Pressure	K, 2, 4, 6, 8, and one grade of HS	303,859	69%
Dental	encouraged	117,925	Not required
Scoliosis	6 th grade encouraged	27,465	Not required
Total		1,526,980	85%

During the 2009-2010 school year, **1,526,980** students received a health screening. **All** students who were required to receive a hearing and vision screening received one in 2009-2010. Also, **71%** of all students who were required to receive a BMI screen received one and **69%** received a Blood Pressure screen. In addition, **85%** of all students who were required to receive a school health screening received one during the 2009-2010 school year.

**Type, Number and Percent of Students Screened
2008-2009 and 2009-2010**

Type of Health Screening	Number of Students 2008-2009	Number of Students 2009-2010	Percent Change
Hearing	320,245	382,382	19%
Vision	395,415	380,735	-4%
Body Mass Index (BMI)	289,617	314,614	9%
Blood Pressure	281,033	303,859	8%
Dental	107,093	117,925	10%
Scoliosis	29,173	27,465	-6%
Total	1,422,576	1,526,980	7%

The percentage of all school health screenings increased by **7%** from 2008-2009 to 2009-2010. The most significant increases occurred with Hearing (**19%**), Dental (**10%**) and BMI (**9%**) screenings. Decreases occurred in the percentage of students screened for Scoliosis (**-6%**) and Vision (**-4%**).

**Type, Number and Percent of Students Referred to a Healthcare Provider
as a Result of School Health Screening Programs 2009-2010**

Type of Health Screening	Number of Referral(s) made to a Healthcare Provider	Percent of Total
Body Mass Index	84,795	45%
Vision	42,705	23%
Dental	17,503	9%
Blood Pressure	16,780	9%
Hearing	14,337	7%
Scoliosis	13,413	7%
Total	189,533	100%

During the 2009-2010 school year, **189,533** student referrals were made to a Health Care Provider. Most referrals were a result of BMI screenings (**45%**), vision screenings (**23%**) and dental screenings (**9%**).

**Type, Number and Percent of Change for Students Referred to a Healthcare Provider
as a Result of School Health Screening Programs 2006-2007 and 2009-2010**

Type of Health Screening	Number of Referral(s) made to a Healthcare Provider 2006-2007	Number of Referral(s) made to a Healthcare Provider 2009-2010	Percent Change
Body Mass Index	7,232	84,795	1,072%
Vision	19,875	42,705	114%
Dental	15,757	17,503	11%
Blood Pressure	1,976	16,780	749%
Hearing	7,330	14,337	96%
Scoliosis	939	13,413	1,328%
Total	53,109	189,533	257%

The total number of students referred to Healthcare Providers increased **257%** between 2006-2007 and 2009-2010. The most significant increase in referrals from 2006-2007 to 2009-2010 were for Scoliosis (**1,328%**), BMI (**1,072%**) and Blood Pressure screening (**749%**).

EMERGENCY PROCEDURES

Type, Number and Percent of Students Receiving Emergency Procedure by Licensed Health Care Providers in School 2009-2010

Emergency Procedure	Number of Students	Percent of Total
Asthma	6,692	91%
Other	439	6%
Epi-Pen	88	1%
Diastat	82	1%
Glucagon	50	1%
Total	7,351	100%

During the 2009-2010 school year, **7,351** students received an emergency procedure in Tennessee schools. Almost all of the emergency procedures were provided to students with asthma (**91%**).

Type, Number and Percent Change of Students Receiving Emergency Procedure by Licensed Health Care Providers in School 2008-2009 and 2009-2010

Emergency Procedure	Number of Students 2008-2009	Number of Students 2009-2010	Percent Change
Asthma	7,388	6,692	-9%
Epi-Pen	84	88	5%
Diastat	70	82	17%
Glucagon	26	50	92%
Total	7,568	6,912	-9%

The total percentage of students receiving an emergency procedure declined by **9 %** from 2008-2009 to 2009-2010. The largest area of increase occurred with Glucagon (**92%**) whereas asthma declined by **9%**.

Type, Number and Percent of Emergency Procedures by Licensed Health Care Providers in School 2009-2010

Type of Emergency Procedure	Number of Emergency Procedures	Percent of Total
Asthma	25,212	94%
Other	892	3%
Diastat	628	2%
Epi-Pen	60	.20%
Glucagon	12	.04%
Total	26,804	99.24%

During the 2009-2010 school year, **26,804** emergency procedures were performed in Tennessee schools. The most common type of emergency procedures performed by a Licensed Health Care Provider was for asthma (**94%**) followed by “Other” (**3%**) and Diastat (**2%**).

Type, Number and Percent Change of Emergency Procedures by Licensed Health Care Providers in School 2008-2009 and 2009-2010

Type of Emergency Procedure	Number of Emergency Procedures 2008-2009	Number of Emergency Procedures 2009-2010	Percent Change
Asthma	25,459	25,212	-1%
Other	4,546	892	-80%
Diastat	4,204	628	-85%
Epi-Pen	2,231	60	-97%
Glucagon	183	12	-93%
Total	36,623	26,804	-27%

The number of emergency procedures performed by Licensed Health Care Providers in schools **declined 27%** from 2008-2009 to 2009-2010.

RESCUE MEDICATIONS

***Allergies – Use of Epi Pens
2009-2010***

Number of students that have EpiPens available at schools	Number of students that required administration of the EpiPen	Number of teachers and staff trained to administer an Epi-pen if needed
6,230	95	19,240

Type, Number and Percent of Student Allergies 2009-2010

Type of Student Allergies	Number of Students with Allergies	Percent of Total
Environmental	21,870	33%
Medications	15,863	24%
Other	6,750	10%
Nuts	6,555	10%
Insects	6,084	9%
Food/Dye	3,087	5%
Shellfish	1,562	2%
Eggs	1,516	2%
Food	1,959	3%
Latex	1,099	2%
Total	66,345	100%

There were **66,345** students diagnosed with allergies in Tennessee schools during the 2009-2010 school year. The most common types of allergies among students were environmental (**33%**), Medications (**24%**), "Other" (**10%**) and Nuts (**10%**).

Glucagon 2009-2010

Number of students that had Glucagon available at school 2008-2009	Number of students that had Glucagon available at school 2009-2010	Percent Change	Number of students that required administration of Glucagon 2008-2009	Number of students that required administration of Glucagon 2009-2010	Percent Change
1,898	1,978	4%	24	49	104%

In 2009-2010, **1,978** students had Glucagon available at school compared to **1,898** students in 2008-2009. Student availability of glucagon increased by **4%** from 2008-2009 to 2009-2010.

Glucagon was administered **49** times in Tennessee schools compared to **24** times in 2008-2009. In one year the administration rate increased by **104%**. One student required Glucagon more than once this school year.

School systems report that **72** out of **140** LEAs (**51%** of all LEAs) have a policy that allows trained volunteers to administer glucagon.

Also, **52%** of all school systems have a nurse present all day in schools where a student might need glucagon administered in an emergency situation.

Seizure Disorders/Diastat Medication 2009-2010

Number of students that had Diastat available at school 2008-2009	Number of students that had Diastat available at school 2009-2010	Percent Change	Number of students that required administration of Diastat 2008-2009	Number of students that required administration of Diastat 2009-2010	Percent Change
835	975	17%	87	100	15%

In 2009-2010 there were **975** students with a seizure disorder diagnosis that had the drug Diastat available for use at school compared to **835** students in 2008-2009. The number of students with a seizure diagnosis increased by **17%** from 2008-2009 to 2009-2010.

A total of **100** doses of Diastat were administered to students in school systems this year compared to **87** doses in 2008-2009. This represents a **15%** increase from the prior school year.

School systems report that **72** LEAs (**51%**) have a Diastat policy permitting emergency administration of Glucagon by school personnel. Also, **81** school systems (**58%**) have a policy that allows the nurse to administer

the first dose of Diastat at school; **47** LEAs did not allow nurses to administer the first dose of Diastat at school; and **114** LEAs (**81%**) have policies that allow the training of volunteers to administer Diastat in schools.

There were **763** students with an order to administer Diastat that had a full-time nurse assigned to the school compared to **637** students in 2008-2009. Also, there were **185** students with an order to administer Diastat that did not have a full-time nurse assigned to the school compared to **172** students in 2008-2009. In addition, **7** school systems indicated a nurse was assigned to the school full-time for this student only compared to **11** school systems in 2008-2009.

During the 2009-2010 school year, **34** students received Diastat more than once per year compared to **24** students in 2008-2009.

School systems reported that **127 out of 140** LEAs called 911 immediately as the standard protocol when Diastat was administered compared to **117** school systems in 2008-2009.

Diastat was administered **95** times at school by a nurse, **13** times by a non-nurse and **8** times by parents or guardians during the 2009-2010 school year.

Also, **127** school systems reported that if a student who has Diastat at school has a seizure and no nurse is available to administer the medication, then 911 is called as standard procedure. **Six** LEAs answered “no” and **seven** LEAs did not answer question.

During the 2009-2010 school year, **694** students had Diastat available at school to be administered by 911 personnel if needed compared to **558** students in 2008-2009.

DIABETES

Number and Percent of Students Diagnosed with Diabetes by Grade Level 2009-2010

Grade Level	Number of Students	Percent of Total
Pre-school	23	1%
Kindergarten	98	3%
Grades 1-5	923	27%
Grades 6-8	867	26%
Grades 9-12	1,446	43%
Total	3,367	100%

There are **3,367** students in Tennessee schools with a diagnosis of Diabetes. The highest percentage of students diagnosed with diabetes attend high school (**43%**) followed by elementary school (**27%**) then middle school (**26%**).

Number and Percent of Students by Type of Diabetes 2009-2010

Type of Diabetes	Number of Students	Percent By Type of Diabetes
<i>Type I</i>	2,703	80%
<i>Type II</i>	664	20%
Total	3,367	100%

During the 2009-2010 school year, **2,703** students (**80%**) were diagnosed with *Type I* Diabetes compared to **664** students (**20%**) diagnosed with *Type II* Diabetes.

Number Students by Type of Diabetes and Type of Disease Management Used 2009-2010

Type of Diabetes	Number of Students	Managed with Injections	Managed with Diet	Managed by Oral Meds
<i>Type I</i>	2,703	1,355	531	88
<i>Type II</i>	664	132	294	303
Total	3,367	1,487	825	391

In 2009-2010, **1,487** students managed their diabetes with injections, **825** students managed by diet and **391** students managed by using oral medications.

In 2009-2010, **1,447** diabetic students had a full-time nurse assigned to the school and **1,020** diabetic students had a part-time nurse assigned to the school. **1,445** students with diabetes were managed by school staff based on using an Individual Health Plan.

SCHOOL-BASED CLINICS

Comparisons Between Various School-Based Clinic Indicators 2008-2009 and 2009-2010

School-Based Clinic Indicator	2008-2009	2009-2010	Percent Change
Number of LEAs with school clinics	12	17	42%
Number of schools with clinics	54	65	20%
Number students served in school clinics	69,305	314,829	354%
Number of students referrals	NA	19,815	NA
Number of EPSDT exams by clinic	28,965	12,571	-57%
Number of EPSDT exams by private provider (<i>Well Child Inc., etc.</i>)	NA	54,549	NA

The number of **school systems** with school-based clinics increased from **12** in 2008-2009 to **17** in 2009-2010. The number of **schools** with school-based clinics increased from **54** in 2008-2009 to **65** in 2009-2010. The number of students served in school clinics increased by **354%** from 2008-2009 to 2009-2010.

Of the **65** schools that provided clinic services in 2009-2010, **55%** provide students with physicals, **55%** used tele-medicine, **72%** provided services to staff as well as students and **31%** provided dental services in the clinics.

In 2009-2010, **67,120** EPSDTs were provided to Tennessee students either by a school clinic practitioner or a private provider in the schools. Also, **12,571** students received an EPSDT (wellness exam) through a school-based clinic and **54,549** students received EPSDT through *Well Child, Inc.* or another private provider at school. The percentage of students receiving EPSDT exams in school clinics declined by **57%** from 2008-2009 to 2009-2010. Data was not collected in 2008-2009 to measure the number of EPSDTs administered by a private provider in schools but it is assumed the number has increased substantially from 2008-2009 to 2009-2010 based on anecdotal information.