



TEXAS HEALTH CARE INFORMATION COLLECTION

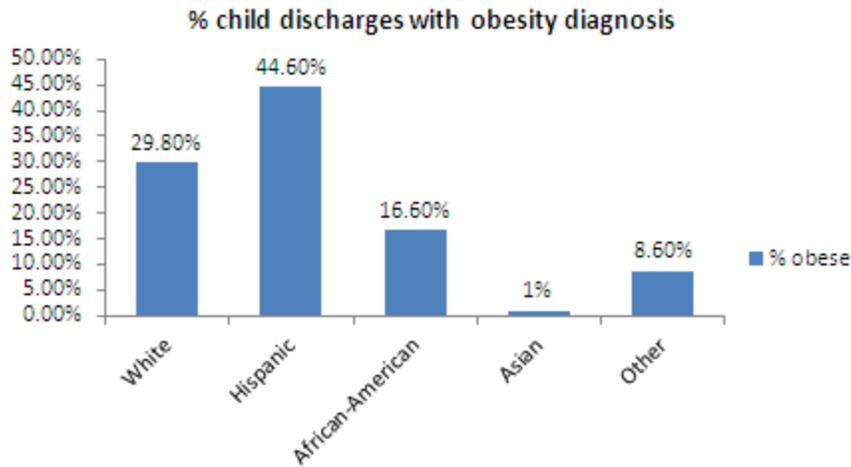
Childhood Obesity in Texas, 2010 Hospital Discharge Data

Obesity is a national epidemic and CDC reports that obesity affects 17% of all children and adolescents in the United States. Childhood obesity is a serious problem that has tripled from just one generation ago (CDC, 2012). By 2010, almost one in five children greater than five years of age was obese. Childhood obesity is dangerous due to the health issues it may cause, but also due to the fact that most obese children grow up to be obese adults, with even more serious health issues. Obesity is a main contributor to all of the leading causes of death in the United States, such as high blood pressure, heart disease, diabetes and some cancers. For obese children, adverse health outcomes such as high blood pressure, high cholesterol, breathing difficulties, joint and musculoskeletal problems, gastrointestinal reflux disease, fatty liver disease, gallstones and Type II diabetes are prevalent and become more serious into adulthood (CDC, 2012).

In Texas, one in three children are obese including almost half of all Hispanic children. Measures are being implemented to address this health issue, however, there is a two-thirds chance of these obese children becoming obese adults by age 35 with even more costly and serious health issues. By 2005, the cost of adult obesity was already at 3.3 billion dollars a year for Texas businesses (Arons, 2011).

The Texas Health Care Information Collection (THCIC) collects data from Texas hospitals on patient discharges, with the exception of some hospitals in rural areas that are exempt from reporting. The Public-use hospital discharge data was analyzed for the discharges in which there was a childhood obesity diagnosis. In 2010, there were 3,495 hospital discharges for children (age 0-17) with obesity. There were a total of 1,557 (44.6%) Hispanic children discharged with a diagnosis of obesity, 1,040 (29.8%) White children, 579 (16.6%) African-American children, 17 (less than 1%) Asian children and 302 (8.6%) Other race children discharged with a diagnosis of obesity (Chart 1).

Chart 1: Race/Ethnicity of Children* with a Discharge Diagnosis of Obesity, 2010



*Children ages 0 to 17 years of age, either primary or secondary diagnosis of obesity. Texas THCIC Public Use Data File, 2010

In 2010, 45 discharges were for children (age 0-17) with obesity as a primary diagnosis and 3,450 discharges for children with a secondary diagnosis of obesity (Table 1).

Table 1. Age Group of Texas Hospital Discharges with a Diagnosis of Obesity

Age Group	All Discharges	Primary diagnosis	Secondary Diagnosis	%
0-4	154	3	151	4.4
5-9	472	0	472	13.5
10-14	1,354	2	1,352	38.7
15-17	1,406	39	1,367	40.2
Unknown	109	1	108	3.2
Total children	3,495	45	3,450	100

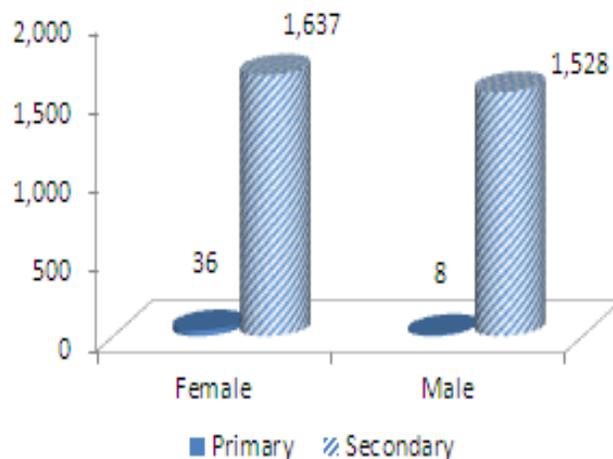
As seen in Table 1 above, the overall percent of obese children increases with age. However, very few children are hospitalized with a primary diagnosis of obesity. Of the 45 children with obesity as a primary diagnosis, 3 were in the 0-4 age-group, none were in the 5-9 age-groups, 2 were in the 10-14 age-groups, 39 were in the 15-17 age groups, and one was unknown.

For those children with a primary diagnosis of obesity, 36 (80.0%) were female and 8 (17.8%) were male (Chart 2). The racial/ethnic breakout for this group of obese children included 17 (38.0%) White, 15 (33.3%) Hispanic, 6 (13.3%) African-American, 6 (13.3%) "Other" race and 1 (2.2%) Asian.

A total of 3,450 hospital discharges were for children with a secondary diagnosis of obesity. Of the hospital discharges for children with a secondary diagnosis of obesity there were 151 (4.38%) in the 0-4 age group, 472 (13.68%) in the 5-9 age group, 1,352 (39.19%) in the 10-14 age group, and 1,367 (39.62%) in the 15-17 age group (Table 1).

Of these secondary diagnoses, 1,637 (47%) were female and 1,528 (44%) were male. The racial breakout was somewhat different with the secondary diagnoses with Hispanic children representing the highest percentage of diagnoses: 1,542 (44.7 %) Hispanic, 1,023 (30.0%) White, 573 (16.6%) African-American, 296 (8.6 %) Other, and 16 (<1%) Asian.

Chart 2. Gender of Childhood* Hospital Discharges with a Diagnosis of Obesity, 2010

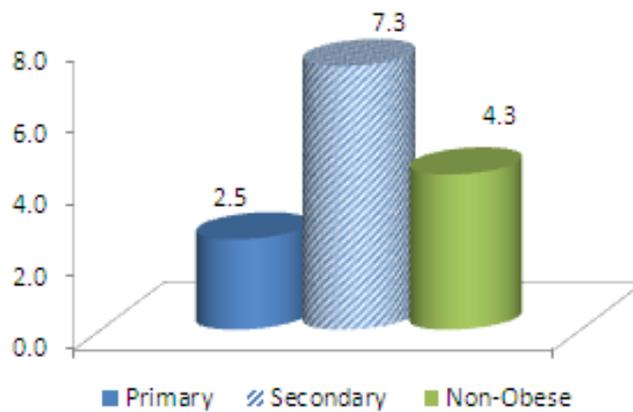


*Children ages 0 to 17 years of age
Texas THCIC Public Use Data File, 2010

The number of days spent in the hospital, known as the length of stay (LOS), was examined for those child discharges where the principal diagnosis was obesity, as compared to the secondary diagnoses of obesity. The length of stay for the childhood discharges without obesity as either the principal or secondary diagnosis was compared as well. The mean length of stay for the children with a primary diagnosis of obesity was 2.5 days. For those children with a secondary diagnosis of obesity, however, the mean length of stay was 7.3 days, three days longer than that of the children without a primary or secondary diagnosis of obesity, (4.3 days, - Chart 3).

Chart 3. Childhood* Hospital Length of Stay (LOS) with an Obesity Diagnosis, 2010

Mean LOS (in days) per Hospital Discharge



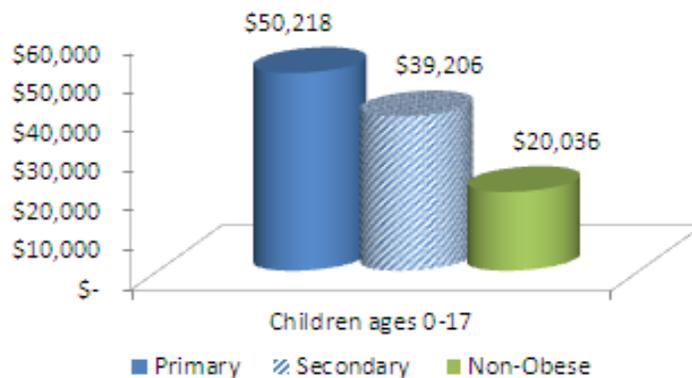
*Children ages 0 to 17 years of age
Texas THCIC Public Use Data File, 2010

Despite the comparatively lower length of stay for a primary diagnosis of obesity, the mean charge per discharge was higher for those children (\$50,218/discharge), compared to those with a secondary diagnosis of obesity (\$39,206/discharge) (Chart 4).

When examining the charges for the secondary diagnoses of obesity, the mean charge per discharge was less than those children with a primary diagnosis of obesity (described above), and for those children without either a primary or secondary diagnosis of obesity, the mean charge was lower at \$20,036 (Chart 4).

Chart 4. Childhood Hospital Discharges* with a Diagnosis of Obesity, 2010

Mean Charge per Hospital Discharge



*Children ages 0 to 17 years of age
Texas THCIC Public Use Data File, 2010

As Chart 4 demonstrates, the mean charges per obese-child discharges are higher than for non-obese child discharges, both for the primary diagnosis of obesity and for the secondary diagnosis of obesity. This may indicate more complicated medical problems that increase charges and more procedures needed to address the more serious health issues. The more exact diagnosis may prove helpful as to why this is: 43 of the 44 children with a primary diagnosis of obesity and 547 of those with a secondary diagnosis of obesity were “morbidly obese”, and 2 children were diagnosed with “obesity hypoventilation syndrome”. Additionally, more complicated medical problems that increase charges and more serious health issues are likely reasons for the increased charges. The Risk of Mortality and Severity of Illness scores are elevated for the obese children when compared to the non-obese.

The Severity of Illness and Risk of Mortality indicators for the obese children exhibited higher scores (more severe, higher risk) at greater percentages (Table 2).

Table 2.
Risk of Mortality (1-4*) and Severity of Illness (1-4*) for Obese versus Non-Obese Children

Risk of Mortality	1	2	3	4
Obese	88.3%	7.8%	2.8%	1.2%
Non-Obese	93.6%	4.2%	1.5%	<1%
Severity of Illness	1	2	3	4
Obese	30.8%	52.9%	13.0%	2.5%
Non-Obese	67.6%	23.3%	7.3%	1.8%

* 1=minor, 2 =moderate, 3 = major, 4= extreme

In addition to the teasing, ridicule and embarrassment experienced by obese children, it has been noted that not only do their bodies and self-esteem suffer, but academic performance and lower life-long productivity become issues as well. Development of life-long chronic disease may permanently impair their health and hence quality of life is grossly affected (Arons, 2011).

It is important, however, to recognize that childhood obesity can be effectively treated and healthier habits can be learned, particularly at younger ages. The 81st Texas Legislature initiatives (e.g., SB282, SB870, SB1016, and SB1622) and others by Children’s Hospitals in Texas have focused efforts to address the health of obese children, particularly the more severely ill obese child. Additionally, community-based models emphasizing prevention with early interventions at schools and various local organizations are being promoted. Many Texas hospitals partner with the communities to educate families, and promote healthy lifestyles (Arons, 2011). With these efforts, the potential exists for children, families and communities to improve health outcomes and quality of life for Texas children.

References:

Arons, Abigail (2011). Childhood Obesity in Texas. Prepared for the Children's Hospital Association of Texas. Report available at:
<http://www.childhealthtx.org/pdfs/Childhood%20Obesity%20in%20Texas%20Report.pdf>

Texas Health Care Information Collection (THCIC) Public Use Data File (2010). Available at:
<http://www.dshs.state.tx.us/thcic/hospitals/Inpatientpudf.shtm>

The Centers for Disease Control and Prevention, (2012). Childhood Overweight and Obesity. Division of Nutrition, Physical Activity and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Available at: <http://www.cdc.gov/obesity/childhood/>

The Centers for Disease Control and Prevention, CDC, (2012). Health Risk Factors – Obesity Among Children, Health in the United States, pg.14. Available for download at:
<http://www.cdc.gov/nchs/data/hus/hus11.pdf> , (Excel and PowerPoint):
<http://www.cdc.gov/nchs/hus/contents2011.htm#fig10> and
<http://www.cdc.gov/nchs/data/hus/2011/fig25.pdf>