



**Shriners Hospitals
for Children®**
Love to the rescue.™

SHC Community Health Needs Assessment

Shriners Hospitals for Children® — Houston

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Mission and Vision

Mission:

- Provide the highest quality care to children with neuromusculoskeletal conditions, burn injuries and other special healthcare needs within a compassionate, family-centered and collaborative care environment.
- Provide for the education of physicians and other healthcare professionals.
- Conduct research to discover new knowledge that improves the quality of care and quality of life of children and families.

Vision:

- Shriners Hospitals for Children will be the unquestioned leader, nationally and internationally, in caring for children and advancing the field in its specialty

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Our Commitment to the Community

Shriners Hospitals for Children — Houston has been an important healthcare resource to the greater Houston area and beyond for over 90 years. It is a founding institutional member of the Texas Medical Center, which is the largest medical center in the world.

The Shrine Fraternity recognized a need for quality pediatric care, regardless of the patient's ability to pay. To that end Arabia Temple opened Arabia Temple Crippled Children's Clinic in 1920. From 1920 to 1932, this clinic operated out of the Baptist Sanitarium. As the number of patients seen increased, a need for a larger space became evident. In 1932, the clinic moved to Methodist Hospital, where it stayed until 1949. In effort to increase the services provided to the children in the greater Houston area, the clinic moved again in 1949 to one of the two largest hospitals in operation at that time, Hermann Hospital. In 1952, Arabia Temple Crippled Children's Hospital opened its doors. The hospital retained its close ties to Hermann Hospital and Memorial Hermann Healthcare System when Hermann Hospital and Memorial Hospital merged in the 1990's. Arabia Temple Crippled Children's Hospital became part of the emerging Shriners Hospitals system in 1966 when it changed its name to Shriners Hospital for Crippled Children. Shriners Hospitals for Children moved one final time in 1996 to its current location.

Our hospital operates 40 beds, two operative suites, extensive outpatient facilities, clinic services, and four parent apartments. Shriners Hospitals for Children — Houston has a total medical staff of over 78 members, a hospital staff of 161 FTE's, and is supported by the 13 Texas Shrine Temples in caring for children from all over Texas, Oklahoma, Western Louisiana, and Northeastern Mexico.

Shriners Hospitals for Children — Houston has carried out the Shriners mission of providing a true continuum of musculo-skeletal care to children. The hospital has provided inpatient and outpatient care for children with the following pediatric orthopaedic disorders:

- Idiopathic clubfeet
- Spina bifida
- Scoliosis
- Arthrogyrosis
- Skeletal dysplasias
- Osteogenesis imperfect
- Brachial plexus
- Congential hand
- Upper extremity issues; and
- Lower extremity prosthetic and limb deficiencies

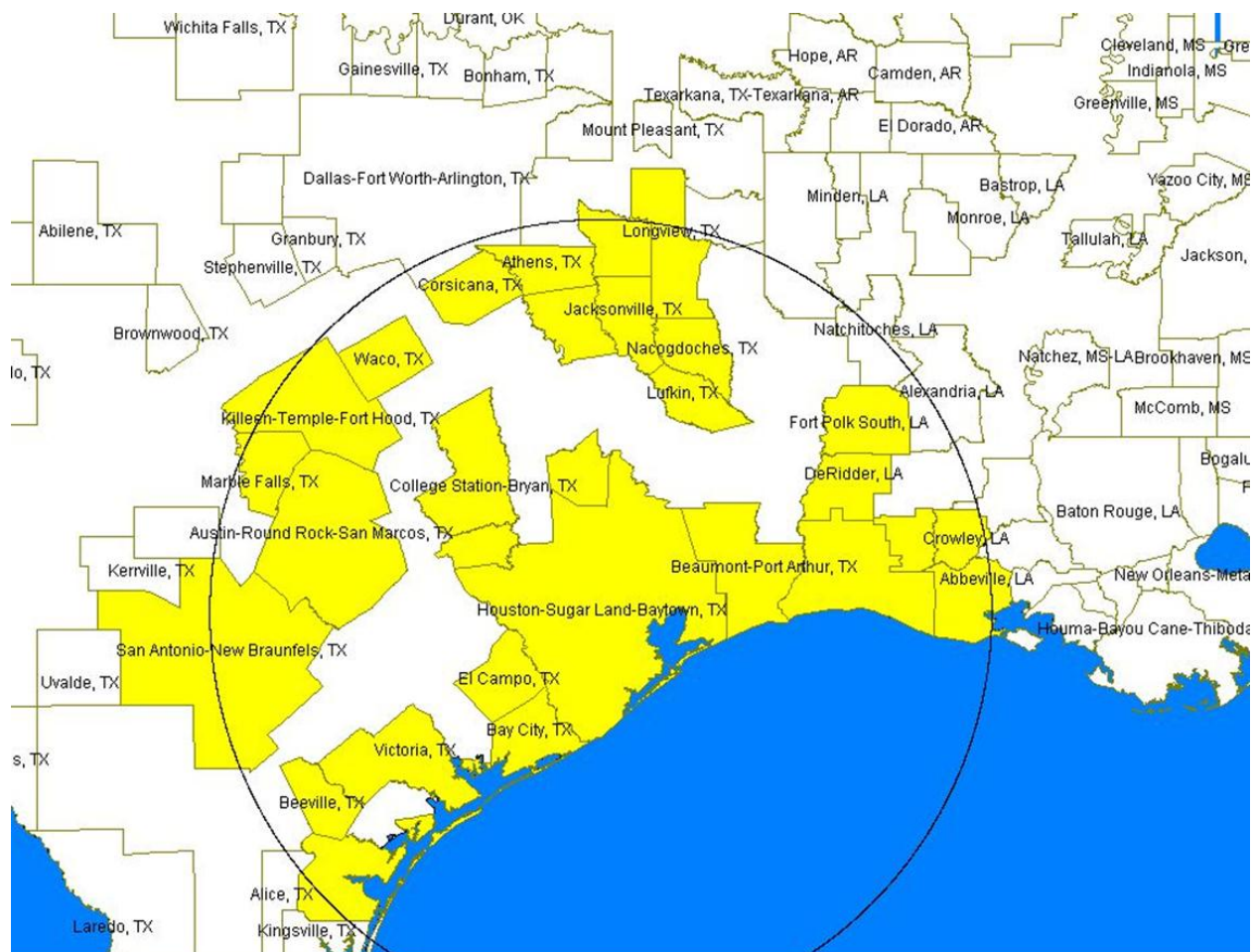
Additionally, Shriners Hospitals for Children — Houston has a certified cleft lip and palate program and is a known referral base for cerebral palsy care in the defined market. Our facility houses a motion analysis laboratory and provides an excellent training ground and clinical research opportunities, due to its unique pediatric pathology that is not replicated in other hospital within the Texas Medical Center. Shriners Hospitals for Children — Houston trains residents and fellows from four major Texas Medical Schools: Baylor College of Medicine, Scott & White Texas A&M University, The University of Texas Health Science Center at Houston, and Methodist Hospital. In combination with existing medical staff, these residents and fellows conduct genetic research in cleft lip and palate with scientific staff from The University of Texas, Health Science Center at Houston. All of the above components contribute to the three pronged

mission of Shriners Hospitals for Children — Houston with regards to patient care, education, and research.

Process and Methods

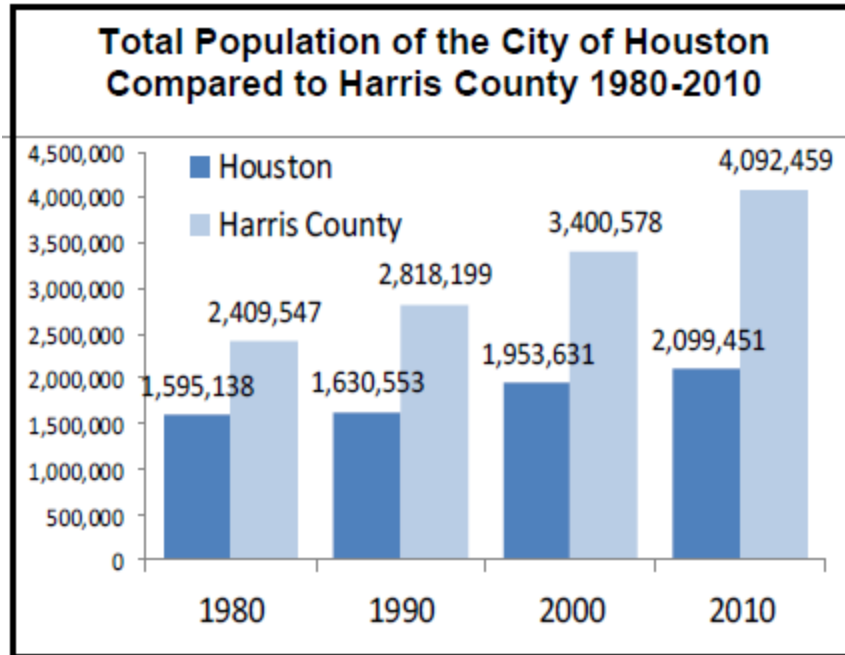
In order to determine major health and social needs, Shriners Hospitals for Children — Houston established the parameters and scope of the Community Needs Assessment. Data was analyzed from numerous sources including: Texas Department of State Health Services; United States Census Bureau; Centers for Disease Control; The Health of Houston Survey: A First Look at 2010; and the State of Health in Houston and Harris County 2012.

Shriners Hospitals for Children — Houston has been providing pediatric orthopaedic care free of charge as a hospital since 1966 in the Texas Medical Center. Based on information provided by Truven Health Analytics, Shriners Hospitals for Children — Houston service area includes Western Louisiana, the Gulf Coast Region of Texas, extending northward to the Dallas/Fort Worth Metropolis and westward to the metropolitan areas of Austin and San Antonio. The figure below represents this data graphically:



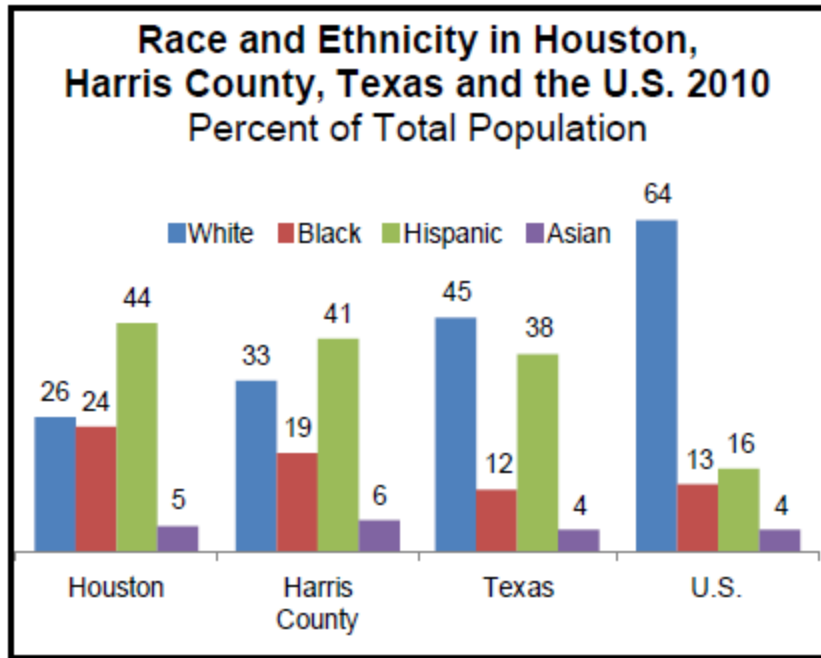
Harris County is the third most populous county in the United States, with an estimated 4.1 million residents in 2010, according to the U.S. Census Bureau. Of those, approximately 2.1

million, or 51%, were residents of the City of Houston. While most of the City of Houston is contained within Harris County, Houston does extend into Fort Bend County to the Southwest and Montgomery County to the North. Harris County has a growing population. The county population doubled during the years from 1970 to 2000, and increased by 20.3% from 2000 to 2010. The City of Houston itself saw an increase in population to a lesser degree, only 7.5% during 2000 to 2010.



Source: U.S. Census Bureau

Harris County’s population is also diverse, even more so than other regions of Texas and the United States. According to the U.S. Census 2010, Harris County has a greater proportion of African American and Asian residents, compared to other areas of Texas or the U.S., along with a significantly higher proportion of Hispanic residents compared to the U.S. Population. The number of Hispanic residents in the City of Houston is also greater than Harris County by 43.8%.



Source: U.S. Census Bureau, 2010

Census figures also show that an estimated 28% of county residents are under the age of 18, as compared to 24% of the U.S. population. There is an almost equal distribution of males and females, with 50.2% males reported in Harris County and Houston, and 49.8% females.

Texas was also noted to have the highest rate of uninsured persons in the nation. Just over one in four Texas residents or 26% is without any form of health insurance, comparable to 17% of U.S. Residents. Rates are even greater when children and elderly are excluded. At all ages, un-insurance rates are higher in Texas than the U.S. These are higher in the Houston Region (Houston – Baytown – Sugarland Metropolitan Statistical Area)

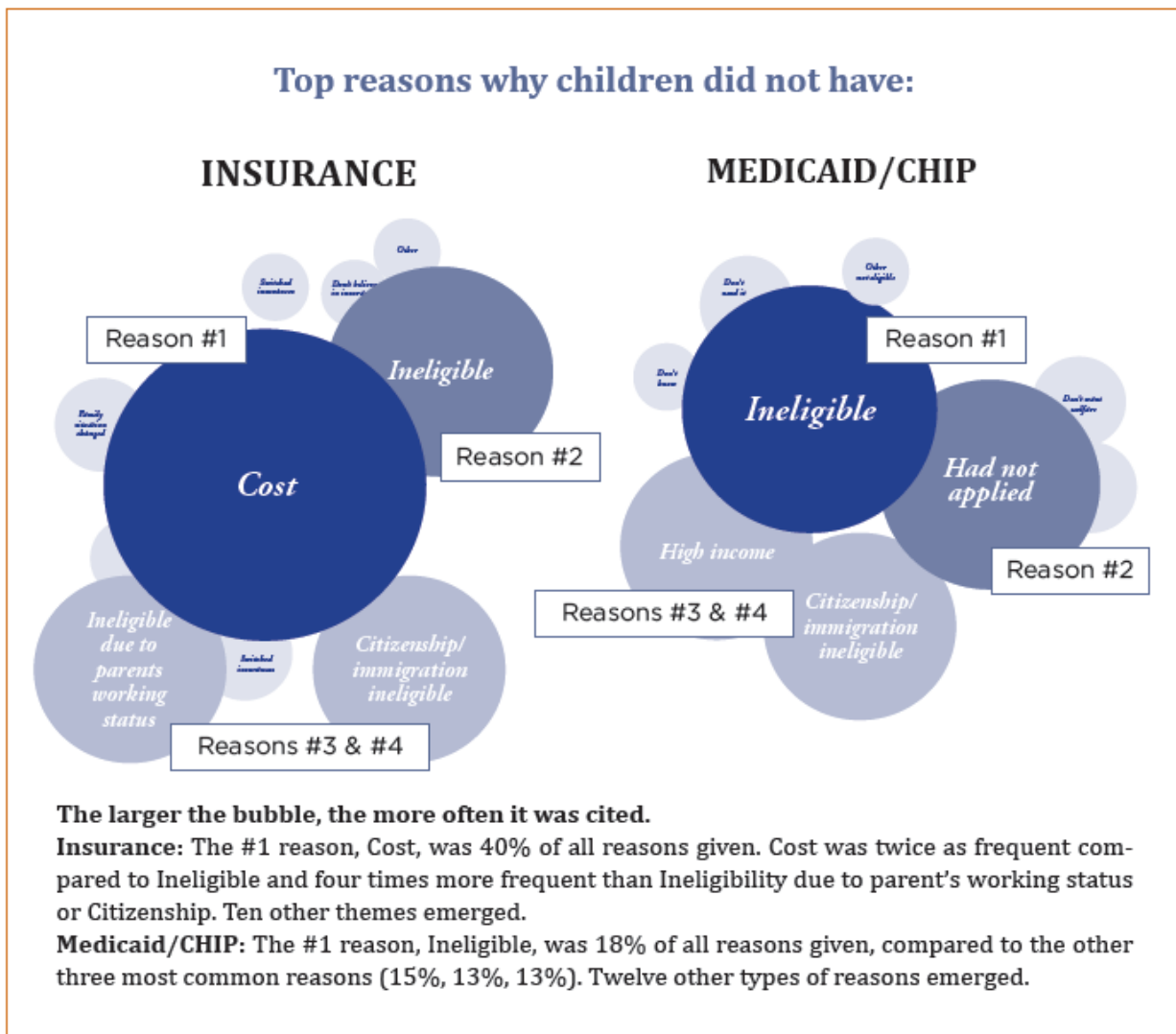
2010 American Community Survey, 1-Year Estimates: Uninsured				
	All Ages	Under 18	18 to 64	65 & older
United States	15.50%	8.00%	21.40%	1.00%
Texas	23.70%	14.50%	31.40%	2.10%
Houston MSA	25.30%	16.00%	32.30%	3.70%
Harris County	27.90%	17.70%	35.40%	4.30%
City of Houston	30.90%	18.90%	39.40%	3.50%

Source: U.S. Census. Available at www.census.gov.

To help offset this disparity, The Children’s Health Insurance Program (CHIP) was introduced. CHIP is designed for children in families who earn too much to qualify for the Medicaid

program, yet not enough to afford private insurance. Parents of these children may not have access to employer sponsored insurance, or if family coverage is available may not be able to afford their portion of the premium. CHIP provides coverage for routine medical care, hospital care, prescription drugs, dental care, and immunizations. Only those Texas residents who are U.S. citizens or legal permanent residents qualify for CHIP.

The chart below, from *Health of Houston Survey 2010: A First Look*, shows the most frequent responses from parents or guardians regarding children who were uninsured. The adults were asked in the survey why their child was uninsured in the last 12 months and why their child was not enrolled in either Medicaid or CHIP. For children who did not have primary medical insurance, cost was given as the primary factor. For the children who did not have health coverage, but also were not enrolled in Medicaid or CHIP, lack of eligibility was cited.



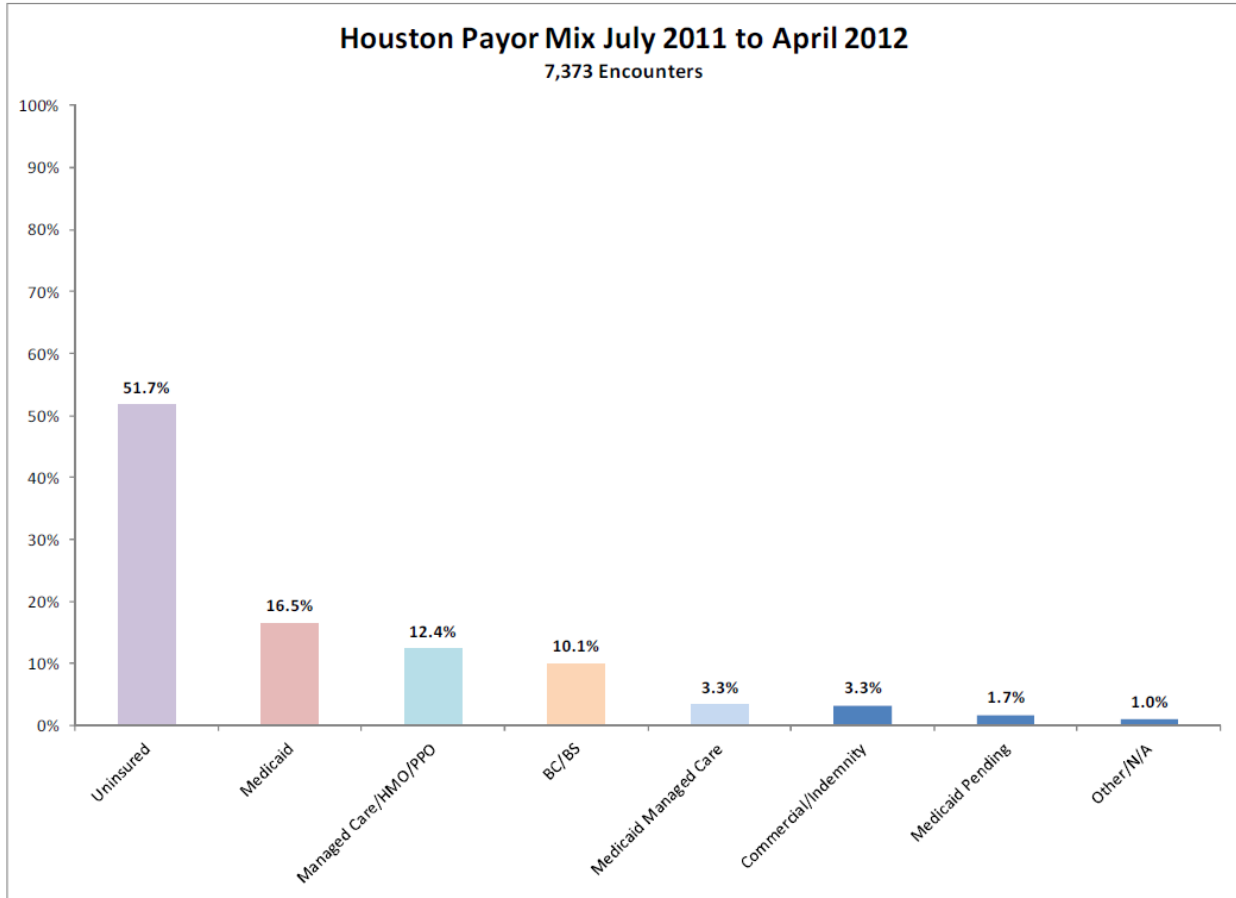
Source: *Health of Houston Survey 2010*

With the proposed health care reform, the number of pediatric uninsured is predicted to decrease, as evidenced by the chart below showing an increase in the number of children enrolled in CHIP.

CHIP August Enrollment in Harris County 2006-2011										
	Age <1		Age 1-5		Age 6-14		Age 15-18		Totals	
Year	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent
2006	258	13.6%	14,273	10.9%	49,147	10.9%	16,421	10.3%	80,099	10.8%
2007	175	9.2%	15,049	11.5%	53,502	11.9%	17,708	11.2%	86,434	11.6%
2008	428	22.6%	25,028	19.1%	81,906	18.1%	27,783	17.5%	135,145	18.2%
2009	387	20.4%	24,870	18.9%	84,524	18.7%	29,733	18.7%	139,514	18.8%
2010	388	20.5%	25,610	19.5%	89,982	19.9%	33,067	20.8%	149,047	20.0%
2011	257	13.6%	26,505	20.2%	92,379	20.5%	34,002	21.4%	153,143	20.6%
Total	1,893	100%	131,335	100%	451,440	100%	158,714	100%	743,382	100%
Percent by Age	0.25%		18%		61%		21%		100%	

Source: Texas Health & Human Services Commission. CHIP Enrollment Statistics. Available at <http://www.hhsc.state.tx.us/research/CHIP/ChipDataTables.asp>

That being said, Shriners Hospitals for Children — Houston has continued to witness a high uninsured population as evidenced by the claims generated since July of 2011. The chart below shows that over half of the encounters generating claims come from an uninsured population. Medicaid and Medicaid Managed Care is the highest occurring Payor with the combined total of 28.9%.



Key Findings

The Houston/Harris County State of Health Committee released an executive summary of their survey findings. In this summary, the committee identified 14 health indicators there were believed to be of most importance to the City of Houston and Harris County. These health indicators are:

- Obesity – Youth
- Obesity – Adults
- Physical Activity
- Adolescent Pregnancy
- Prenatal Care
- Infant/Maternal Mortality
- Insurance Access
- Behavioral Health Emergency Room Access
- Air Quality
- Asthma
- Diabetes
- Cancer
- Heart Disease/Stroke
- Sexually Transmitted Diseases

Being that Shriners Hospitals for Children — Houston is a pediatric specialty hospital, we must focus our efforts on those areas of concern for pediatric patients only; specifically those with orthopaedic conditions or cleft lip and palate. That narrows the above list considerably. Our hospital currently has a licensed dietician on staff to counsel patients and family members on healthy eating and any nutritional deficits the patient may exhibit.

Access to care and funding has been a factor in the daily operation of Shriners Hospitals for Children — Houston since its inception. Patients are admitted based on medical need versus ability to pay. As we have seen the number of uninsured children rise, the Hospital has begun to take an active role in assisting families with obtaining insurance through various state and federal program where applicable. We employ several licensed social workers who work with those families identified at the time of admission that are in need of financial assistance. In the event that the family is not able to receive outside funding, the patient is then enrolled in the Hospital's charity care program.

In addition to reviewing the information made available by the Houston/Harris County State of Health Committee, Shriners Hospitals for Children — Houston was also approached by Children's Memorial Hermann Hospital and Texas Children's Hospital. Children's Memorial Hermann Hospital was looking for a new partner to provide sub-acute care and inpatient rehabilitation services. Several years ago, Memorial Hermann Healthcare System announced that it would be significantly reducing its pediatric inpatient rehabilitation services offered at Texas Institute of Research and Rehabilitation; with the end goal being to cease offering pediatric rehabilitation services altogether. Texas Children's Hospital was also looking for a reputable referral option for sub-acute care. Shriners Hospitals for Children — Houston has maintained a long, positive working relationship with Memorial Hermann Healthcare System, and Texas Children's Hospital provides otolaryngology services as part of our cleft lip and palate program. Therefore, a collaboration with these two entities was a natural progression of

our current partnerships. In addition, we have included a new position in our action plan. We are hiring a care manager. This person will be a registered nurse whose job duties will include assisting with patient transfers from other hospitals, in addition to traveling to various healthcare providers in and outside the medical center to identify those patients that would benefit from our new service line.

Sub-acute care is a comprehensive, cost-effective, and outcome oriented approach to care for patients requiring short-term, complex medical and/or rehabilitation interventions provided by a physician directed interdisciplinary professional team. Sub-acute services are administered through a defined program without regard to setting. This service is an inpatient admission and is an alternative to an acute care hospital admission or as an alternative to continued hospitalization.

There is currently only one facility that provides this type of care for pediatric patients in Houston. That facility is not located in the Texas Medical Center (15 miles away), and is a for-profit hospital. We also learned through discussion with different Medicaid providers that several of them will not cover an admission to that facility because of their high charge structure.

The sub-acute/transitional care unit is defined as a short stay unit of typically 5 – 30 days with nursing acuity of 3.5 – 5.0 hours per patient day; for patients, ages 0 – 18 years. The sub-acute care unit serves as a hospital step-down and serves as a substitute for a more acute stay. Shriners Hospitals for Children — Houston is a 40 bed hospital. Our primary specialty is that of orthopaedics. In recent years, we have noted a shift in the method of treatment from inpatient to outpatient surgery. This means that we have excess bed space in our hospital. We can designate 15 – 20 beds in our current inpatient unit for the following:

- Rehab Diagnosis (assumes ability to participate in 3 hours of therapy a day) with regular medical care and monitoring
- Highly skilled and high acuity nursing care
- Physical therapy: balance and posture, strength and coordination, walking, and movement therapy
- Occupational therapy: hand coordination, self-care skills, splinting for hands and feet, visual motor perception, and sensory motor skills
- Speech Therapy: language testing, swallow studies, thinking skills, voice therapy, and oral/motor feeding treatment
- Aquatic therapy: to build circulation, respiratory rate, muscle metabolism, strength, flexibility and ease of movement while reducing pain through decreased weight-bearing and reduced joint stress
- Pharmaceutical, radiology, and laboratory services
- Multiple stage III and IV decubiti wound care
- Rehabilitation for cerebral vascular accidents
- Orthopaedic rehab related to surgeries, such as prosthetic training and ongoing rehabilitation after multi-level cerebral palsy surgeries
- Child life therapy
- Orthotic and Prosthetic services
- Respiratory care therapy
- Wheelchair assistance
- Day hospital program which will include school services (Houston ISD)
- Psychologist services
- Comprehensive care coordination expertise/support services

Action Plan

Shriners Hospitals for Children — Houston is proposing to place a sub-acute/transitional unit in its existing inpatient unit. There are presently 18 available beds – both semi-private and private rooms. The unit will be operational 24/7. Staffing will consist of all services:

- Pediatric physician coverage, attending physicians, and residents. Oversight of medical care will be done by the Chief of Staff. On staff through contract now is a full time pediatrician with University of Texas providing call coverage. More pediatric coverage would be considered over the next several months, if necessary.
- 1.0 Physical Medicine and Rehabilitation Physician – oversight by Chief of Staff. This PM & R physician could also assist the orthopaedic surgeons in our prosthetic clinics, spina bifida clinics, and with oversight over the sub-acute unit.
- Therapy modalities: Physical Therapy (PT), Occupational Therapy (OT), and Speech Therapy
- Nursing Services including RNs, Patient Care Assistants, and health unit coordinators
- Case Management – RNs and Social Work care coordinators
- Ancillary clinical services – orthotics, radiology, pharmacy, lab, and respiratory therapy
- Schoolroom and teacher support

We are prepared to operate the therapy services, nursing services, and Child Life services on the weekends. Evaluation of the need for case management, lab, pharmacy, and orthotics for weekend hours would occur in the first several months of operation. After a six-month timeframe, we will re-evaluate and make changes as needed to expand and improve programs.

Respiratory therapy is a “contract” service with Texas Children’s Hospital. This is another area for ongoing evaluation as we will not be accepting ventilator dependent patients in the initial phase of this program.

The speech therapist is currently part-time and has the ability to expand hours. Expectations would be developed for amount of time needed for speech therapy.

Our current contract with the Houston ISD states will provide 1 teacher. This teacher provides 4 hours of instruction per week to enrolled students. We are anticipating that this current arrangement will be insufficient to meet the needs of our new patient load. There also may be some resistance from Houston ISD in providing more staff for our classroom.

As we expand in our new sub-acute role, we are planning to add a part-time classroom aide. This aid will be an employee of Shriners Hospitals for Children — Houston. This will allow us to ensure that educational services are provided to the patients Monday through Friday regardless of the Houston ISD teacher’s other responsibilities outside of our hospital. The aide will have to be bilingual and have a minimum of an Associate’s degree and experience working with children. They will be responsible for continuing the lesson plans outlined by the Houston ISD teacher and help translate for non-English speaking patients.

At the present time, we do not provide cafeteria services to our patients or staff on the weekends. Orders are placed with an outside vendor for those patients remaining in the hospital over the weekend. This would need to change with the average daily census on the weekend increasing to 10 or more. We would also have to consider a number of visitors and parents in this proposal. The dietician we currently have on staff is part-time and further

evaluation of that role expansion will also need to occur, especially with feeding issues, possible tube feedings, and other dietary requirements for our new patient population.

Timeline for Implementation:

July 2012 – Business Plan for addition of sub-acute/transitional care as an added service line for Shriners Hospitals for Children — Houston submitted and approved by Board of Trustees.

August 2012 – Staff positions posted; interviews occur

October 2012 – Bids received for capital equipment purchase

December 2012 – Bids received for construction costs

January 2013 – Construction Projects in Progress

March 2013 – Patients accepted in the sub-acute unit

Shriners Hospitals for Children — Houston already has several quality indicators and monitors in place in our surgery department and inpatient unit. We will need to develop an outcome measurement system to measure our success and areas of needed improvement. Data capture will include:

- Patient Outcome Goals
- Funded patients versus non-funded patients
- Discharges
- Hours per patient days
- Services Utilized
- Cost per unit of Service
- Outside consults and services that we have to outsource and the cost incurred with these services
- Nosocomial infection rates
- Patient falls statistics
- Employee injuries due to change in patient population with requires lifting and positioning
- Patient satisfaction
- Clinical and functional outcomes from PT and OT.

Acknowledgments

The following institutions and organizations were instrumental in the preparation of this report:

- Children's Memorial Hermann Hospital
- Texas Children's Hospital
- US Census Bureau
- Texas Department of State Health Services
- Health of Houston Survey 2010, The University of Texas Health Science Center at Houston School of Public Health
- The State of Health Houston and Harris County 2012