

Joint Report to the  
Health and Welfare Committee Of the Senate  
and  
Health Committee of the House of Representatives

## Report On the Status of Emergency Medical Services for Children

A Report to the 108<sup>th</sup> Tennessee General Assembly

Tennessee Department of Health  
July 2014



TENNESSEE DEPARTMENT OF HEALTH  
BUREAU OF HEALTH LICENSURE AND REGULATION  
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BOARD FOR LICENSING HEALTH CARE FACILITIES  
EMERGENCY MEDICAL SERVICES BOARD

July 1, 2014

The Honorable Rusty Crowe, Chair  
Health and Welfare Committee Of the Senate  
Legislative Plaza, Suite 8  
Nashville, Tennessee 37243

Dear Senator Crowe:

As required by Tennessee Code Ann. §68-11-251 and §68-140-521, we are pleased to submit the annual report on the Emergency Medical Services for Children (EMSC) program; the Board for Licensing Health Care Facilities and the Emergency Medical Services Board collaborated with the Committee on Pediatric Emergency Care (CoPEC) in preparation of the report. The TN EMSC program focuses primarily enhancing the access to quality pediatric pre-hospital and hospital care, with consideration for injury prevention, disaster preparedness, and patient safety. This report reflects activities and accomplishments of the Board for Licensing Health Care Facilities and the Emergency Medical Services Board in meeting national EMSC objectives.

Improving the availability and quality of children's health and health care is an important objective for the State of Tennessee and the Department of Health. Our boards help coordinate the role of Tennessee's medical facilities and emergency medical services in providing appropriate pediatric emergency care.

Respectfully submitted,

Larry Arnold, M.D., Chair  
Board for Licensing Health Care Facilities

Sullivan K. Smith, MD, Chair  
Emergency Medical Services Board

C: John J. Dreyzehner, MD, MPH, Commissioner  
Tennessee Department of Health



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BOARD FOR LICENSING HEALTH CARE FACILITIES  
EMERGENCY MEDICAL SERVICES BOARD

July 1, 2014

The Honorable Bob Ramsey, Chairman  
Health Committee of the House of Representatives  
War Memorial Building, Suite 212  
Nashville, Tennessee 37243

Dear Representative Ramsey:

As required by Tennessee Code Ann. §68-11-251 and 68-140-321(e), we are pleased to submit the annual report on the Emergency Medical Services for Children (EMSC) program; the Board for Licensing Health Care Facilities and the Emergency Medical Services Board collaborated with the Committee on Pediatric Emergency Care (CoPEC) in preparation of the report. The EMSC program focuses primarily on pediatric pre-hospital and hospital care, with consideration for injury prevention, disaster preparedness, and quality improvement. This report reflects activities and accomplishments of the Board for Licensing Health Care Facilities and the Emergency Medical Services Board in meeting national EMSC objectives.

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Joint Annual Report of  
The Board for Licensing Health Care Facilities  
And the  
Emergency Medical Services Board  
To the  
Tennessee General Assembly  
Health & Welfare Committee of the Senate and  
Health Committee of the House of Representatives  
On the Status of  
Emergency Medical Services for Children

July 1, 2014

## **I. Requirement of the Report**

Tennessee Code Annotated 68-11-251 requires that the Board for Licensing Health Care Facilities and the Emergency Medical Services Board in collaboration with the Committee on Pediatric Emergency Care (CoPEC) shall jointly prepare an annual report on the current status of emergency medical services for children (EMSC) and on continuing efforts to improve such services beginning July 1, 1999.

The mission is “To ensure that every child in Tennessee receives the best pediatric emergency care in order to eliminate the effects of severe illness and injury.”

The vision statement is: “To be the foremost advocate for children throughout the continuum of care in Tennessee and the nation.”

## **II. Executive Summary**

The Committee on Pediatric Emergency Care (CoPEC) in partnership with the Tennessee Department of Health created access to quality pediatric emergency care through establishing regional networks of care to ill and injured children 24 hours a day, 365 days a year. Emergency medical and trauma care services are defined as the immediate health care services needed as a result of an injury or sudden illness, particularly when there is a threat to life or long-term functional abilities.

Approximately, 3 out of 4 children are seen at a non-children’s emergency departments in Tennessee. In 2012, a total of 686,806 children less than 18 years of age were seen in Tennessee’s emergency departments with only 23% (149,022) being seen at one of the four comprehensive regional pediatric centers (Le Bonheur Children’s Hospital, Monroe Carell Jr. Children’s Hospital at Vanderbilt, Children’s at Erlanger, and East Tennessee Children’s Hospital).

Prior to the establishment of CoPEC there were significant barriers to access quality emergency care for children. It is important to understand that the delivery of

healthcare to children is much different than adult care. “Children are not small adults,” and these differences place children at a disproportionate risk of harm. Examples include:

- Rescuers and other health care providers may have little experience in treating pediatric patients and may have emotional difficulty dealing with severely ill or injured infants and children.
- Providers not familiar with many of the unique anatomic and physiologic aspects of pediatric trauma, such as unique patterns of breathing, head injury, cervical spine injury, and abdominal injuries, may make assessment and treatment errors.
- Medication dosing for children is based on weight and/or body surface area whereas with adults there is typically a standard dose for a medication regardless of age. Children are therefore more prone to medication dosing errors by inexperienced health care providers who do not take weight based dosing into account. Children also require equipment specifically designed to meet their anatomic and physiologic requirements
- Children can change rapidly from a stable to life-threatening condition because they have less blood and fluid reserves. Assessment of these patients can be challenging to inexperienced providers.
- Children have a smaller circulating blood volume than adults making them more vulnerable to irreversible shock or death. Children are particularly vulnerable to aerosolized biological or chemical agents because their more rapid respiratory rate may lead to increased uptake of an inhaled toxin. Also some agents (i.e. sarin and chlorine) are heavier than air and accumulate close to the ground – right in the breathing zone of smaller children.

A child’s outcome depends on factors including:

- Access to appropriately trained health care providers including physicians, nurses and EMS professionals.
- Access to properly equipped ambulances and hospital facilities
- Location of comprehensive regional pediatric centers and other specialized health care facilities capable of treating critically ill and injured children

CoPEC has spent two decades ensuring access to quality emergency care for all size and age children in our state. This has been achieved through institutionalization of pediatric specific rules and regulations that govern hospital facilities and EMS services. These rules and regulations now require different size equipment specific for children and personnel training. The rules and regulations for hospitals can be found at <http://www.tn.gov/sos/rules/1200/1200-08/1200-08-30.pdf> and EMS services at <http://www.state.tn.us/sos/rules/1200/1200-12/1200-12-01.20110208.pdf>.

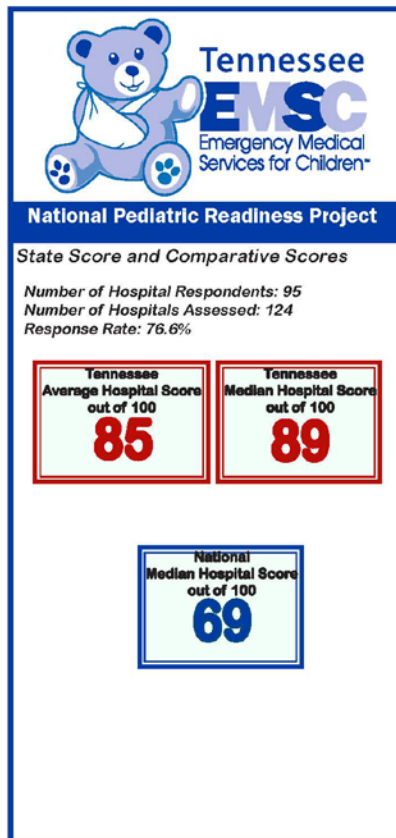
One of the most significant strengths of CoPEC is the involvement and participation of various stakeholders from across the state that advises the Tennessee Department of Health. These volunteers are EMS providers, doctors, nurses, parents of children with special needs, and professional organizations. (See Appendix 1).

## Key Accomplishments in Fiscal Year (July 1, 2013 to June 30, 2014)

### A. Pediatric Readiness Assessment

The National Pediatric Readiness Assessment administered jointly with support provided by the national EMS for Children Program and Maternal Child Health Bureau / HRSA. The assessment is based on the Joint Policy Statement: Guidelines for the Care of Children in the Emergency Department (published in *Pediatrics*, October 2009 and *Annals of Emergency Medicine*, October 2009):

Seventy-seven percent of the state's emergency departments voluntarily responded to the assessment (in line with the national response rate) resulting in Tennessee scoring a national readiness score of 89, which ranks Tennessee first among US states and territories (Appendix 2). The overall national readiness score was 69. This means that the emergency departments in the state of Tennessee rank the highest overall in their ability to take care of children presenting with emergency conditions. (Appendix 3)



Average Section Scores		
Guidelines for Administration and Coordination (19 pts)	Tennessee Section Scores: <b>16.6</b>	National Section Scores: <b>10.1</b>
Physicians, Nurses and Other Health Care Providers Who Staff the ED (10 pts)	Tennessee Section Scores: <b>6.6</b>	National Section Scores: <b>5.3</b>
Guidelines for QI/PI in the ED (7 pts)	Tennessee Section Scores: <b>5.9</b>	National Section Scores: <b>2.9</b>
Guidelines for Improving Pediatric Patient Safety in the ED (14 pts)	Tennessee Section Scores: <b>11.9</b>	National Section Scores: <b>10.8</b>
Guidelines for Policies, Procedures, and Protocols for the ED (17 pts)	Tennessee Section Scores: <b>13.7</b>	National Section Scores: <b>10.5</b>
Guidelines for Equipment, Supplies, and Medications for the Care of Pediatric Patients in the ED (33 pts)	Tennessee Section Scores: <b>30</b>	National Section Scores: <b>29.4</b>

## What are the Benefits of the Pediatric Readiness Assessment?

- Inform individual hospital emergency departments if they have the identified essential resources needed to effectively care for children of all ages. Provide a snapshot of the nation's as well as Tennessee's emergency departments' readiness to care for children based on current recommended guidelines.
- Emergency departments can use the assessment results to identify their strengths and weaknesses and have access to quality improvement resources to address areas needing reinforcement. The assessment will allow bench marking between hospital groups based on pediatric patient volume, regions, and systems.

## B. Exceeding the National Performance Measures

In addition to the Pediatric Readiness project that demonstrated compliance with HRSA/MCHB Performance Measures; Tennessee was the first state in the nation to meet all benchmarks for the national program. These included:

- Having greater than 90 percent of pre-hospital provider agencies in the State/Territory that have on-line pediatric medical direction available from dispatch through patient transport to a definitive care facility.
- Having greater than 90 percent of pre-hospital provider agencies in the State/Territory that have off-line pediatric medical direction available from dispatch through patient transport to a definitive care facility.
- Having greater than 90 percent of patient care units in the State / Territory that have the essential pediatric equipment and supplies as outlined in national guidelines.
- The adoption of requirements by the State/Territory for pediatric emergency education for the license/certification renewal of basic life support (BLS) and advanced life support (ALS) providers.
- The degree to which Tennessee has established permanence of EMSC in the State EMS System
- The degree to which the State/ Territory has established permanence of EMSC in the State/ Territorial EMS system by integrating EMSC priorities into statutes/ regulations.

## C. To expand membership orientation and leadership capacity to address the various components to TN EMSC including CoPEC.

- Continued presence of website which contains content to enhance access to quality pediatric emergency care
- Creation of video to tell the EMSC story through the life of child
- Creation of video to tell what is EMSC
- Establishment of Facebook [www.facebook.com/TNEMSC](http://www.facebook.com/TNEMSC) and twitter accounts @TNEMSC

## D. To develop and integrate a statewide disaster plan for children.

Currently, children are not included in the disaster plans for Tennessee. TN Department of Health, Office of Hospital Preparedness and the Division of EMS are collaborating to overcome this oversight. A draft of a pediatric disaster plan that will eventually be woven into the state plan is being circulated for review.

## E. Use education (including publications and data collection) to support, develop, and disseminate current best practice for emergency medical services for children.

### **1. Education**

- *Annual State Update in Acute and Emergency Care of Pediatrics Conference* hosted by East Tennessee Children's Hospital held March 28 & 29, 2014 in Knoxville.
  - The conference focused on Patient Safety and the plenary speaker Ridley Barron, delivered a spectacular message, "Every ½ Second Counts: A Victims Perspective on Healthcare." He discussed the personal tragedy of the death of his 17 month old son, Josh, due to medication error just five days after losing his wife in a tragic family automobile crash to an audience of over 200 healthcare providers.
- *Emergency Guidelines for Schools 2<sup>nd</sup>.ed* manual. The intent of this manual serves as a basic "what to do in an emergency" guide for school staff without medical/nursing training when the school nurse is unavailable. (Click to view)
- Completed Baptist Healing Trust grant to provide training on recognizing a child that needed immediate vascular assess, how to use EZ IO drills that enable the fast delivery of medications to pediatric patients.
  - Outcomes
    - 70% of the EMS providers obtained less than 80% on the pretest and greater than or equal to 93% on the final post test
    - 99% of children requiring EZ/IO access had vascular access in less than 5 minutes which enabled the child to receive life saving medications by month seven in the grant cycle.

The one child that did not receive an IV in less than 5 minutes was involved in a multiple vehicle crash with multiple patients. Child received IO when LifeFlight arrived. Child was subsequently discharged from the hospital without neurological deficits.

- The middle Tennessee counties included:
  1. Coffee County EMS



2. Fentress County EMS
3. Hickman County EMS
4. Marshall County EMS
5. Marshall County Hospital
6. Maury Regional EMS
7. Metro Moore EMS
8. Trousdale County EMS

## **2. Publications**

Dettmer, J., Ettl, D., Glang, A., McAvoy, K., "Building Statewide Infrastructure for Effective Educational Services for Students with TBI: Promising Practices and Recommendations." *Journal of Head Trauma Rehabilitation (JHTR)*, 2014; May/June 29(3), pp.224-232.

**Unni P**, Morrow SE, Shultz BL, Tian TT. "A Pilot Hospital-School Educational Program to Address Teen Motor Vehicle Safety." *J Trauma Acute Care Surg.* 2013 Oct; 75(4 Suppl 3):S285-9.

**Wallace, M.**, Meredith, M., "Potentially Fatal Errors, Why Pediatric Dosing Errors Happen and How to Avoid Them" *JEMS* August 2013.

**Michael Warren, MD**, Angela Miller, PhD, Julie Traylor, MPH, Robert Sidonio, MD, Anna Morad, MD, Alyson Goodman, MD, Deborah Christensen, PhD, Althea Grant, PhD, Erika Odom, PhD, Ekwutosi Okoroh, MD, Joshua Clayton, PhD, Matthew Maenner, PhD, Lauren Marcewicz, MD. Notes from the Field: Late Vitamin K Deficiency Bleeding in Infants Whose Parents Declined Vitamin K Prophylaxis — Tennessee, 2013. *Morbidity and Mortality Weekly Report.* November 15, 2013; 62(45): 901-902.

### Book Chapter

Armstrong KA, **Unni P**, Pietsch, J. Pediatric Trauma. Hazinski, M. (ed). *Nursing care of the critically ill child*, Third Edition, (2013) pp. 895-918, Elsevier Mosby, St. Louis.

**Bowen, A.**, Children in Disaster. American Academy of Pediatrics (ed). *Pediatric Education for Prehospital Professionals (PEPP)*. Third Edition, (2014),pp.2-26, Jones & Bartlett, Elk Grove Village, IL.

**Bowen, A.**, Pediatric Assessment. American Academy of Pediatrics (ed). *Pediatric Education for Prehospital Professionals (PEPP)*. Third Edition, (2014), pp. 176-192, Jones & Bartlett, Elk Grove Village, IL.

### 3. Presentations

Heitmann R and **Warren MD**. “Reducing Sleep-Related Infant Deaths: The Tennessee Experience.” Workshop presentation at the Association of Maternal and Child Health Programs (AMCHP) Annual Conference. Washington, DC. January 2014.

Edgerton MD, Manish MD, and **Phillippi, R**. “EMSC Making a Difference Today.” Plenary presentation at the National Association of State EMS Officials Conference. Nashville, TN. Sept. 2013.

**Unni P**, Chung D, Shultz B, Tian T. “Suburban and Rural Teen Driver Attitudes Towards Texting While Driving” Oral Presentation to *Injury Free Coalition for Kids Conference*. Oral Presentation. Florida. November 9, 2013

**Warren MD** and Albers, K. “Neonatal Abstinence Syndrome (NAS): Two State Approaches to a Public Health Epidemic.” Workshop presentation at the Association of Maternal and Child Health Programs (AMCHP) Annual Conference. Washington, DC. January 2014.

#### Poster Presentations at Conferences

Pekala K, Kelly K, Leathers J, Caldwell R, **Greeno A**, **Unni P**, Wellons JC, Tullipan N, Shannon CN. “Glucose levels are predictive of prolonged seizure activity.” Poster Presentation at the *American Association of Neurological Surgeons*. December 2013.

Kelly K, Pekala K, Leathers JS, **Greeno A**, **Unni P**, Wellons JC, Tulipan N, Shannon CN. “Patient characteristics and clinical decision making in the pediatric traumatic brain injury patient population: an institutional review.” Poster Presentation at the Pediatric Section of the *American Association of Neurological Surgeons*. December 2013.

### 4. Data collection

REDCap data tool is used to capture pediatric readiness of EMS and hospital facilities for quality improvement purposes and educational outreach.

#### F. Awards

The TN EMSC Advocate for Children Award is bestowed upon an individual who has made an outstanding contribution of major significance to the Tennessee Emergency Medical Services for Children program. This year's recipient was **Donna G. Tidwell, RN, EMT-P, MS** for her 20 years of unwavering service to TN Emergency Medical Services for Children and among many accomplishments, her leadership to raise EMS education standards and to provide essential pediatric equipment on all ambulances.

The TN EMS Joseph Weinberg, MD, Leadership Award is bestowed upon an individual who displays the attributes of a leader that can bring together diverse stakeholders and organizations to improve the care of critically ill and injured children. This year's award was presented to **Rita Westbrook, MD** for her service as past chair of both the Committee on Pediatric Emergency Care and the TN EMSC Foundation and for her demonstrating the leadership skills of Dr. Weinberg: pediatric expertise, advocacy, and civic duty.

#### G. Star of Life Awards Ceremony and Dinner

This year was the 6<sup>th</sup> annual awards ceremony held to honor the accomplishments of personnel from all regions of Tennessee who provide exemplary life-saving care to adult and pediatric patients. The ceremony includes the presentation of the actual adult or pediatric patient scenarios and reunites the EMS caregivers with the individuals they treated. Recipients are chosen from each of the eight EMS regions in the state. This is the premier event within the state to recognize and honor our excellent pre-hospital providers.

***Overall State Winner: Region 6: Jefferson County Bus Accident, Interstate 40, Mile Marker 422***

EMS Region 1: Eastman Chemical Company Emergency Services

EMS Region 2: Morristown Hamblen EMS & UT Lifestar

EMS Region 3: Bradley County EMS, Bradley County 911, Bradley County Fire and Rescue & Erlanger Lifeforce

EMS Region 4: Putnam County EMS & Cookeville Fire Department

EMS Region 5: Cheatham County EMS & Vanderbilt LifeFlight

EMS Region 6: Marshall County EMS

EMS Region 7: Medical Center EMS- Benton County & Benton County Rescue Squad

EMS Region 8: Memphis Fire Department & Elvis Presley Trauma Center

### **III. The Needs of the State Committee on Pediatric Emergency Care that were met by the Tennessee Department of Health since last year's annual report.**

- Presentation by Michael Warren, MD, Director of the Division of Family Health and Wellness for the Tennessee Department of Health, on Tennessee Child Fatality Review Team and how CoPEC can support its efforts.
- Department of Health has provided a data expert, Ester K. Niles, PhD, Division of Family Health and Wellness, to provide analysis capabilities to assist in defining outcomes of emergency care for pediatrics.

### **IV. The Needs of the State Committee on Pediatric Emergency Care**

- Ongoing statistical support to assist in defining outcomes of emergency care for pediatrics
- Requesting the Department of Health, Division of Health Care Facilities to publish the online inspection results for the health care facility survey - Pediatric Emergency Care Facilities by July 2015. Currently, to comply with federal requirements, the division has made available the health care facility survey inspection results for nursing homes with plans to expand this online reporting to include hospital and other types of facility surveys the division inspects.
- CoPEC is requesting the top 10 Pediatric Emergency Care Facility rules that facilities are not in compliance be reported annually to the Board for Licensing Health Care Facilities prior to October 1st of each year beginning in 2015. This report will then serve as a guide for CoPEC for strategic planning for facility education and support each year.

## V. Conclusion

The mission of CoPEC is *to ensure that every child in Tennessee receives the best pediatric emergency care in order to eliminate the effects of severe illness and injury*. That mission draws people together, and has brought out the very best in our healthcare system.

The Board for Licensing Health Care Facilities and the Emergency Medical Services Board work cooperatively with other programs of the Department of Health to improve the quality of health care and medical services available to the citizens of Tennessee.

We will further describe the impact of the rules on pediatric emergency care by utilizing data collected in our next report on July 1, 2015.

This report was reviewed by the respective boards on \_\_\_\_\_ and \_\_\_\_\_ and approved for presentation to the designated committees of the Tennessee General Assembly.

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## Appendix 1 Organizational Members in TN Emergency Medical Services for Children

Baptist Memorial Hospital for Women

Children's Hospital at Erlanger Health Systems

East Tennessee Children's Hospital

Hospital Corporation of America (HCA)

Jackson-Madison County General Hospital

Le Bonheur Children's Hospital

Monroe Carell, Jr. Children's Hospital at Vanderbilt

Project B.R.A.I.N.

Niswonger Children's Hospital

Rural Health Association of Tennessee

The Right Dose Foundation

TN Academy of Family Physicians

Tennessee Ambulance Service Association (TASA)

Tennessee Association of School Nurses

TN Chapter of the American Academy of Pediatrics (TNAAP)

TN Chapter of the American College of Emergency Physicians

TN Chapter of the American College of Surgeons

TN Congress of Parents and Teachers

Tennessee Department of Health

TN Disability Coalition

Tennessee Emergency Nurses Association (ENA)

Tennessee Emergency Services Education Association (TEMSEA)

TN Hospital Association

UT Medical Center

Williamson Medical Center

## Appendix 2 TN EMSC Annual Report 2014

### Hospitals that Voluntarily Participated in Pediatric Readiness Assessment

Athens Regional Medical Center	McNairy Regional Hospital
Baptist Hospital, Inc.	Memorial Hospital North
Baptist Memorial Hospital-Collierville	Methodist Healthcare Memphis Hospitals
Baptist Memorial Hospital-Huntingdon	Methodist Healthcare-Fayette Hospital
Baptist Memorial Hospital-Memphis	Methodist Le Bonheur Germantown Hospital
Baptist Memorial Hospital-Tipton	Methodist Medical Center of Oak Ridge
Baptist Memorial Hospital-Union City	Methodist North Hospital
Bolivar General Hospital	Milan General Hospital
Children's Hospital at Erlanger	Monroe Carell Jr. Children's Hospital at Vanderbilt
Cookeville Regional Medical Center	Morristown-Hamblen Hospital
Copper Basin Medical Center	Niswonger Children's Hospital
Crockett Hospital	North Knoxville Medical Center
Cumberland Medical Center	Northcrest Medical Center
Cumberland River Hospital	Parkridge East Hospital
Decatur County General Hospital	Parkridge Medical Center
DeKalb Community Hospital	Parkwest Medical Center
Delta Medical Center	Physicians Regional Medical Center
Dyersburg Regional Medical Center	Regional Hospital of Jackson
East Tennessee Children's Hospital	Rhea Medical Center
Emerald-Hodgson Hospital	Riverview Regional Medical Center North
Erlanger Bledsoe Hospital	Roane Medical Center
Erlanger East Emergency Room	Skyridge Medical Center
Erlanger North	Southern Tennessee Medical Center
Fort Loudoun Medical Center	Stones River Hospital
Fort Sanders Regional Medical Center	Takoma Regional Hospital
Gateway Medical Center	TriStar Centennial Medical Center
Gibson General Hospital	TriStar Centennial Medical Center at Ashland City
Grandview Medical Center	TriStar Hendersonville Medical Center
Hardin Medical Center	TriStar Horizon Medical Center
Harton Regional Medical Center	TriStar Skyline Medical Center
Henderson County Community Hospital	TriStar Southern Hills Medical Center
Henry County Medical Center	TriStar Stonecrest Medical Center
Heritage Medical Center	TriStar Summit Medical Center
Hickman Community Hospital	Trousdale Medical Center
Highlands Medical Center	Turkey Creek Medical Center
Hillside Hospital	University Medical Center
Houston County Community Hospital	University of Tennessee Medical Center
Humboldt General Hospital	Wayne Medical Center
Jackson-Madison County General Hospital	Wellmont Hancock County Hospital
Jamestown Regional Medical Center	Wellmont Hawkins County Memorial Hospital
Jefferson Memorial Hospital	Wellmont Holston Valley Medical Center
Jellico Community Hospital	Williamson Medical Center
Kindred Hospital	Woods Memorial Hospital
Lauderdale Community Hospital	
Laughlin Memorial Hospital	
Le Bonheur Children's Hospital	
LeConte Medical Center	
Lincoln County Health System	
Macon County General Hospital	
Marshall Medical Center	
Maury Regional Hospital	
McKenzie Regional Hospital	

Appendix 2 TN EMSC Annual Report 2014

Hospitals that Voluntarily Participated in Pediatric Readiness Assessment



**Tennessee**  
**EMSC**  
 Emergency Medical  
 Services for Children<sup>SM</sup>

### Guidelines for Administration and Coordination of the ED for the Care of Children

An analysis of a survey done in 2003 on the readiness of ED staff to care for pediatric patients found that those emergency departments that had people accountable for coordinating the care of pediatric patients (Care Coordinators) were more 'ready' than those EDs who did not have care coordinators identified. (subscript)

### Physicians, Nurses, and Other Health Care Providers Who Staff the ED

Children can present to the emergency department at any time. In most emergency departments, however, children make up only about 20% (sometimes a little more, sometimes a little less) of the total number of patient visits annually. For that reason, ED staff may not always feel comfortable or confident that they can care for the unique needs of a child of any age, from infancy through the teen age years.

It is important that ED leadership consider the training and competency of ALL staff that may come into contact with a child during an ED encounter .

## Guidelines for Administration and Coordination of the ED for the Care of Children

Scored out of a Total of 19 Points

Tennessee  
Section Scores:

**16.6**

National  
Section Scores:

**10.1**

	Tennessee	National
Does your ED have a Nurse Coordinator who is assigned the role of overseeing various administrative aspects of pediatric emergency care? Yes, it does.	<b>94.7%</b>	<b>59.3%</b>
Does your ED have a Physician Coordinator who is assigned the role of overseeing various administrative aspects of pediatric emergency care? Yes, it does.	<b>80%</b>	<b>47.4%</b>

## Physicians, Nurses, and Other Health Care Providers Who Staff the ED

Scored out of a Total of 10 Points

Tennessee  
Section Scores:

**6.6**

National  
Section Scores:

**5.3**

	Tennessee	National
Does your hospital require specific pediatric competency evaluations of physicians staffing the ED? Yes, it does.	<b>84.2%</b>	<b>66.6%</b>
Does your hospital require specific pediatric competency evaluations of mid-level practitioners staffing the ED? Yes, it does.	<b>48.4%</b>	<b>38.6%</b>





### Guidelines for Quality Improvement in the ED

- Identifies preventable errors and system in efficiencies
  - Provides information on how well our processes are working
  - Allows for ongoing improvements in patient care
  - Monitors performance
  - Promotes a safer and better experience for patients, their families, and providers.
- (Children, 2013)

## Guidelines for Quality Improvement in the ED

Scored out of a Total of 7 Points

Tennessee  
Section Scores:

**5.9**

National  
Section Scores:

**2.9**

	Tennessee	National
Does your ED have a pediatric patient care-review process?	<b>88.4%</b>	<b>45.1%</b>
Yes, it does.		
The following results are a breakdown of those that said "Yes" to having a pediatric patient care-review process...		
Collection and analysis of pediatric emergency care data	<b>100%</b>	<b>88.1%</b>
Identification of quality indicators for children	<b>61.9%</b>	<b>58.3%</b>
Development of a plan for improvement in pediatric emergency care	<b>84.5%</b>	<b>78.9%</b>
Re-evaluation of performance using outcomes-based measures	<b>81.0%</b>	<b>73.4%</b>



**Tennessee**  
**EMSC**  
 Emergency Medical  
 Services for Children<sup>SM</sup>

**Guidelines for Improving  
 Pediatric Safety in the ED**

Children are potentially at greater risk for medical error due to:

- Weight-based dosing requiring measurement and calculation errors in pediatric dosing. Pediatric dosing errors have:
  - i. 10 fold errors
  - ii. Decimal point errors
  - iii. More pronounced in smaller children when 10 fold dose fits in single
- Their needs and characteristics
- Deficiencies in pediatric readiness in the emergency department
- Healthcare professionals have limited pediatric experience (particularly with critically ill and injured children)
- Smaller proportion of visits, less system “readiness”
- Lack of pediatric competency requirements for healthcare professionals.
- Child’s inability to communicate with providers

**Guidelines for Improving Pediatric Safety in the ED**

*Scored out of a Total of 14 Points*

**Tennessee  
 Section Scores:  
 11.9**

**National  
 Section Scores:  
 10.8**

	<b>Tennessee</b>	<b>National</b>
<b>Weigh in Kilograms</b>	<b>80%</b>	<b>67.7%</b>
<b>If weighed in Kilograms, also record in Kilograms</b>	<b>80.3%</b>	<b>75.3%</b>
<b>Temperature, heart rate, and respiratory rate recorder</b>	<b>100%</b>	<b>98.6%</b>
<b>Blood pressure monitoring available based on severity of illness.</b>	<b>98.9%</b>	<b>99.7%</b>
<b>Pulse oximetry monitoring available based on severity of illness</b>	<b>100%</b>	<b>99.7%</b>
<b>Written procedure in place for notification of physicians when abnormal vital signs</b>	<b>84.2%</b>	<b>70.1%</b>
<b>Process in place for the use of pre-calculated drug dosing</b>	<b>82.1%</b>	<b>78.9%</b>
<b>Process in place that allows for 24/7 access to interpreter services in the ED</b>	<b>100%</b>	<b>95.4%</b>



### Guidelines for Policies, Procedures, and Protocols for the ED

Policies help to focus on the unique needs of children and the necessary resources and staff to ensure that hospital emergency departments are prepared to receive, accurately assess, and at a minimum, stabilize and safely transfer acutely ill or injured children.

## Guidelines for Policies, Procedures, and Protocols for the ED

Scored out of a Total of 17 Points

<b>Tennessee Section Scores:</b> <span style="font-size: 2em; color: red;"><b>13.7</b></span>	<b>National Section Scores:</b> <span style="font-size: 2em; color: blue;"><b>10.5</b></span>
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	<b>Tennessee</b>	<b>National</b>
Triage policy that specifically addresses ill and injured children	<b>76.8%</b>	<b>56.7%</b>
Policy for pediatric patient assessment and reassessment	<b>90.5%</b>	<b>73.4%</b>
Policy for immunization assessment and management of the under-immunized child	<b>69.5%</b>	<b>51.7%</b>
Policy for child maltreatment	<b>95.8%</b>	<b>89.6%</b>
Policy for death of the child in the ED	<b>77.9%</b>	<b>58%</b>
Policy for reduced-dose radiation for CT and x-ray imaging based on pediatric age or weight	<b>72.6%</b>	<b>52.6%</b>
Policy for promoting family-centered care	<b>85.3%</b>	<b>59.6%</b>
Hospital disaster plan addresses issues specific to the care of children	<b>69.5%</b>	<b>46.8%</b>
Inter-facility transfer guidelines	<b>90.5%</b>	<b>70.5%</b>



**Guidelines for Equipment, Supplies, and Medication for the Care of Pediatric Patients in the ED**

When it comes to children, “One Size Fits All” does not work. The pediatric population ranges in size from an infant through adolescents. Therefore, it is important to have the necessary pediatric equipment, supplies, and medications necessary to care for children of all ages and sizes.

**Guidelines for Equipment, Supplies, and Medication for the Care of Pediatric Patients in the ED**

*Scored out of a Total of 33 points*

**Tennessee  
Section Scores:  
30.0**

**National  
Section Scores:  
29.4**

*The following are the Top 10 most common missing equipment from Tennessee’s Emergency Department*

	<b>Tennessee</b>	<b>National</b>
Laryngeal mask airways: size 1.5	<b>57.9%</b>	<b>55.1%</b>
Laryngeal mask airways: size 1	<b>61.1</b>	<b>57.2%</b>
Laryngeal mask airways: size 2.5	<b>61.1%</b>	<b>57.2%</b>
Laryngeal mask airways: size 2	<b>66.3%</b>	<b>60.9%</b>
Laryngeal maskairways: size 3	<b>70.5%</b>	<b>66.3%</b>
Central venous catheters (any two sizes in range, 4F-7F)	<b>71.6%</b>	<b>62.5%</b>
Tracheostomy tubes: size 3.0mm	<b>72.6%</b>	<b>68%</b>
Continuous end-tidal CO2 monitoring device	<b>73.7%</b>	<b>81.7%</b>
Laryngoscope blades: straight, size 00	<b>73.7%</b>	<b>77.4%</b>
Tracheostomy tubes: size 3.5mm	<b>75.8%</b>	<b>67.8%</b>



**Tennessee**  
**EMSC**  
Emergency Medical  
Services for Children™

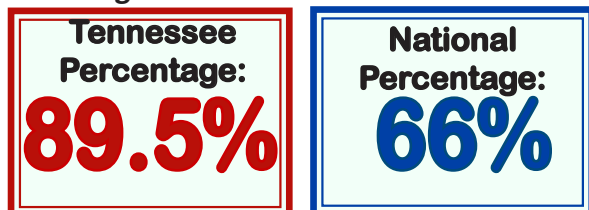
### Inter-facility Transfer Guidelines:

To ensure that children have access to needed resources, the establishment of interfacility transfer agreements and guidelines is vital.

Recent evidence shows that the best outcomes for critically ill and injured children are achieved when treated at facilities most prepared to address their needs. Effective interfacility transfer agreements and guidelines will ensure the timely and appropriate transfer of patients to the appropriate level of emergency care. Without these agreements care might be delayed or might not even occur. Delays potentially result and/or contribute to negative patient outcomes.

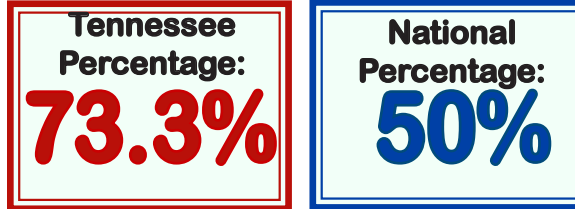
### Inter-facility Transfer Agreements:

*Percent of hospitals that have inter-facility transfer agreements:*



### Inter-facility Transfer Guidelines:

*Percent of hospitals that have inter-facility transfer guidelines with all of the eight EMSC components*



	<b>Tennessee</b>	<b>National</b>
<b>Does your hospital have inter-facility transfer guidelines? Yes</b>	<b>90.5%</b>	<b>69.3%</b>
<b>If yes, which EMSC components are included?</b>		
Process for patient transfer (including obtaining informed consent)	<b>98.8%</b>	<b>98.8%</b>
Defined process for initiation of transfer, including the roles and responsibilities of the referring facility and referral center	<b>96.5%</b>	<b>96.6%</b>
Plan for transfer of patient medical record	<b>98.8%</b>	<b>98.9%</b>
Plan for transfer of copy of signed transport consent	<b>97.7%</b>	<b>98.3%</b>
Process for selecting the appropriately staffed transport service to match the patient's acuity level (level of care required by patient, equipment needed in transport, etc.)	<b>94.2%</b>	<b>91%</b>
Process for selecting the most appropriate care facility	<b>93%</b>	<b>86.9%</b>
Process for transfer of personal belongings to patient	<b>91.9%</b>	<b>90.6%</b>
Plan for provision of directions and referral institution information to family	<b>86%</b>	<b>82.8%</b>