

THE IMPORTANCE OF CHILDREN'S HOSPITALS

There are a number of factors that distinguish reimbursement and costs incurred in operating children's hospitals from reimbursement and costs for other hospitals in Texas. Only a portion of the variation in costs and reimbursements among different hospital types is captured in the Medicaid prospective payment system. Other factors include:

- Years of budget reductions that ignore cost inflation;
- Fundamental distinctions in the structure of add-ons to basic Standard Dollar Amounts used for payment;
- Differences in patient acuity not fully recognized in the payment classification system;
- More intensive staff levels and facility requirements at children's hospitals;
- Specialized skills and training required to provide care to children; and
- Additional services available to address the needs of children and the community.

Inpatient Reimbursement Methodology

In September 2013, children's hospitals in Texas transitioned from cost-based reimbursement for Medicaid inpatient services to a prospective payment system using All Patient Refined Diagnosis Related Groups (APR-DRGs). Under a cost-based reimbursement system, a hospital is paid for an inpatient stay based on a set rate and then there is a subsequent settlement payment to ensure that the hospital receives 100% of the costs incurred for that stay. Payment for a case under the APR-DRG system is primarily a function of the relative weight (intensity of the consumption of resources) of the DRG, multiplied by a Standard Dollar Amount (SDA). The Texas Medicaid program has established separate SDAs for children's hospitals and other hospital types. Although the reimbursement system produces over 1,200 APR-DRGs, as is discussed in more detail below, the classification system only partially accounts for the variation in costs among hospitals.

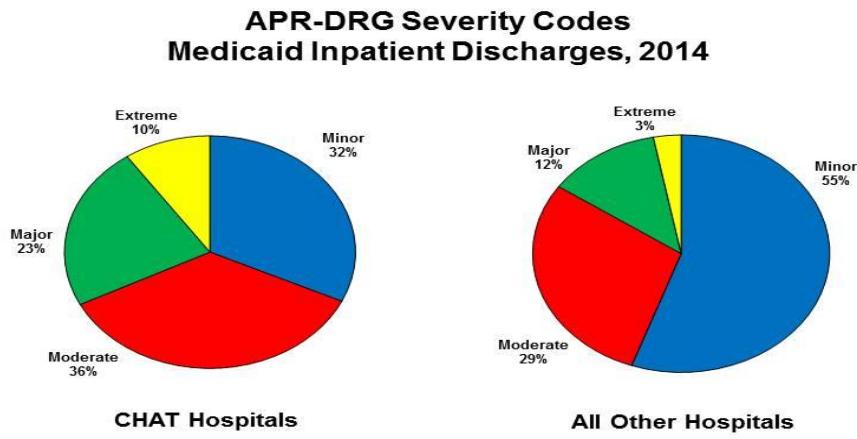
One of the fundamental differences related to reimbursement is that until Fiscal Year (FY) 2013 inpatient payment rates for children's hospitals in Texas reflected the growth in health care costs. Rates for other hospitals have been subject to budgetary reduction factors for many years, with funding appropriated to the Health and Human Services Commission limiting cost inflation for these hospitals. Most Texas hospitals are

reimbursed at less than 60% of costs for inpatient care. Failure to recognize cost growth for these hospitals has created a significant gap between rates for children's hospitals and other hospitals.

To acknowledge certain cost differences among hospitals, the Texas Medicaid program provides additional payments (called "add-ons") to base SDAs. For hospitals other than children's, add-ons recognize wage differences across the state, medical education offered at the facility, and the level of trauma care attained. For children's hospitals, add-ons are limited to the wage differential and medical education. Therefore, it is important to note that costs related to providing trauma services are built into the base SDA for children's hospitals but not for other hospital types.

Higher Acuity Patients

Patient acuity is used to describe care requirements and can be determined based on a number of factors such as the type and complexity of the primary reason for admission, any co-morbid conditions, the amount of medical technology and other resources required, and the patient's overall health condition. To recognize differences in the acuity of patients provided care, the APR-DRG system divides each APR-DRG into four subclasses for severity of illness and risk of mortality (1 is Minor, 2 is Moderate, 3 is Major and 4 is Extreme). As the following figure shows, a higher percentage of Medicaid cases at children's hospitals fall into the Major and Extreme categories than cases at other hospitals (33% versus 15%).

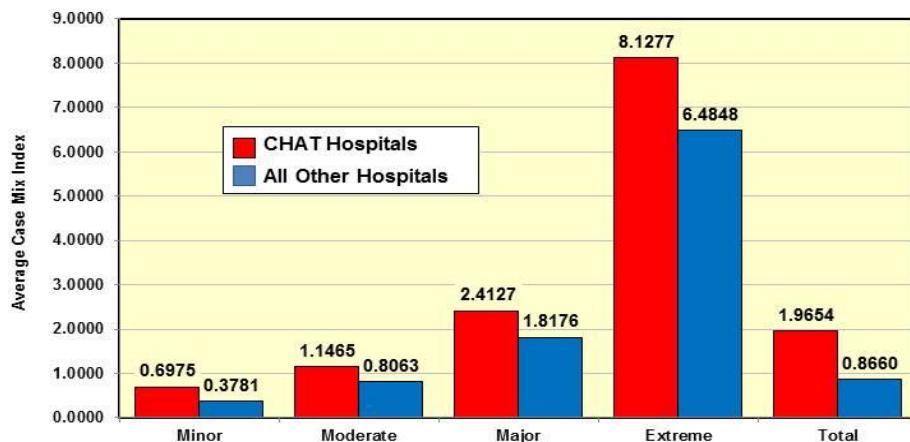


Note: Total percentages may not equal 100% due to rounding.
Source: Texas Hospital Inpatient Discharge Public Use Data File, 2014; Center for Health Statistics, DSHS.

Case Mix Index (CMI) refers to the expected resource utilization routinely used to estimate patient acuity. A comparison of average CMI further demonstrates the

distinction between patients seen at children's hospitals versus other hospitals. CMI for children's hospitals far exceeds that of other hospital types across all levels of severity.

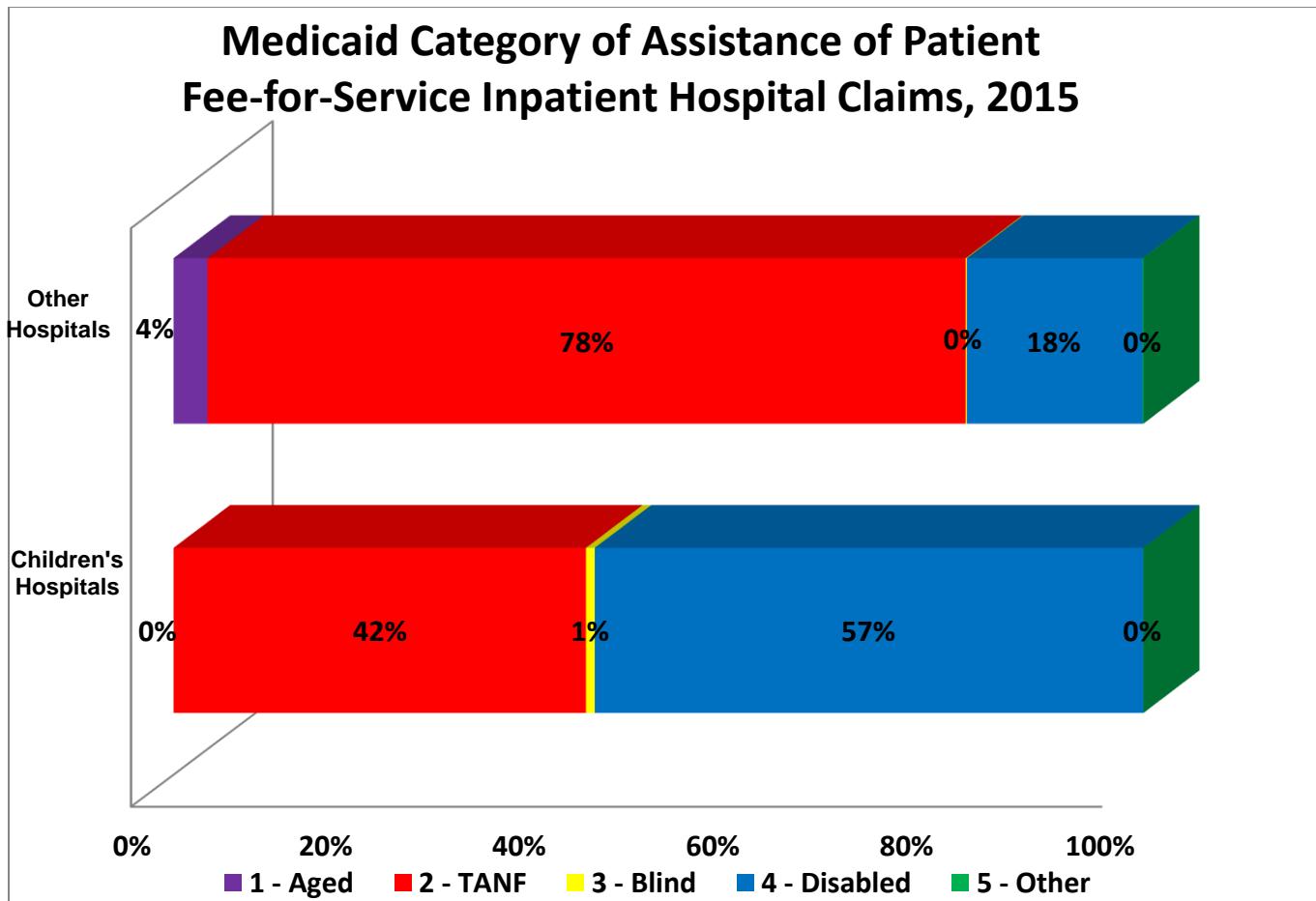
Average Case Mix Index by Level of Severity Medicaid Inpatient Discharges, 2014



Source: Texas Hospital Inpatient Discharge Public Use Data File, 2014; Center for Health Statistics, DSHS.

However, the APR-DRG classification system falls short of accounting for all cost differences related to the mix of patients. The methodology does not take into consideration the Medicaid eligibility category of recipients. Children's hospitals have a long legacy of caring for sick children with complications and special needs. Other hospitals predominantly serve Medicaid recipients who are nondisabled children and pregnant women; children's hospitals serve a higher proportion of disabled recipients eligible for Supplemental Security Income (SSI).

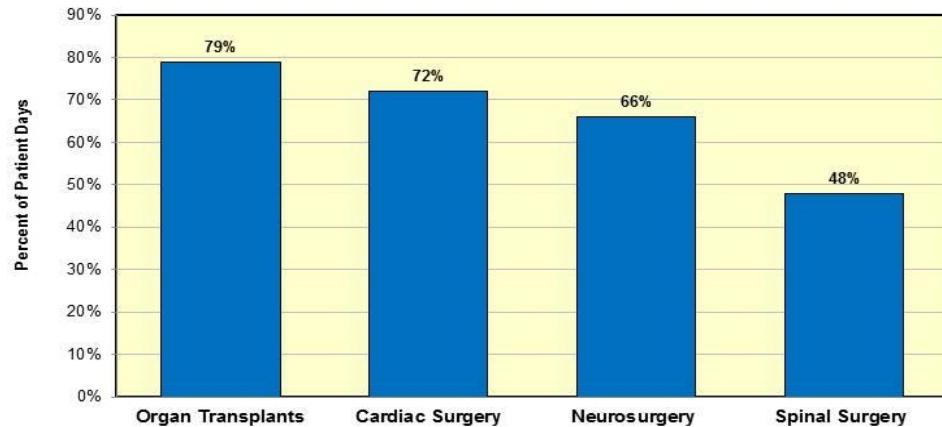
As the following figures demonstrate, in FY 2015, nearly 57% of Medicaid patients at children's hospitals were disabled, compared to 18% for other hospitals. The Temporary Assistance for Needy Families (TANF) category (mostly healthy, low-income children and a small number of parents), made up nearly 78% of the Medicaid patients at other hospitals, compared to 42% at children's hospitals.



Source: FY 2015 Blue Ribbon Inpatient Hospital File, Texas Health and Human Services Commission.

The percent of total pediatric days of care devoted to selected diagnoses and chronic conditions validates the serious, complex needs of patients at children's hospitals. For example, three-fourths of total pediatric days of care for organ transplants and cardiac surgery in 2014 were provided by hospitals that are members of the Children's Hospital Association of Texas (CHAT). CHAT member hospitals accounted for 84% of days of care provided to children with cystic fibrosis, 78% of days for children with sickle cell anemia, 70% of days for children with spina bifida, and over half of the days for children with cerebral palsy and diabetes.

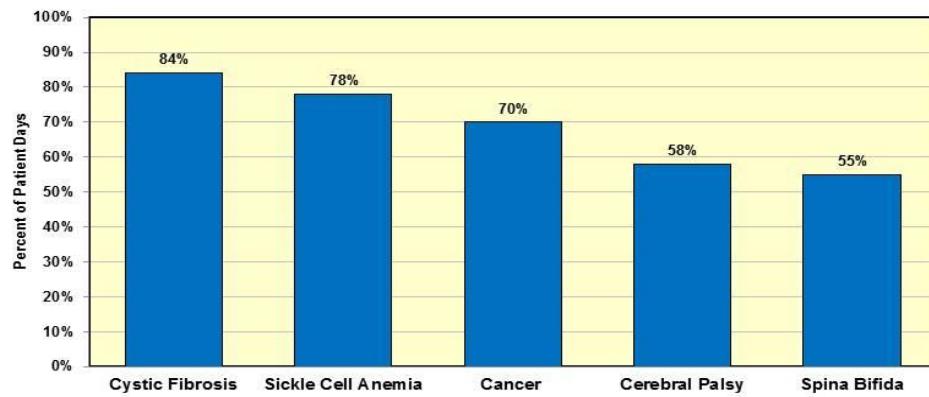
Percent of Total Pediatric Days of Care for Selected Surgical Conditions CHAT Hospitals, 2014



Note: Includes acute care inpatient discharge data for pediatric cases under age 18, excluding obstetrics and normal newborns. Conditions are defined on the basis of APR-DRG categories and severity subclasses. The number of acute care hospitals (340) reporting pediatric discharge data include: CHAT - 8 hospitals; Other Urban - 270; and Rural - 62. Excludes state-owned and licensed psychiatric hospitals, rehab hospitals, acute long term care hospitals, approximately 70 additional rural hospitals and other hospitals exempt from reporting discharge data in 2014.

Source: Texas Hospital Inpatient Discharge Public Use Data File, 2014; Center for Health Statistics, DSHS.
Revised March 2017.

Percent of Total Pediatric Days of Care for Selected Complex Conditions CHAT Hospitals, 2014

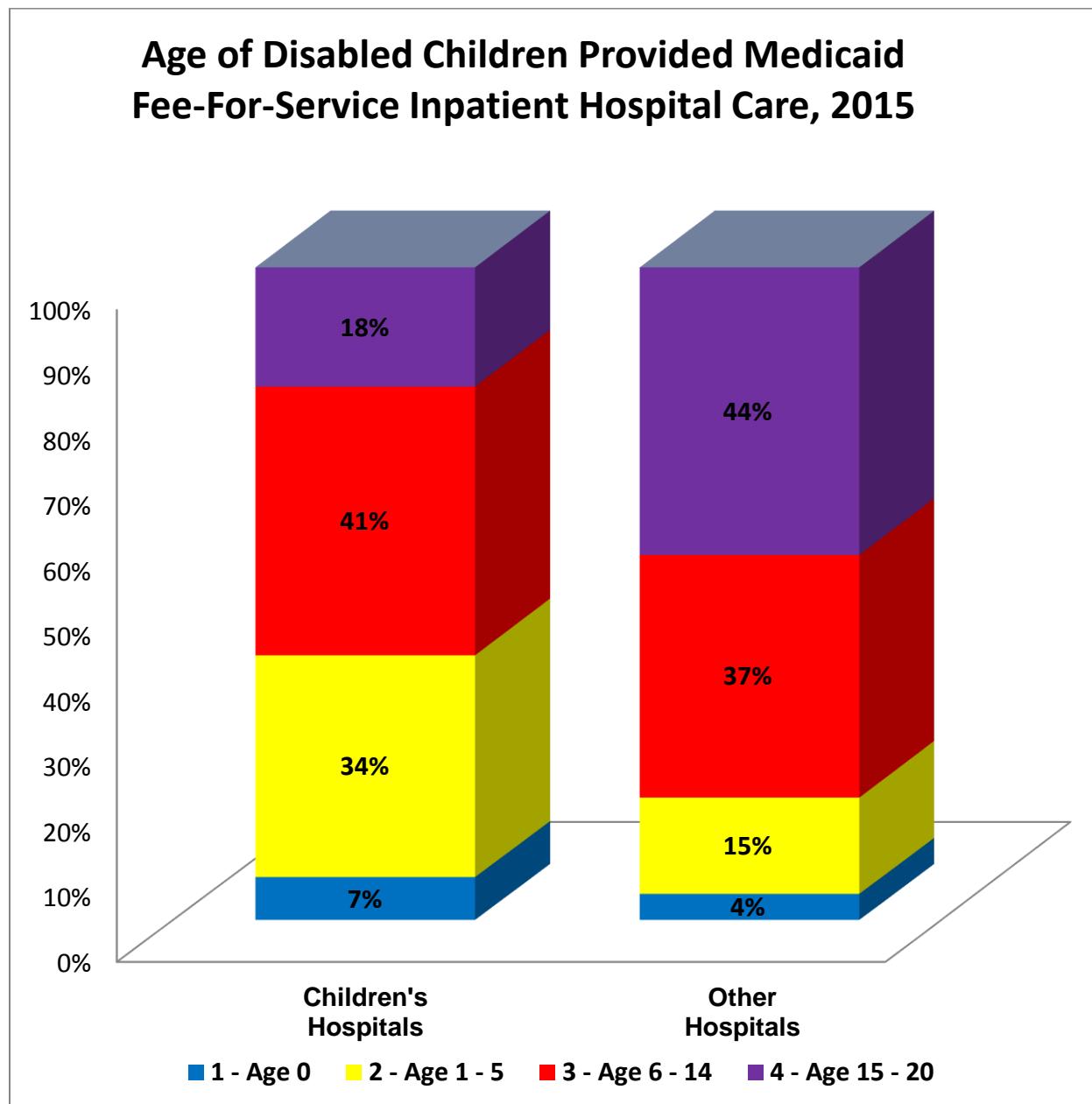


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Source: Texas Hospital Inpatient Discharge Public Use Data File, 2014; Center for Health Statistics, DSHS.
Revised March 2017.

Age Distinctions

Younger children require more supervision and support and may lack verbal skills to describe symptoms. Furthermore, the health status of very young children can deteriorate more quickly than older children. The age of children provided care therefore influences costs. The disabled children served by children's hospitals are younger than those seen at other hospitals; 41% of disabled children at children hospitals were babies or toddlers, versus 19% at other hospitals.

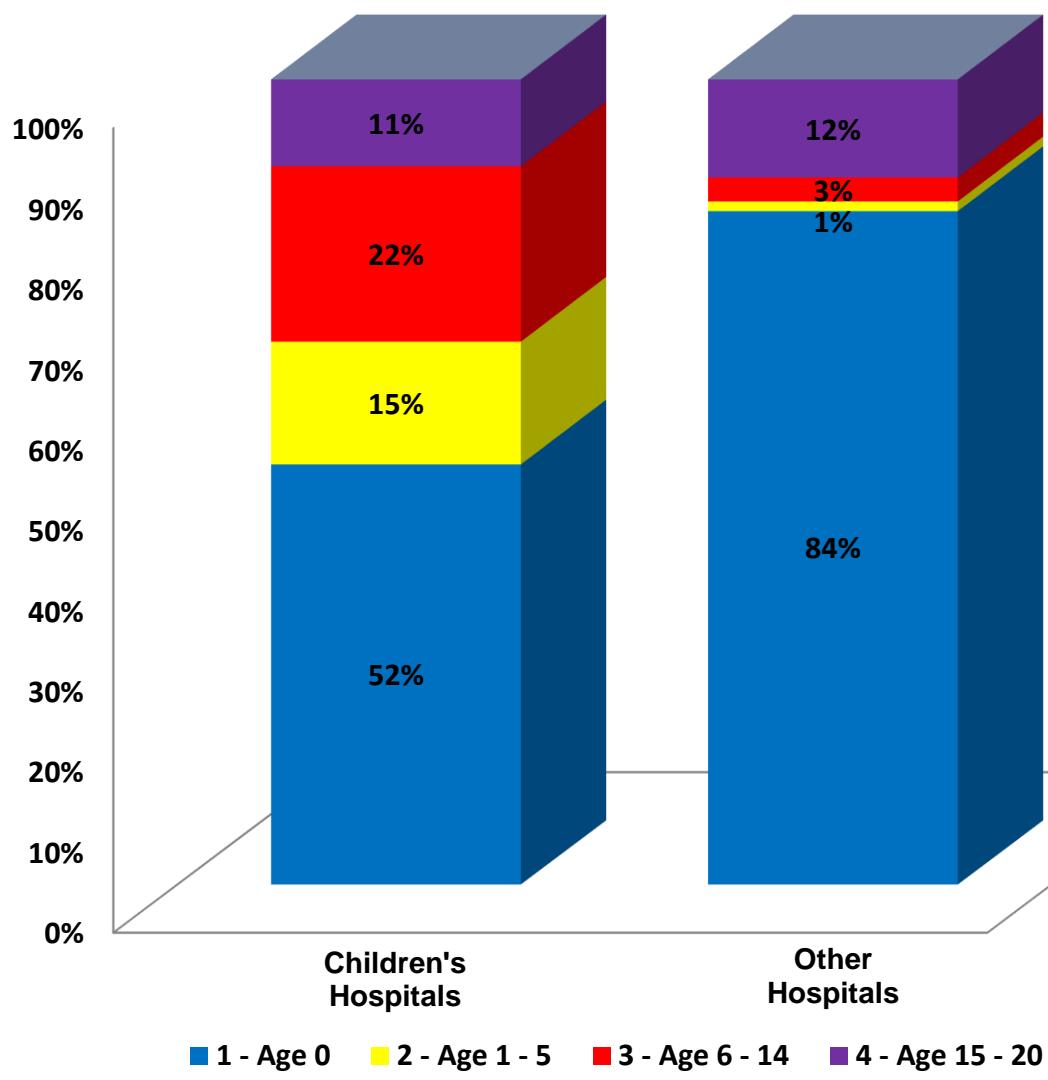


Source: FY 2015 Blue Ribbon Inpatient Hospital File, Texas Health and Human Services Commission.

At children's hospitals, babies less than one year of age made up 52% of the low-income, nondisabled child population, but accounted for 84% of that population at other

hospitals. Although this could suggest higher related costs for other hospitals, a much higher proportion of births at other hospitals are normal newborns, without complications. At children's hospitals the average CMI for Medicaid newborns was more than 7 times that for other hospitals (4.0588 vs. 0.5276).

Age of Non-Disabled Children Provided Medicaid Fee-for-Service Inpatient Hospital Care, 2015



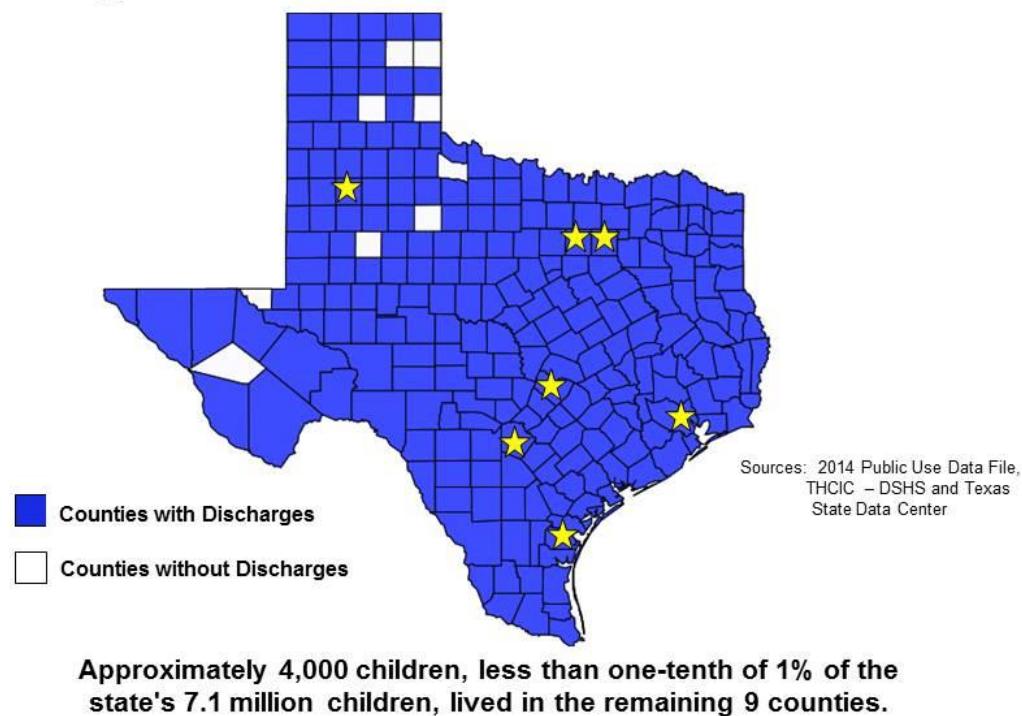
Source: FY 2015 Blue Ribbon Inpatient Hospital File, Texas Health and Human Services Commission.

More Intensive Services

Children's hospitals are regional centers that serve kids statewide. In 2014, CHAT member hospitals provided care to children living in 245 of Texas' 254 counties. (Only

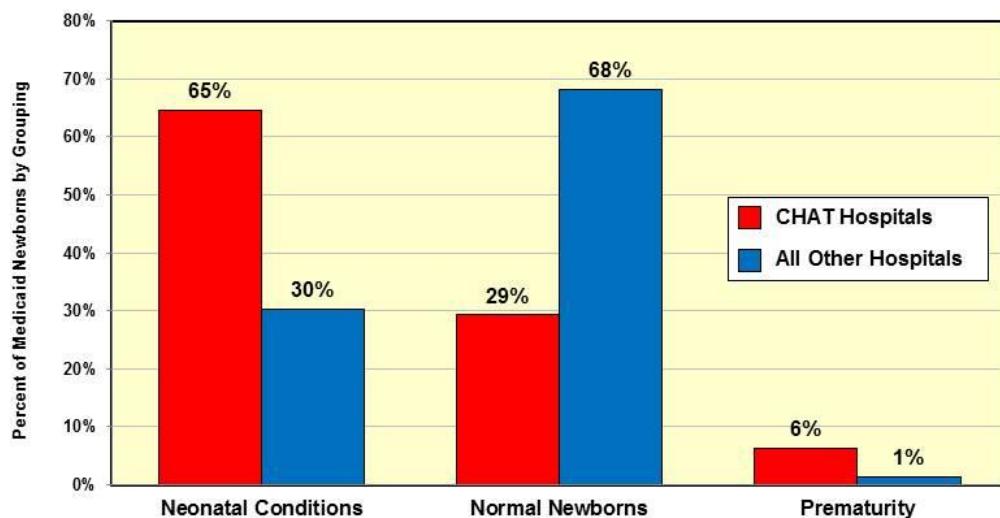
about 4,000 children—less than one-tenth of 1% of the state's 7.1 million children, lived in the remaining 9 counties). Many of the patients in children's hospitals are transfers from other medical facilities that could not provide the specialized pediatric care needed. In fact, in 2014, over 14,000 children were transferred to one of the CHAT members for care that the child could not receive locally.

CHAT Hospitals Provided Inpatient Care to Children Living in 245 of Texas' 254 Counties in 2014



A profile of the discharges of newborns enrolled in Medicaid reveals striking differences between CHAT member hospitals and other hospitals. In 2014, 68% of newborn discharges from other hospitals were classified as normal newborns. Conversely, newborns with neonatal conditions (e.g., breathing problems, congenital heart defects, etc.) made up 65% of newborn discharges at the children's hospitals. The average length of stay for newborns also reflected the severity of newborn conditions treated: 15 days for children's hospitals versus 3.8 days for other hospitals.

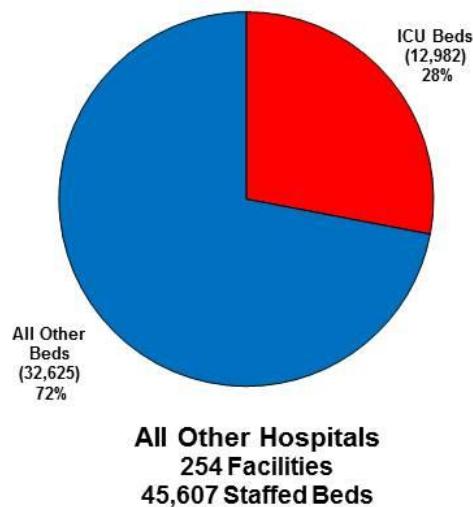
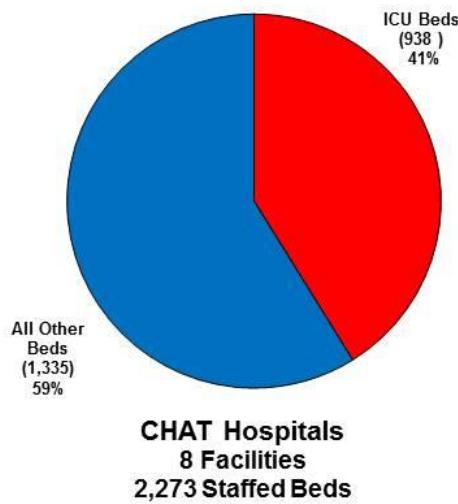
Medicaid Newborns by Major Diagnostic Grouping, 2014



Source: Texas Hospital Inpatient Discharge Public Use Data File, 2014; Center for Health Statistics, DSHS.

Another indication of the level of care provided by children's hospitals is the makeup of Intensive Care Units. Of the staffed beds at children's hospitals, 41% are designated as Intensive Care beds, compared to 28% at all other hospitals.

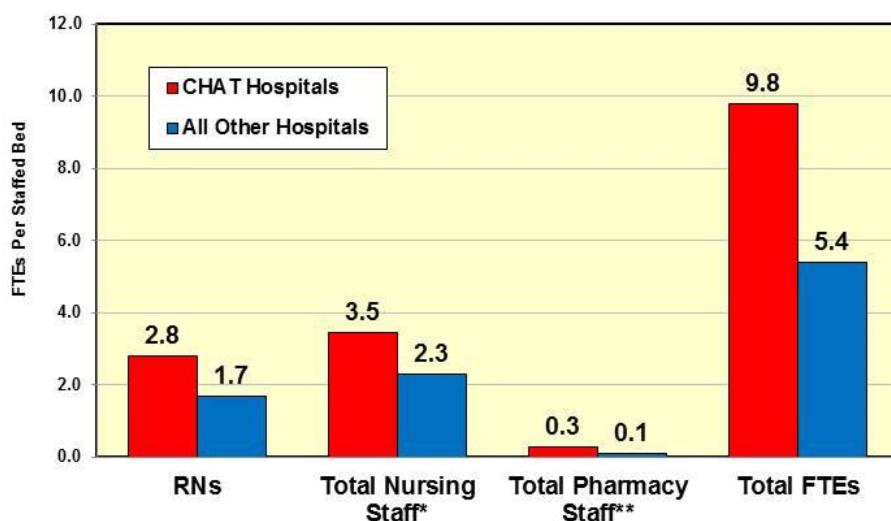
ICU* Beds: Percent of Total Staffed Beds, 2015



* ICU beds include Medical-Surgical ICU, Cardiac ICU, Neonatal ICU, Neonatal Intermediate Care, Pediatric ICU, Burn, Special, and Other ICU.
Source: 2015 Cooperative DSHS/AHA/THA Annual Survey of Hospitals, State Center for Health Statistics, DSHS.

Higher staffing levels are an indication of the level of care available in children's hospitals as well. The following graph illustrates that the number of health care professionals per staffed bed in children's hospitals is significantly higher than in other hospitals. For example, the staffing level in 2015 for total employees in children's hospitals was 9.8 per bed, compared to 5.4 at other hospitals.

Comparison of Staffing Levels, 2015



Note: Includes data for 410 facilities: 8-CHAT and 402-All Other Hospitals.

*Includes RNs, LVNs and other nursing assistive staff.

**Includes licensed pharmacists and pharmacy techs.

Source: 2015 Cooperative DSHS/AHA/THA Annual Survey of Hospitals, State Center for Health Statistics, DSHS.
Revised March 2017.

Children are not little adults, and serving children requires specialized skills, training and equipment that are concentrated at children's hospitals. High-level competencies required in children's hospitals exceed traditional standards of care. For example, staff must be capable of drawing blood from scalp veins, umbilical lines and neonatal veins; providing developmentally appropriate distraction during procedures; and recognizing variation in normal ranges for tests by age.

The American Nurses Credentialing Center's Magnet designation recognizes the importance of high-quality continuing nurse education and skills-based competency programs. Across the State of Texas, only 35 hospitals are currently designated as Magnet facilities. As an indication of the specialized skills and quality of care provided by children's hospitals, half of the eight CHAT member hospitals are Magnet facilities.

Facility requirements at children's hospitals can also add to the cost of delivering services. State-of-the-art equipment, teaching and research functions, and family-centered care spur increases in square footage. The National Association of Children's Hospitals and Related Institutions (NACHRI), now the Children's Hospital Association, reported in 2010 that the average number of operating rooms in a freestanding children's hospital was 14, compared to 11 in a comparably sized adult hospital. The need for privacy, more equipment and family accommodations results in larger critical

care rooms. On average across the United States, children's hospitals were almost twice the size (in total gross square feet of the physical plant) as adult hospitals of the same capacity.

Emphasis on Quality

Children's hospitals also devote considerable resources to improving the quality and safety of care and outcomes for children. CHAT's Quality Collaborative was created in 2012. Multidisciplinary teams are used to identify best practices that can be standardized, shared and implemented at all CHAT member hospitals. The collaboratives monitor selected clinical and financial measures to determine overall success.

Current collaborative efforts include disease-specific initiatives such as asthma, bronchiolitis and sepsis; preventable-harm initiatives such as hospital-acquired conditions (*i.e.*, infections, pressure ulcers, and patient falls); and other value-improvement initiatives such as preventable readmissions. These efforts have improved the quality and safety of care delivered to children in Texas children's hospitals through the adoption of evidence-based pathways for asthma, bronchiolitis and sepsis in the emergency department and inpatient setting.

CHAT's initial test collaborative focused on pediatric asthma, one of the most common childhood chronic illnesses, from 2012-2016. Our results included:

- Decreased lengths of stay in the emergency department and inpatient areas;
- Reduced readmissions after both 14 days and six months from the initial discharge; and
- Decreased average cost per discharge.

Bronchiolitis is an infection in infants that causes the small breathing tubes in the lungs, called bronchioles, to become swollen and fill up with mucus. This can cause coughing, congestion and wheezing and make it difficult for the child to breath. The goal of the collaborative is to improve health outcomes and reduce healthcare costs in patients with bronchiolitis by standardizing their care and reducing unnecessary tests and treatments.

To accomplish these results, CHAT member hospitals systematically integrate the best evidence with the most recent American Academy of Pediatrics clinical practice recommendations for management of patients with bronchiolitis. These clinical practice recommendations will be translated into standardized care across the continuum of a patient's hospital stay—from the emergency department to inpatient care units to discharge.

Sepsis is the systemic inflammatory response in the presence of a suspected or proven infection. The goal of the collaborative is to improve health outcomes through the recognition of non-severe cases of sepsis and the timely treatment of patients with severe sepsis and septic shock. To accomplish this goal, CHAT member hospitals systematically integrate the best evidence with the most recent American College of Critical Care Medicine's clinical practice recommendations for circulatory system support of pediatric and neonatal septic shock. These clinical practice recommendations will be translated into care across the continuum of a patient's hospital stay—from emergency department triage assessments to inpatient and critical care units.

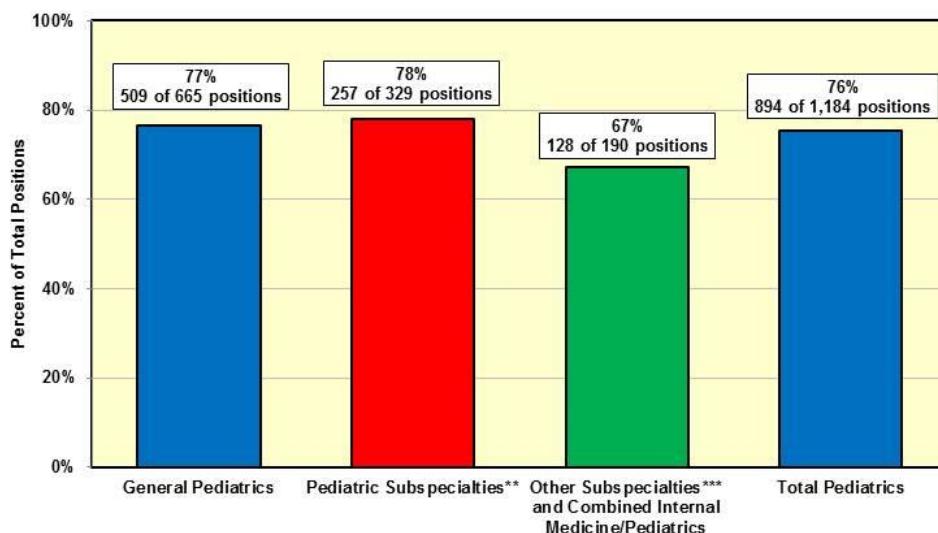
Children's hospitals also participate in the National Solutions for Patient Safety (SPS), which was established in 2009 and expanded in 2012. SPS became the only hospital engagement network in the U.S. focused on improving pediatric patient safety and reducing Medicaid costs associated with care for children. The national SPS network consists of more than 100 children's hospitals nationwide . Beginning in 2016, SPS empowered and aligned smaller regional networks for collaboration, and Texas serves as one of those regions, the Texas Regional SPS Network collaborative.

Through implementation of the network's best practices, SPS participants reduce patient harm, from errors in care and hospital-acquired conditions (HACs), to 30-day hospital readmissions. Since 2012, this national effort has led to an estimated savings of more than \$130 million and saved 6,944 children from serious harm. Children's hospitals are working together proactively to achieve significant improvement in outcomes for children and cost savings for the health care system.

Graduate Medical Education (GME)

Children's hospitals play an essential role in helping to train pediatricians and pediatric subspecialists. More than three out of four pediatricians and pediatric subspecialists in residency programs in Texas received some level of training at CHAT member hospitals in the 2016-2017 academic year.

ACGME Accredited Programs Percent of Filled Positions Receiving Training in CHAT Hospitals 2016-2017 Academic Year



*Includes all rotations of any length noted for CHAT member hospitals.

**Includes the following pediatric subspecialties: adolescent medicine, neonatal-perinatal, cardiology, critical care, emergency medicine, endocrinology, gastroenterology, hematology/oncology, infectious disease, nephrology, pulmonology, rheumatology, and sports medicine.

*** Includes the following subspecialties: pediatric anesthesiology, child neurology, pediatric orthopaedics, pediatric otolaryngology, pediatric pathology, child & adolescent psychiatry, pediatric radiology, pediatric surgery, pediatric urology, congenital cardiac surgery, pediatric rehabilitation, and internal medicine/pediatrics.

Source: Accreditation Council for Graduate Medical Education; <https://apps.acgme.org/ads/Public/Programs/Search>; November 11, 2016; Revised 3-17.

Unlike hospitals serving adults, children's hospitals do not receive Medicare payments for GME that offset teaching expenses. Furthermore, the state discontinued Medicaid GME payments a number of years ago (except for state-owned hospitals).

Other Services Provided

Children's hospitals are equipped not only to serve the medical needs of a child, but also to serve as surrogate homes to meet all a child's social, emotional and educational needs. Hospitalization can be a traumatic disruption in a child's development. Child Life Services provide informative and reassuring psychological preparation before and during procedures, help children plan and rehearse coping skills, and teach children strategies for adjusting to life-changing injuries.

Because some school-age children with serious conditions face long stints in the hospital, it is important to maintain educational activities. Children's hospitals work with local school districts and support education by providing space at the hospital for teaching.

Another example of a special service provided at children's hospitals is a milk bank, where a lab stores, prepares, fortifies and delivers mother's own milk or donor milk to

the infant's bedside. This model provides better quality control in the handling of human milk and allows analysis of the nutrient content for very low birth-weight infants to ensure that those infants are getting what they need to thrive.

CHAT member hospitals serve the community by providing objective, evidence-based assessment of child abuse and neglect. Specialists conduct careful medical evaluations to protect children from further abuse and work closely with government programs to identify children at risk. Medical staff are also able to identify conditions that mimic abuse so that families are protected from unwarranted intrusion or even arrest.

Finally, children's hospitals are distinguished by the level of research they support. According to NACHRI in 2010, although independent children's hospitals and their affiliated pediatric departments accounted for only 1% of acute care hospitals, they performed more one-fifth of all pediatric research sponsored by the National Institutes of Health. The volume of children with complex medical conditions treated at children's hospitals provides a great opportunity to advance medical knowledge.

Conclusion

As detailed in this report, a variety of factors contribute to the differences in costs and reimbursement between children's hospitals and other facilities. These include more intensive staff levels and facility requirements, specialized skills and training required to provide care to children; and additional services available to address the needs of children and the community.