



## **Facts and Figures: Statistics on Hospital-Based Care in Texas, 2009**

This report provides an overview of hospitalizations in Texas during 2009. The information contained in this report is intended for anyone interested in a better understanding of services provided by hospitals and the characteristics of patients who received them.

The report summarizes information from the Department of State Health Services' Texas Health Care Information Collection (THCIC) hospital inpatient discharge data, collected from most hospitals in Texas. The program publishes reports to help the public better understand health care in the state.

The THCIC hospital inpatient discharge data for 2009 includes information on over 2.9 million discharges from Texas hospitals. The data was collected from over 500 state-owned and -licensed hospitals and covers about 95 percent of all hospitalizations in Texas. The hospitals include general hospitals and specialty facilities such as children's hospitals, women's hospitals, rehabilitation facilities and psychiatric hospitals. Most of the hospitals located in rural counties are exempted from reporting their data and are not included in this report.

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## HIGHLIGHTS

This publication presents information derived from the 2009 hospital inpatient discharge Public Use Data File (PUDF) collected by the Texas Health Care Information Collection (THCIC). It includes information derived from discharge records for patients treated in 2009 in over 500 Texas hospitals, including all licensed and state-owned hospitals in the state. Most hospitals in counties with a population less than 35,000 are not required to report and are not included.

<b>OVERVIEW STATISTICS FOR INPATIENT HOSPITAL STAYS</b>	<b>EXHIBIT</b>
The total number of hospital stays in Texas was 2,947,155 in 2009. There were 119 hospital stays for every 1,000 persons in Texas.	1.1
The average hospital charge per stay was \$40,301. The aggregate charges for hospitalizations were about 118,579 million statewide.	1.1
The average length of hospital stays was 5.3 days with a daily charge at \$7,621.	1.1
Medicare and Medicaid were the expected primary payers accounting for 32.4 percent and 22.4 percent of all hospital stays, respectively.	1.2
Private insurance was the expected primary payer accounting for 26.7 percent of all hospital stays. The uninsured accounted for 9.3 percent of all hospital stays.	1.2
The most common patient discharge status was routine, accounting for 77.4 percent of all hospital stays.	1.3
Uninsured stays accounted for 26.7 percent of all stays discharged against medical advice, while only 9.2 percent of all other stays were uninsured.	1.3
There were 29 hospital stays for every 1,000 children ages 1-17 and 571 hospital stays for every 1,000 elderly ages 85 and over.	1.4
There were 1,100 hospitalizations per 1,000 infants under one year old.	1.4

<b>INPATIENT HOSPITAL STAYS BY DIAGNOSIS</b>	<b>EXHIBIT</b>
Pregnancy and childbirth (14.4 percent of all stays) and newborns (13.5 percent of all stays) were the first two most common reasons for hospitalizations.	2.1
Circulatory conditions ranked third among reasons for hospitalizations and accounted for 11.6 percent of hospital stays.	2.1
Liveborn (newborn infants) was the most common principal diagnosis and accounted for 13.1 percent of all hospital stays.	2.2
Mood disorders (3.3 percent of all stays) and pneumonia (2.7 percent of all stays) were the second and third most common principal diagnoses for hospitalization.	2.2
When stays related to pregnancy, childbirth, and newborn infants are excluded, hypertension was the most frequent secondary diagnosis and accounted for 37.4 percent of all non-maternal and non-newborn stays with a secondary diagnosis.	2.3

About 88 percent of infants under one year old were discharged as liveborn (newborn infants).	2.4
Mood disorders, pneumonia, and asthma were the first three most common reasons for hospital admission among children ages 1-17.	2.4
Older patients were more frequently admitted with musculoskeletal and cardiovascular conditions.	2.4
Rehabilitation care was the most common principal diagnosis among stays with Medicare as a primary payer.	2.5
All of the top 5 most frequent principal diagnoses with Medicaid as the primary payer were pregnancy and childbirth-related.	2.5
Four of the top 5 most common conditions for private insurance were pregnancy and childbirth-related.	2.5

<b>INPATIENT HOSPITAL STAYS BY PROCEDURE</b>	<b>EXHIBIT</b>
There were 64 percent of all hospital stays involved at least one procedure.	3.1
Blood transfusion was the most frequent procedure and occurred in 13.3 percent of all stays with a procedure.	3.1
Vaccinations and other vascular catheterization were the second and third most frequent procedures; each accounting for about 10 percent of all stays with a procedure.	3.1
Blood transfusion was the most common procedure for adults 45-64, 65-84, and 85 years and older and the fifth for children 1-17 years old.	3.2
Respiratory intubation and mechanical ventilation was a common procedure for infants (under one year old) and elderly (65 years and older).	3.2
Other procedures to assist delivery and appendectomy were the first two most common procedures for children ages 1-17.	3.2
For adults 18-44 years old, all of the top 5 most frequently performed procedures were related to pregnancy and childbirth.	3.2

<b>CHARGES FOR INPATIENT HOSPITAL STAYS</b>	<b>EXHIBIT</b>
Liveborn (newborn infants) was the condition with the highest aggregate charges.	4.1
Three of the top 10 most expensive conditions were cardiovascular (coronary atherosclerosis, acute myocardial infarction, and congestive heart failure) and together they accounted for 7.8 percent of all hospital charges.	4.1
Among the top 10 most expensive conditions, respiratory failure had the highest average charge per hospital stay (\$101,488), about 2.5 times the average charge per stay for all diagnoses (\$40,301).	4.1

Non-elderly adult (18-64 years old) stays accounted for 48.2 percent of the aggregate charges of all hospital stays, and stays for patients 65 years and older accounted for 40.2 percent of all inpatient charges.	4.2
Medicare stays accounted for 44.7 percent of aggregate hospital charges and had the highest average charge per hospital stay (\$55,533) among all primary payers.	4.3
When conditions are grouped by diagnostic category, the circulatory system accounted for the largest share of hospital charges (17.2 percent).	4.4
Nearly 60 percent of charges for circulatory conditions were billed to Medicare, followed by private insurance (18.3 percent).	4.4

<b>WOMEN'S HEALTH</b>	<b>EXHIBIT</b>
About 6 out of every 10 hospitalizations were for females. Specifically, 38.7 percent of all stays were for males, 15.1 percent were for maternal females, and 46.2 percent were for non-maternal females.	5.1
Among patients 18-44 years old, female stays were four times the male stays. For patients 85 years and older, female stays were almost twice as male stays.	5.1
Maternal females accounted for one-quarter of all female stays. Maternal stays were higher than non-maternal stays among age groups 15-19, 20-24, and 25-34 years old.	5.1
Medicare was the primary payer for the largest percentage of male stays (36.0 percent) and non-maternal female stays (41.0 percent).	5.1
Maternal females had an average length of hospital stay of 2.6 days, compared to 4.9 days for non-maternal females and 6.8 days for males.	5.1
On average, hospital charge per stay for non-maternal females was lower than for males. Stays for maternal females had an average charge of \$20,675, less than half of the charge of a non-maternal stay (\$42,666).	5.1
The total hospital charges in Texas were 118,579 million—43.3 percent for males, 48.9 percent for non-maternal females, and 7.7 percent for maternal females.	5.1
Giving birth (mothers) or being born (infants) accounted for about 30 percent of all hospital stays.	5.2
When stays for pregnancy and childbirth are excluded, circulatory conditions were the most frequent cause of hospital stays for both males and females.	5.2
For adults 18 years and older, diagnoses related to pregnancy and childbirth occurred more frequently than other diagnoses.	5.2
Among adults 18 years and older, stays for urinary tract infections were almost 3 times greater for females than males.	5.2
Among adults 18 years and older, more than 60 percent of stays for coronary atherosclerosis were among males.	5.2
Among adults 18 years and older, average charges per stay for the top 10 most frequent principal diagnoses were either lower for females or were similar for males and females except for rehabilitation care and pneumonia.	5.2

Among adults 18 years and older, blood transfusion was the most frequently performed procedure for both sexes when pregnancy and childbirth procedures are excluded.	5.3
Among adults 18 years and older, stays with cholecystectomy and common duct exploration were more than twice as high for females as for males.	5.3
Among adults 18 years and older, two heart-related procedures—diagnostic cardiac catheterization and PTCA—were performed more often for males than females.	5.3
Hospital stays for children ages 0-17 were essentially equally split between males and females.	5.4
Acute bronchitis was a top five condition among infants less than one year old and children 1-4 years old.	5.4
Asthma was a common condition among children 1-4, 5-9, and 10-14 years old.	5.4
Mood disorders and appendicitis were common among children 5-9, 10-14, and 15-17 years old	5.4
Children (0-17 years old) stays with a procedure were nearly 30 percent more for males than for females.	5.4
Other vascular catheterization and blood transfusion were two common procedures performed in children 1-4, 5-9, and 10-15 years old. Respiratory intubation and mechanical ventilation were commonly performed among young children (less than 1 year and 1-4 years old).	5.4
Among all childbirth stays, trauma to vulva and perineum due to childbirth, maternal stay with previous C-section, and other complications of birth were the first three most frequent principal diagnoses.	5.5
Almost all childbirth stays (99.9 percent) had a procedure performed during hospitalizations.	5.5
More than one-third (36.3 percent) of childbirth stays had the cesarean section performed.	5.5

## SECTION 1

### **OVERVIEW STATISTICS FOR INPATIENT HOSPITAL STAYS**

EXHIBIT 1.1      Characteristics of Hospital Stays

EXHIBIT 1.2      Expected Primary Payer

EXHIBIT 1.3      Discharge Status

EXHIBIT 1.4      Patient Age

## EXHIBIT 1.1 Characteristics of Hospital Stays

### Characteristics of Hospital Stays, 2009

Hospital stays	
Total stays	2,947,155
Number of stays per 1,000 population*	119
Total days of care in thousands	15,560
Average length of stay in days	5.3
Hospital charges	
Average charge per stay	\$40,301
Average charge per day	\$7,621
Total aggregate charges in millions	\$118,579

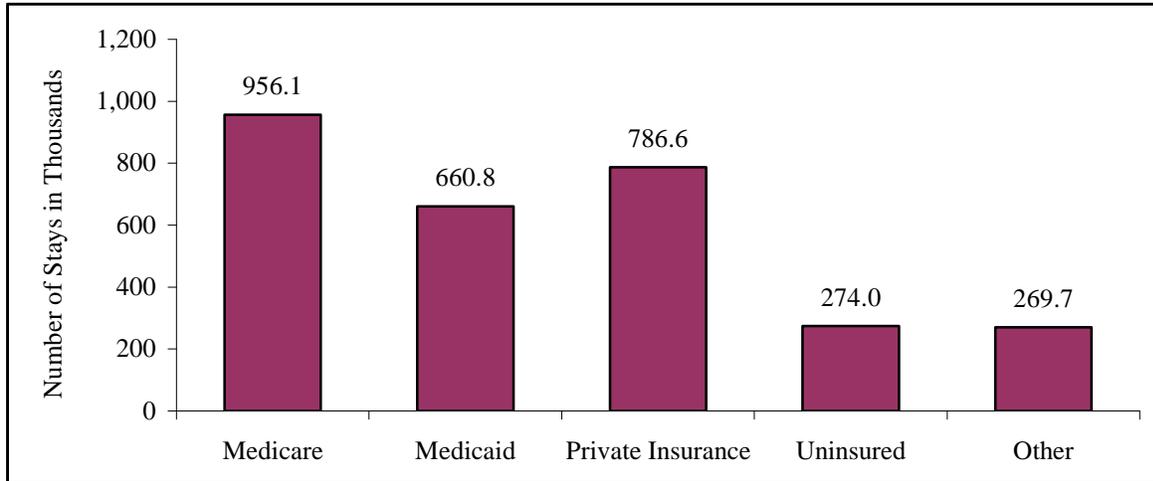
\* Calculated using the Texas population estimates from Texas State Data Center (<http://txsdc.utsa.edu/Data/TPEPP/Estimates/2009/Index.aspx>).

The total number of hospital stays in Texas was about 2.9 million in 2009.

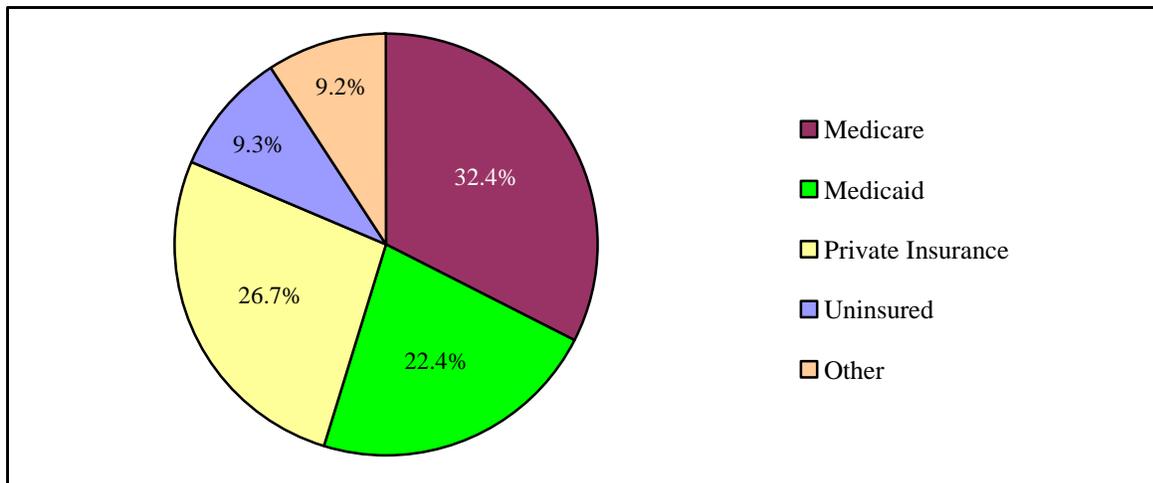
- There were about 119 hospital stays for every 1,000 persons in Texas.
- The average hospital charge per stay on the typical bill was over \$40 thousand and the aggregate charges for hospitalizations were about 118,579 million statewide.
- The average length of hospital stays was 5.3 days with a daily charge at \$7,621.

## EXHIBIT 1.2 Expected Primary Payer

### Number of Hospital Stays by Expected Primary Payer, 2009



### Distribution of Hospital Stays by Expected Primary Payer, 2009



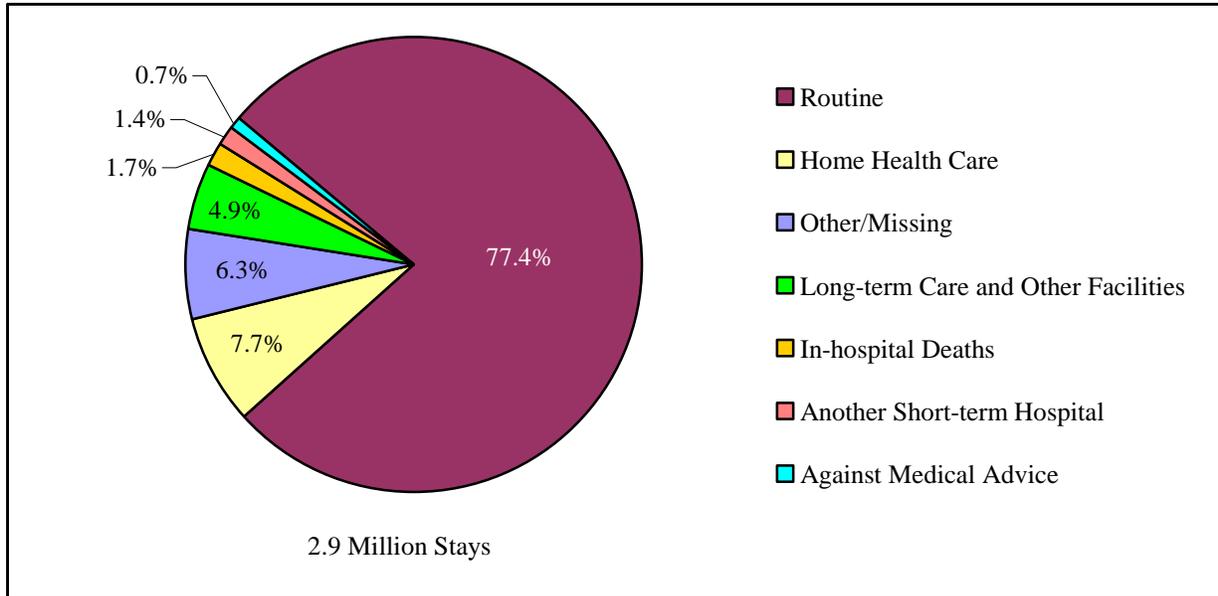
The primary payer bears the major financial responsibility for the hospital stay. However, other payers, including the patients themselves, may also pay part of the cost of hospitalization.

- Medicare, which covers patients who are 65 and older or disabled, was the expected primary payer for about one-third (32.4 percent) of all hospital stays (956 thousand stays).

- Medicaid, the primary source of insurance for low-income families and individuals, was the expected primary payer for 22.4 percent of all hospital stays (661 thousand stays).
- Private insurance was the expected primary payer for 26.7 percent of all hospital stays (787 thousand stays). These stays were primarily for employed persons and their families who received health insurance coverage through their employers.
- There were 9.3 percent of all hospital stays (274 thousand stays) listed as uninsured including stays classified as self-pay or no charge.

## EXHIBIT 1.3 Discharge Status

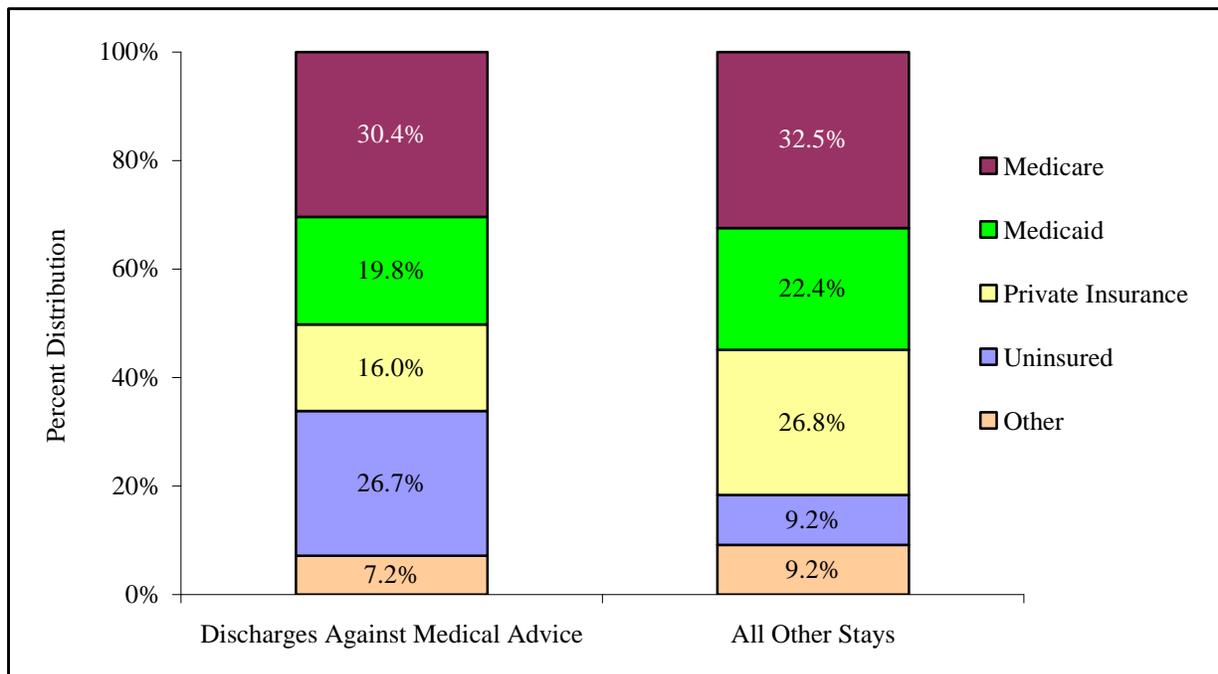
### Distribution of Hospital Stays by Discharge Status, 2009



Discharge status indicates the circumstance surrounding the discharge or where the patient went after discharge from the hospital.

- The most common patient discharge status was routine (77.4 percent), with the patient being sent home without closely-supervised health care.
- Discharge to the home with home health care supervision was the second most common type of discharge, accounting for 7.7 percent of stays.
- Discharge to a long-term care facility accounted for 4.9 percent of stays.
- Remaining discharge circumstances (in-hospital deaths, to another short-term hospital, or discharge against medical advice) each accounted for 2 percent less of stays.

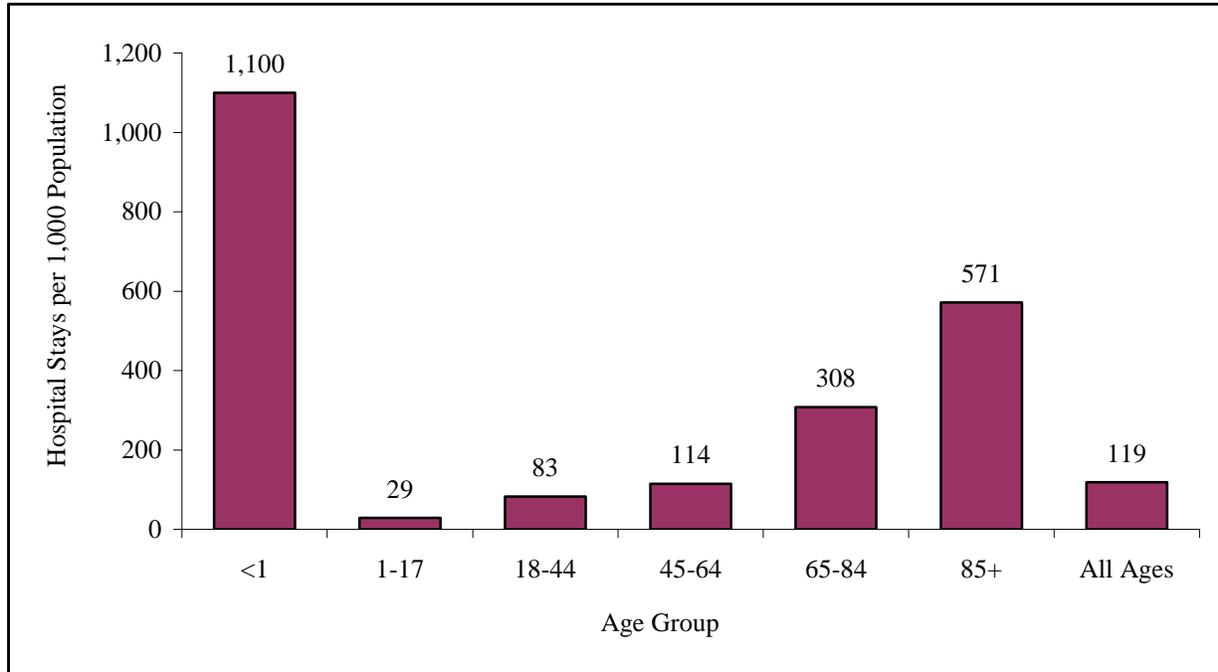
**Distribution of Discharges Against Medical Advice and All Other Hospital Stays by Payer, 2009**



- Uninsured stays accounted for over one-quarter (26.7 percent) of all stays discharged against medical advice, while only 9.2 percent of all other stays were uninsured.
- Conversely, private insurance covered 16.0 percent of discharges against medical advice, but over one-quarter (26.8 percent) of all other stays.
- Government payers, Medicare and Medicaid, were billed for about half (50.2 percent) of discharges against medical advice, which was comparable to all other stays (54.9 percent).

## EXHIBIT 1.4 Patient Age

### Hospital Stays per 1,000 Population by Age\*, 2009



\* Calculated using the Texas population estimates from Texas State Data Center (<http://txsdc.utsa.edu/Data/TPEPP/Estimates/2009/Index.aspx>).

Across all age groups, there were 119 hospital stays for every 1,000 persons in Texas. In general, increased age (from one year old) is often associated with a greater chance of hospitalization.

- There were only 29 hospital stays for every 1,000 children ages 1-17, but there were 571 stays for every 1,000 elderly ages 85 and over.
- While older age was generally associated with higher hospitalization rates, infants younger than one year of age experienced the highest rate of hospitalization: 1,100 hospitalizations per 1,000 infants. This high rate of hospital stays occurred because nearly all births happen in the hospital and some infants require additional hospitalization in the first year of life.

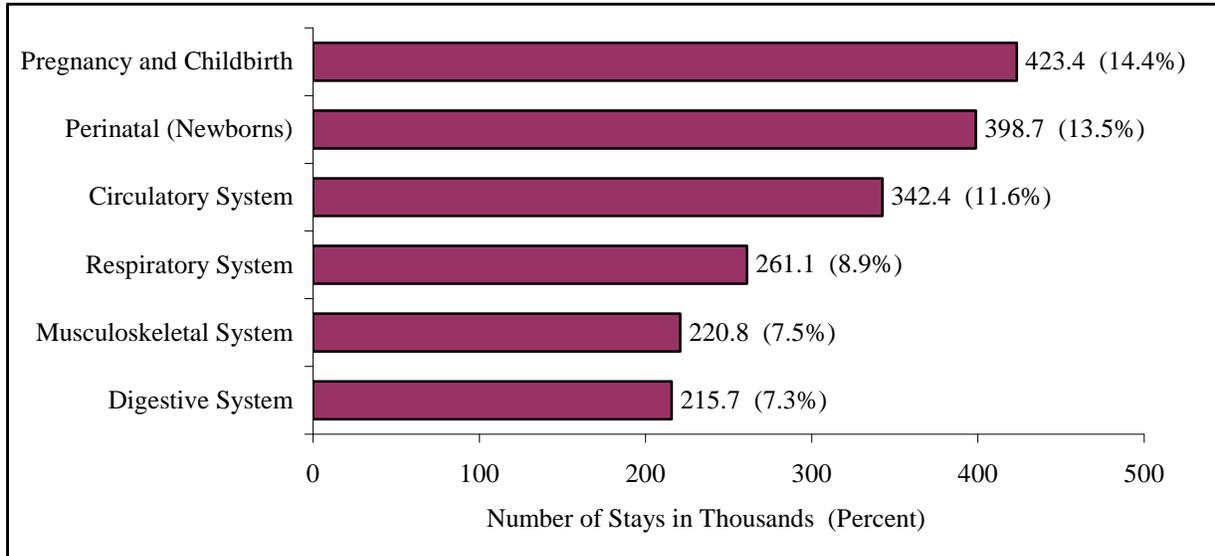
## SECTION 2

### **INPATIENT HOSPITAL STAYS BY DIAGNOSIS**

- EXHIBIT 2.1      Reasons for Hospital Stays
- EXHIBIT 2.2      Most Frequent Principal Diagnoses
- EXHIBIT 2.3      Most Frequent Secondary Diagnoses
- EXHIBIT 2.4      Most Frequent Principal Diagnoses by Age
- EXHIBIT 2.5      Most Frequent Principal Diagnoses by Payer

## EXHIBIT 2.1 Reasons for Hospital Stays

### Hospital Stays by Most Frequent Major Reason\*, 2009



\* Based on principal diagnosis defined by Major Diagnostic Category (MDC).

Hospitalizations related to pregnancy, childbirth, and newborns comprised about 28 percent of all hospital stays in 2009.

- Pregnancy and childbirth (423 thousand stays) and newborns (399 thousand stays) were the first two most common reasons for hospitalizations, each accounted for about 14 percent of hospital stays.
- Circulatory conditions (11.6 percent) ranked third among reasons for hospitalizations. These stays were for diagnoses such as coronary artery disease, congestive heart failure, heart attack, and irregular heart beat.
- Together with respiratory conditions (8.9 percent), musculoskeletal conditions (7.5 percent), and digestive conditions (7.3 percent), the top six conditions accounted for 63.2 percent of all hospital stays.

## EXHIBIT 2.2 Most Frequent Principal Diagnoses

### Number and Percent of Stays for the Most Frequent Principal Diagnoses, 2009

Principal CCS Diagnosis	Number of Stays in Thousands	Percent of Stays
All stays	2,947.2	100.0%
Liveborn (newborn infant)	386.2	13.1%
Mood disorders	97.3	3.3%
Pneumonia	78.8	2.7%
Trauma to vulva and perineum due to childbirth	70.4	2.4%
Rehabilitation care, fitting of prostheses, and adjustment of devices	66.9	2.3%
Congestive heart failure	65.2	2.2%
Septicemia	60.1	2.0%
Other complications of birth	58.6	2.0%
Maternal stay with previous C-section	58.1	2.0%
Osteoarthritis	52.4	1.8%

The top 10 most frequent principal diagnoses accounted for one-third (33.8 percent) of all hospital stays in 2009.

- Liveborn (newborn infant) (386 thousand stays) was the most common diagnosis and accounted for 13.1 percent of all hospital stays.
- Mood disorders (97 thousand stays) and pneumonia (79 thousand stays) were the second and third most common reasons for hospitalization, comprising 3.3 percent and 2.7 percent of all stays, respectively.
- Trauma to vulva and perineum due to childbirth (70 thousand stays) ranked fourth at 2.4 percent of all stays.

## EXHIBIT 2.3 Most Frequent Secondary Diagnoses

### Number and Percent of Stays for the Most Frequent Secondary Diagnosis\*, 2009

Secondary CCS Diagnosis	Number of Stays with the Secondary Diagnosis in Thousands	Percent of Stays with any Secondary Diagnosis
All stays with any secondary diagnosis	2,125.0	100.0%
Hypertension	795.6	37.4%
Fluid and electrolyte disorders	494.7	23.3%
Disorders of lipid metabolism	493.2	23.2%
Screening and history of mental health and substance abuse	446.3	21.0%
Coronary atherosclerosis	427.4	20.1%
Anemia	409.6	19.3%
Diabetes mellitus without complication	394.2	18.5%
Other nutritional, endocrine, and metabolic disorders	363.5	17.1%
Other aftercare	354.5	16.7%
Cardiac dysrhythmias	298.8	14.1%

\* Excludes stays related to pregnancy, childbirth, and newborn infants.

Note: CCS 259 (Residual codes, unclassified) is not listed.

There were 2,125 thousand non-maternal and non-newborn stays with a secondary diagnosis, about 72 percent of all hospital stays.

- Hypertension (796 thousand stays) was the most frequent secondary diagnosis and accounted for 37.4 percent of stays with a secondary diagnosis.
- Fluid and electrolyte disorders (495 thousand stays) and disorders of lipid metabolism (493 thousand stays) were the next two most common secondary diagnoses, each accounted for about 23 percent of stays with a secondary diagnosis.

**EXHIBIT 2.4 Most Frequent Principal Diagnoses by Age**

**Number and Percent of Stays for the Most Frequent Principal Diagnoses by Age, 2009**

<b>Age Group and Principal CCS Diagnosis</b>	<b>Number of Stays in Thousands</b>	<b>Percent of Age-Specific Total Stays</b>
<b>&lt;1 year, total stays</b>	<b>439.0</b>	<b>100.0%</b>
Liveborn (newborn infant)	385.6	87.8%
Acute bronchitis	8.9	2.0%
Other perinatal conditions	7.0	1.6%
Pneumonia	3.3	0.8%
Hemolytic jaundice and perinatal jaundice	3.0	0.7%
<b>1-17 years, total stays</b>	<b>179.5</b>	<b>100.0%</b>
Mood disorders	27.3	15.2%
Pneumonia	11.3	6.3%
Asthma	10.8	6.0%
Appendicitis and other appendiceal conditions	8.1	4.5%
Skin and subcutaneous tissue infections	6.6	3.7%
<b>18-44 years, total stays</b>	<b>822.8</b>	<b>100.0%</b>
Trauma to vulva and perineum due to childbirth	66.2	8.0%
Maternal stay with previous C-section	57.6	7.0%
Other complications of birth	54.7	6.6%
Other complications of pregnancy	46.0	5.6%
Mood disorders	40.5	4.9%
<b>45-64 years, total stays</b>	<b>666.0</b>	<b>100.0%</b>
Mood disorders	22.4	3.4%
Spondylosis, intervertebral disc disorders, and other back problems	21.6	3.3%
Coronary atherosclerosis	21.2	3.2%
Osteoarthritis	20.7	3.1%
Complication of device, implant or graft	18.7	2.8%
<b>65-84 years, total stays</b>	<b>670.1</b>	<b>100.0%</b>
Rehabilitation care, fitting of prostheses, and adjustment of devices	37.0	5.5%
Congestive heart failure	31.6	4.7%
Osteoarthritis	29.0	4.3%
Pneumonia	26.8	4.0%
Septicemia	25.5	3.8%
<b>85+ years, total stays</b>	<b>169.8</b>	<b>100.0%</b>
Congestive heart failure	11.9	7.0%
Rehabilitation care, fitting of prostheses, and adjustment of devices	10.5	6.2%
Pneumonia	10.3	6.0%
Septicemia	9.4	5.5%
Urinary tract infections	8.3	4.9%

While some of the most frequent principal diagnoses varied by age group, some were common across age groups.

#### Infants, children and young adults:

- About 88 percent of infants under one year old were discharged as liveborn (newborn infant).
- Asthma was the third most common reason for hospital admission among children ages 1-17, but was not in the top 5 ranking for other age groups.
- Among young adults ages 18-44, all top four conditions were related to maternal stays.

#### Older adults:

- Older patients were more frequently admitted with musculoskeletal and cardiovascular conditions.
  - Musculoskeletal conditions:  
Osteoarthritis was a top 5 condition for adults 45-64 and 65-84 years old. Spondylosis, intervertebral disc disorders, and other back problems was the second most common condition among 45-64 years old.
  - Cardiovascular conditions:  
Congestive heart failure was the most frequent principal diagnosis for adults 85 and older and ranked the second for 65-84 years old. Coronary atherosclerosis was the third most common condition among adults ages 45-64.
- Rehabilitation care, congestive heart failure, and septicemia were three top 5 conditions among the age groups for older adults ages 65 and older, but were not in the top 5 ranking among other four age groups.

#### All patients:

- Pneumonia was a top 5 condition for four out of the six age groups (except 18-64 years old).
- Mood disorders (depression and bipolar disorders) were the most common diagnosis among children ages 1-17 and adults ages 45-64, and the fifth among young adults ages 18-44.

## EXHIBIT 2.5 Most Frequent Principal Diagnoses by Payer

### Number and Percent of Stays for the Most Frequent Principal Diagnoses by Payer, 2009

Payer and Principal CCS Diagnosis	Number of Stays in Thousands	Percent of Payer-Specific Total Stays
<b>Medicare</b>	<b>956.1</b>	<b>100.0%</b>
Rehabilitation care, fitting of prostheses, and adjustment of devices	48.7	5.1%
Congestive heart failure	47.0	4.9%
Pneumonia	40.7	4.3%
Septicemia	39.2	4.1%
Chronic obstructive pulmonary disease and bronchiectasis	30.2	3.2%
<b>Medicaid</b>	<b>660.8</b>	<b>100.0%</b>
Liveborn (newborn infant)	203.1	30.7%
Trauma to vulva and perineum due to childbirth	33.1	5.0%
Maternal stay with previous C-section	30.1	4.6%
Other complications of birth	27.8	4.2%
Other complications of pregnancy	26.3	4.0%
<b>Private insurance</b>	<b>786.6</b>	<b>100.0%</b>
Liveborn (newborn infant)	125.7	16.0%
Mood disorders	33.9	4.3%
Trauma to vulva and perineum due to childbirth	25.8	3.3%
Other complications of birth	21.8	2.8%
Maternal stay with previous C-section	19.7	2.5%
<b>Uninsured</b>	<b>274.0</b>	<b>100.0%</b>
Liveborn (newborn infant)	27.1	9.9%
Mood disorders	14.8	5.4%
Skin and subcutaneous tissue infections	8.7	3.2%
Diabetes mellitus with complications	7.5	2.8%
Biliary tract disease	7.3	2.7%

This exhibit shows the top five reasons for hospital stays for each primary payer. The principal diagnoses for hospitalizations by primary payer generally varied, although some conditions were frequent across payers.

Medicare:

- Rehabilitation care was the most common principal diagnosis among stays with Medicare as a primary payer, making up 5.1 percent of all Medicare stays.

- Congestive heart failure (47 thousand Medicare stays) was the second most common diagnosis.
- Pneumonia, septicemia, and chronic obstructive pulmonary disease were also frequent reasons for hospital stays among Medicare stays.

Medicaid:

- All of the top 5 most frequent principal diagnoses with Medicaid as the primary payer were pregnancy and childbirth-related. Altogether, stays for these conditions made up nearly half (48.5 percent) of all Medicaid stays.

Private insurance:

- Four of the top 5 most common conditions for private insurance were pregnancy and childbirth-related. Stays for these 4 conditions accounted for one-quarter (24.6 percent) of all private insurance stays.
- Mood disorders was also a frequent cause of hospitalization among the privately insured.

Uninsured:

- Although the uninsured stays comprised only 9.3 percent of total stays, they accounted for 20 percent of all stays for biliary tract disease and over 15 percent of all stays for diabetes mellitus with complications, skin and subcutaneous tissue infections, and mood disorders.
- Mood disorders was the second most common principal diagnosis among uninsured stays, making up 5.4 percent of all uninsured stays.

## SECTION 3

### **INPATIENT HOSPITAL STAYS BY PROCEDURE**

EXHIBIT 3.1      Most Frequent All-listed Procedures

EXHIBIT 3.2      Most Frequent All-listed Procedures by Age

### EXHIBIT 3.1 Most Frequent All-listed Procedures

#### Number and Percent of Stays for the Most Frequent All-listed Procedures, 2009

All-listed CCS Procedures	Stays with the Procedure in Thousands	Percent of Stays with any Procedure	Percent of All Stays
All stays with any procedure	1,887.5	100.0%	64.0%
Blood transfusion	250.8	13.3%	8.5%
Prophylactic vaccinations and inoculations	196.3	10.4%	6.7%
Other vascular catheterization	180.6	9.6%	6.1%
Other procedures to assist delivery	177.1	9.4%	6.0%
Cesarean section	138.0	7.3%	4.7%
Other therapeutic procedures	131.8	7.0%	4.5%
Respiratory intubation and mechanical ventilation	111.8	5.9%	3.8%
Repair of obstetric laceration	111.2	5.9%	3.8%
Circumcision	98.0	5.2%	3.3%
Diagnostic cardiac catheterization, coronary arteriography	90.9	4.8%	3.1%

Ranking of the top 10 most frequently performed procedures was based on all-listed procedures.

- In 2009, there were 1,888 thousand hospitalizations (64 percent of all hospital stays) involved at least one procedure.
- Blood transfusion was the most frequent procedure, performed in 251 thousand hospitalizations. About 13 percent of all stays with a procedure (or 8.5 percent of all hospital stays) involved blood transfusion.
- Vaccinations and other vascular catheterization were the second and third most frequent procedures; each accounting for about 10 percent of all stays with a procedure.
- Several of the most common procedures were performed during pregnancy- and childbirth-related hospitalizations. These procedures included other procedures to assist delivery, cesarean section, repair of obstetric laceration, and circumcision. Together, hospitalizations with these procedures accounted for 27.8 percent of all stays with a procedure.

## EXHIBIT 3.2 Most Frequent All-listed Procedures by Age

Number and Percent of Stays for the Most Frequent All-listed Procedures by Age, 2009

Age Group and All-listed CCS Procedures	Number of Stays in Thousands	Percent of Age-Specific Total Stays
<b>&lt;1 year, total stays</b>	<b>439.0</b>	<b>100.0%</b>
Prophylactic vaccinations and inoculations	170.2	38.8%
Circumcision	97.6	22.2%
Ophthalmologic and otologic diagnosis and treatment	62.5	14.2%
Other therapeutic procedures	30.7	7.0%
Respiratory intubation and mechanical ventilation	17.9	4.1%
<b>1-17 years, total stays</b>	<b>179.5</b>	<b>100.0%</b>
Other procedures to assist delivery	8.6	4.8%
Appendectomy	8.4	4.7%
Repair of obstetric laceration	6.9	3.8%
Other vascular catheterization	6.0	3.3%
Blood transfusion	5.9	3.3%
<b>18-44 years, total stays</b>	<b>822.8</b>	<b>100.0%</b>
Other procedures to assist delivery	168.2	20.4%
Cesarean section	133.3	16.2%
Repair of obstetric laceration	104.1	12.7%
Artificial rupture of membranes to assist delivery	65.7	8.0%
Fetal monitoring	37.7	4.6%
<b>45-64 years, total stays</b>	<b>666.0</b>	<b>100.0%</b>
Blood transfusion	73.5	11.0%
Other vascular catheterization	58.4	8.8%
Diagnostic cardiac catheterization, coronary arteriography	41.5	6.2%
Other therapeutic procedures	34.4	5.2%
Hemodialysis	34.2	5.1%
<b>65-84 years, total stays</b>	<b>670.1</b>	<b>100.0%</b>
Blood transfusion	103.1	15.4%
Other vascular catheterization	59.9	8.9%
Diagnostic cardiac catheterization, coronary arteriography	38.7	5.8%
Respiratory intubation and mechanical ventilation	37.1	5.5%
Other OR procedures on vessels	37.0	5.5%
<b>85+ years, total stays</b>	<b>169.8</b>	<b>100.0%</b>
Blood transfusion	26.7	15.7%
Other vascular catheterization	13.6	8.0%
Upper gastrointestinal endoscopy	7.2	4.3%
Respiratory intubation and mechanical ventilation	7.1	4.2%
Other therapeutic procedures	5.5	3.3%

While some of the most frequent procedures varied by age group, some were common across several age groups.

- Blood transfusion and other vascular catheterization were two top five procedures in the same four age groups.
  - Blood transfusion was the most common procedure for adults 45-64, 65-84, and 85 years and older and the fifth for children 1-17 years old.
  - Other vascular was the second most common procedure for adults 45-64, 65-84, and 85 years and older and the fourth for children 1-17 years old.
- Respiratory intubation and mechanical ventilation was a common procedure for infants (under one year old) and elderly (65 years and older).

For infants under one year old:

- The most frequently performed procedures on infants were routine procedures, such as vaccinations (170 thousand stays) and circumcision (98 thousand stays), performed in 38.8 percent and 22.2 percent of all procedures among infants, respectively.

For children 1-17:

- Other procedures to assist delivery and appendectomy were the first two most common procedures for 1-17 years old, each performed in nearly 5 percent of all stays in this age group.
- Other top procedures common in stays for children included repair of obstetric laceration in teen deliveries, other vascular catheterization, and blood transfusion.

For adults 18-44:

- All of the top 5 most frequently performed procedures were related to pregnancy and childbirth for adults 18-44 years old.
- Other procedures to assist delivery (20.4 percent) and cesarean sections (16.2 percent) were the two most common procedures among this age group.

For adults 45-64 and 65-84:

- The top three most frequently performed procedures were the same for individuals 45-64 and 65-84 years old: blood transfusion, other vascular catheterization, and diagnostic cardiac catheterization and coronary arteriography.
- Blood transfusion was the leading procedure for 45-64 years old (11.0 percent) and 65-84 years old (15.4 percent).

- Other vascular catheterization was the second most common procedure performed in each of these age groups.

For adults 85 years and older:

- For patients 85 years and older, blood transfusion was the most frequently performed procedure, occurring in 27 thousand stays, or 15.7 percent of all procedures in this group.
- Other vascular catheterization was the second most common procedure and accounted for 8.0 percent of all procedures among patients 85 years and older.

## SECTION 4

### **CHARGES FOR INPATIENT HOSPITAL STAYS**

- EXHIBIT 4.1      Charge by Diagnosis
- EXHIBIT 4.2      Charge by Age
- EXHIBIT 4.3      Charge by Payer
- EXHIBIT 4.4      Charge by Diagnosis Category

## EXHIBIT 4.1 Charge by Diagnosis

### Top 10 Principal Diagnoses with the Highest Aggregate Hospital Charges, 2009

Principal CCS Diagnosis	Total Charges in Millions	Percent of Total Charges	Average Charge per Stay
All diagnoses	\$118,579	100.0%	\$40,301
Liveborn (newborn infant)	\$6,210	5.2%	\$16,080
Rehabilitation care, fitting of prostheses, and adjustment of devices	\$5,797	4.9%	\$86,676
Septicemia	\$4,764	4.0%	\$79,256
Pneumonia	\$3,555	3.0%	\$45,101
Coronary atherosclerosis	\$3,295	2.8%	\$69,873
Complication of device, implant or graft	\$3,067	2.6%	\$64,049
Acute myocardial infarction	\$3,043	2.6%	\$79,742
Congestive heart failure	\$2,949	2.5%	\$45,218
Respiratory failure	\$2,908	2.5%	\$101,488
Osteoarthritis	\$2,883	2.4%	\$55,015
Total for top 10 conditions	\$38,470	32.4%	

The ten principal diagnoses with the highest aggregate hospital charges represented nearly one-third (32.4 percent) of the \$118,579 million total charges for all hospital stays in 2009.

- Liveborn (newborn infant) was the condition with the highest aggregate charges because of the large number of hospital births.
- The next three most expensive conditions were rehabilitation care, septicemia, and pneumonia.
- Three of the top 10 most expensive conditions were cardiovascular (coronary atherosclerosis, acute myocardial infarction, and congestive heart failure) and together they accounted for 7.8 percent of all hospital charges.

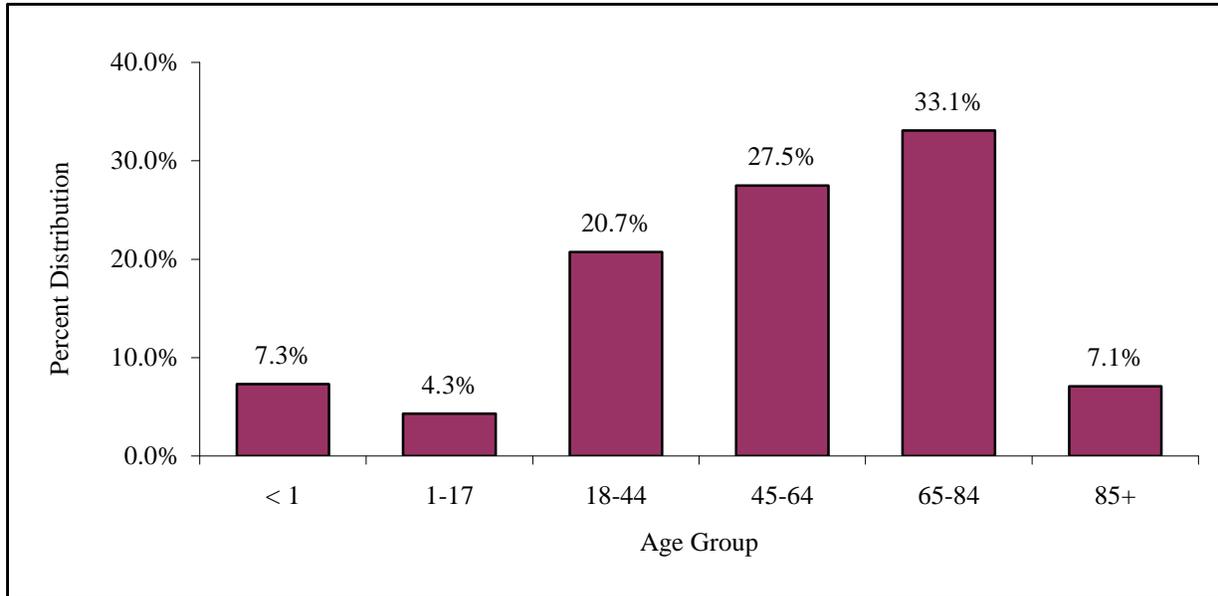
Hospital charges per stay may offer a useful benchmark to patients for comparing the relative costliness of conditions. For most diagnoses, the average charge per stay typically increases as the length of stay increases.

- Among these 10 conditions, respiratory failure had the highest average charge per hospital stay (\$101,488), about 2.5 times the average charge per stay for all diagnoses (\$40,301).

- Although stays for liveborn (newborn infant) had the highest aggregate charges, each stay cost an average of \$16,080 (about 40 percent of average charge per stay for all conditions), the lowest among these 10 conditions.

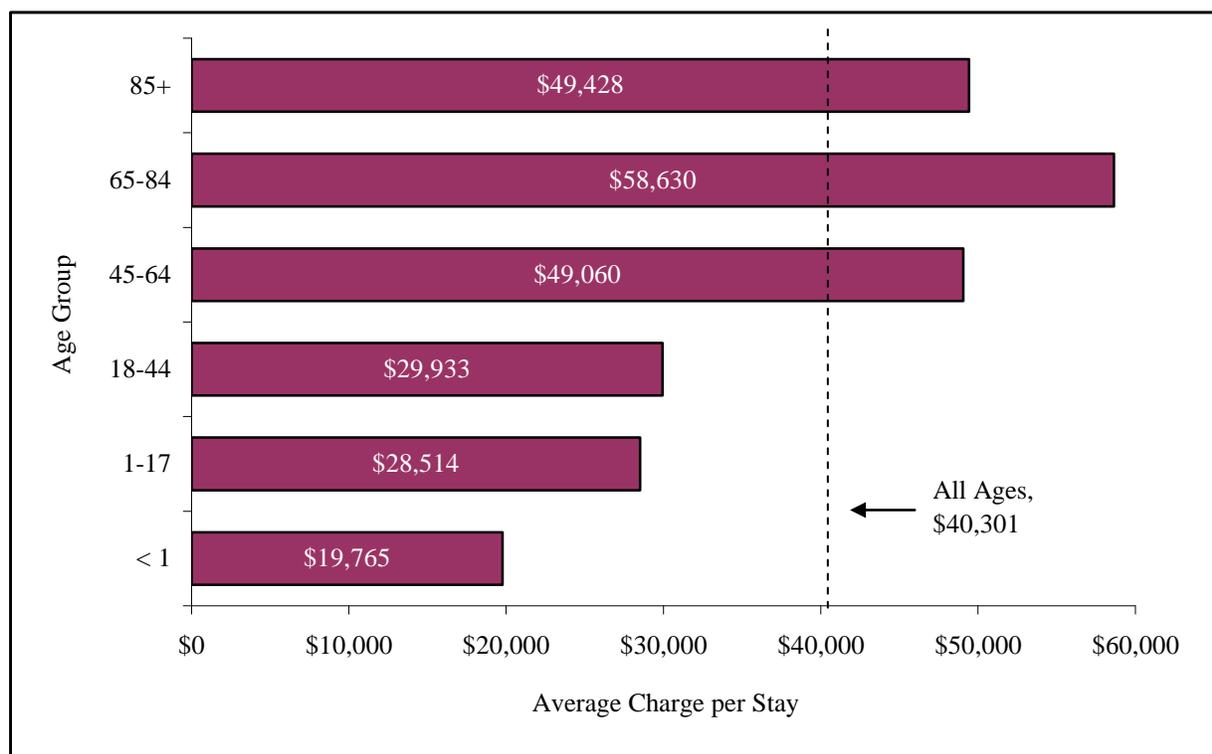
## EXHIBIT 4.2 Charge by Age

### Distribution of Aggregate Charges by Age, 2009



- Non-elderly adult (18-64 years old) stays accounted for 48.2 percent of the aggregate charges of all hospital stays, and stays for patients 65 years and older accounted for 40.2 percent of all inpatient charges.
- Stays among patients 45-64 and 65-84 years old accounted for larger shares of aggregate charges (27.5 and 33.1 percent, respectively) relative to other age groups.

## Average Charge per Stay by Age, 2009

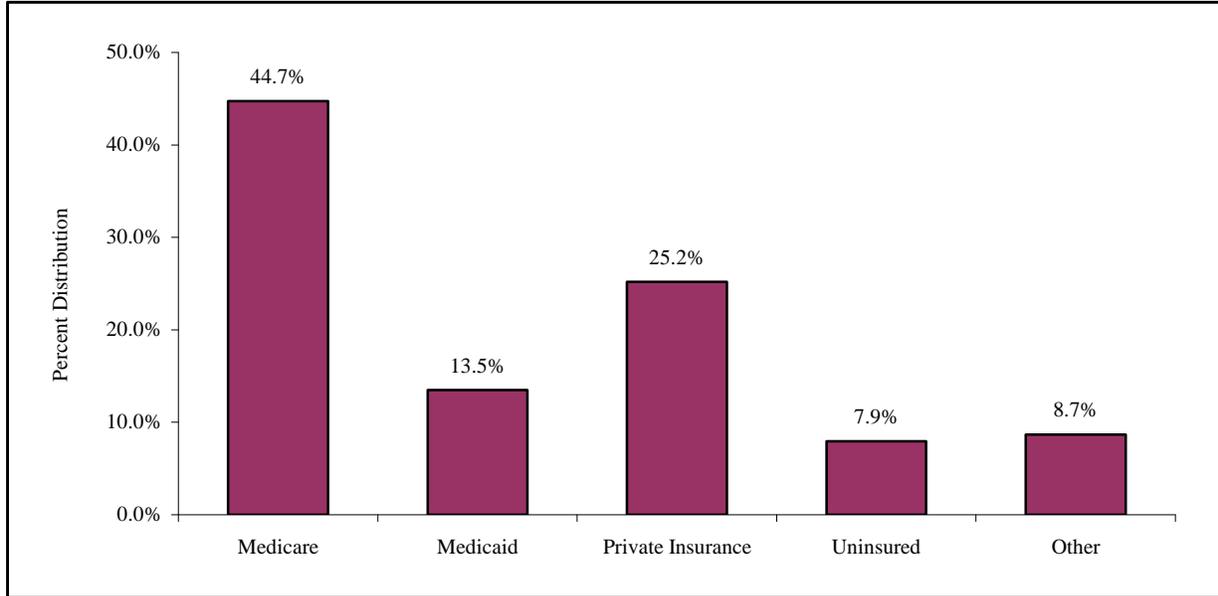


In general, hospital charge per stay is higher for old patients than for young patients because old patients need to stay longer for hospitalizations.

- Stays for patients under one year of age had hospital charges at \$19,765 on average. The overwhelming majority of these stays were for liveborn infants.
- On average, the charge per stay for patients 1-17 years (\$28,514) or 18-44 years (\$29,933) was less than the average charge per stay across all age groups (\$40,301).
- The average charge per stay for patients 45-64 years, 65-84 years, or 85 years and over was higher than the charge per stay across all age groups (\$40,301).

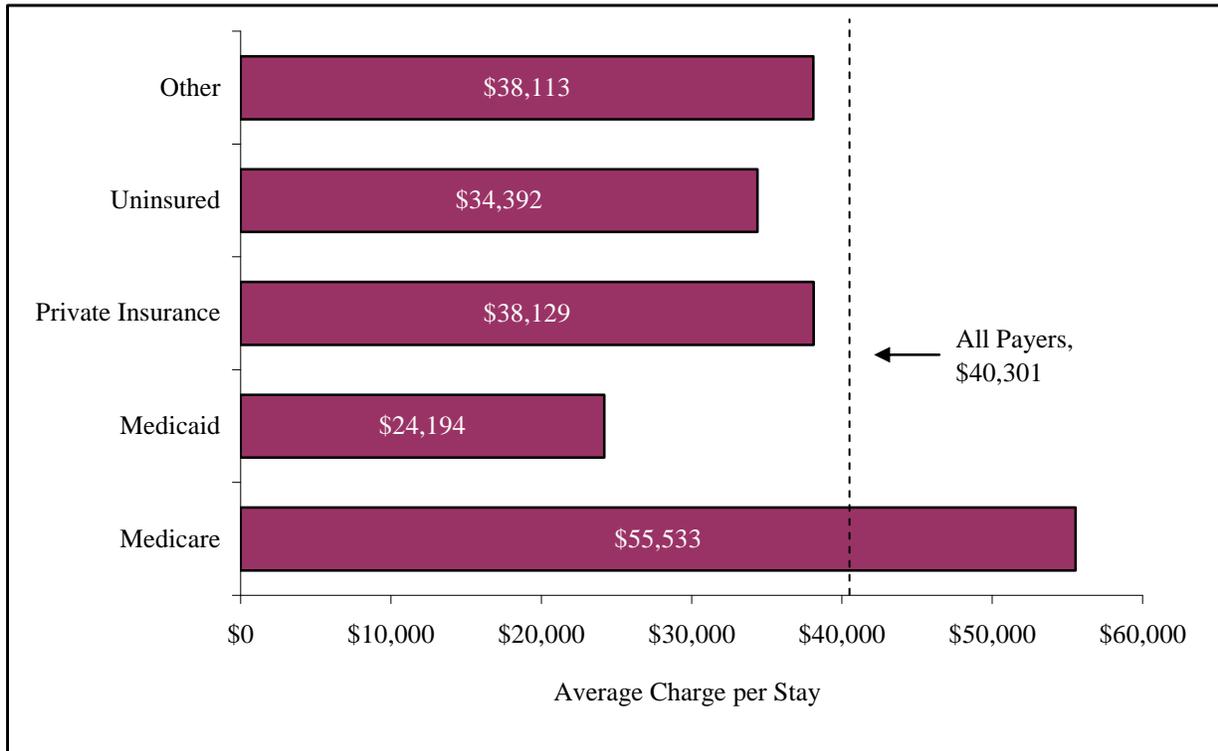
## EXHIBIT 4.3 Charge by Payer

### Distribution of Aggregate Hospital Charges by Payer, 2009



- Medicare, the single largest payer for hospitalizations, accounted for 44.7 percent of aggregate hospital charges.
- Medicaid stays accounted for 13.5 percent of total hospital charges.
- Private insurance was responsible for about one-quarter (25.2 percent) of aggregate charges; the uninsured were responsible for 7.9 percent.

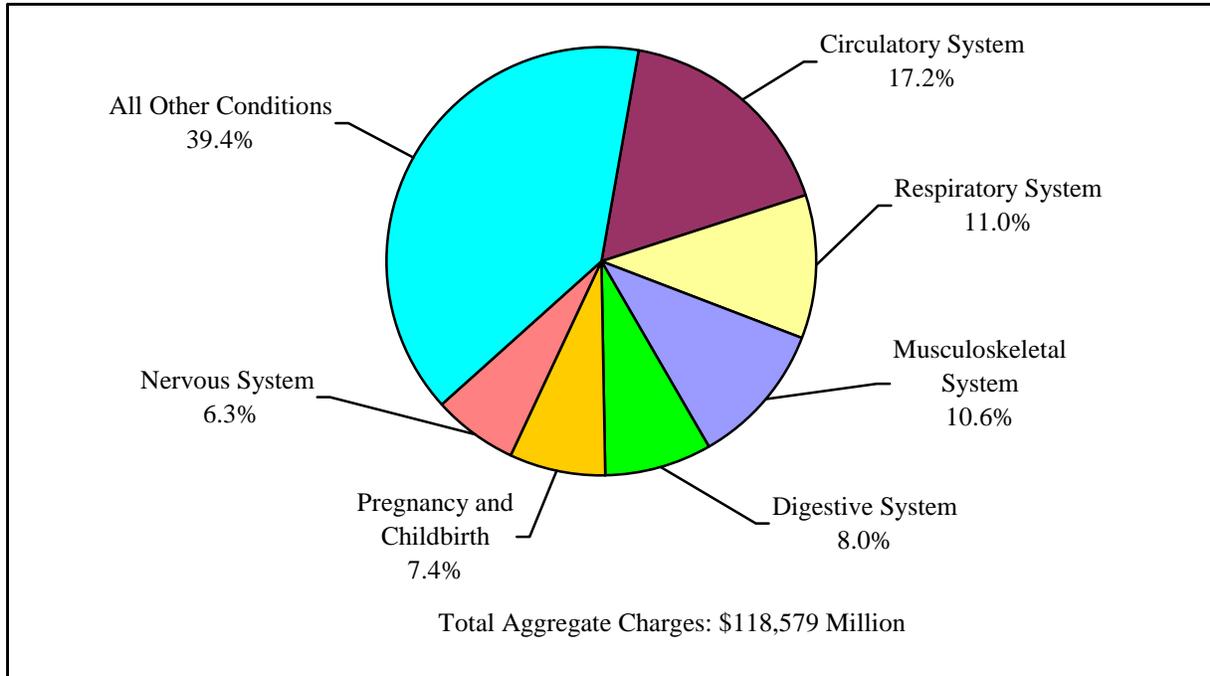
### Average Charge per Stay by Payer, 2009



- Medicare stays had the highest average charge per hospital stay (\$55,533).
- The average charge per stay billed to private insurance (\$38,129), the uninsured (\$34,392), and Medicaid (\$24,194) was lower than the all payer average charge per stay (\$40,301).

## EXHIBIT 4.4 Charge by Diagnostic Category

### Distribution of Aggregate Hospital Charges by Diagnostic Category\*, 2009



\* Based on principal diagnosis defined by Major Diagnostic Category (MDC).

- Circulatory conditions accounted for the largest share of hospital charges (17.2 percent).
- Additional diagnostic categories responsible for large portions of hospital charges included:
  - Respiratory conditions (11.0 percent)
  - Musculoskeletal conditions (10.6 percent)
  - Digestive conditions (8.0 percent)
  - Pregnancy and childbirth (7.4 percent)
  - Nervous conditions (6.3 percent)

**Aggregate Charges and Percent Distribution for Each Payer by Diagnostic Category\*, 2009**

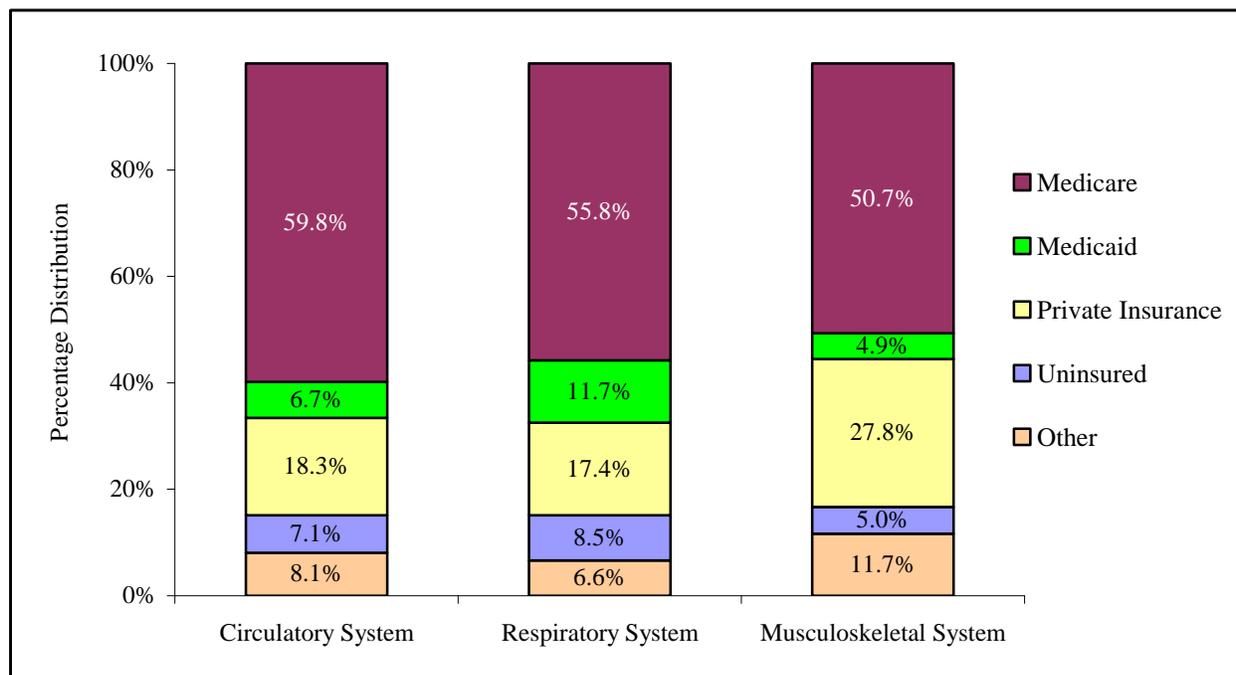
Major Diagnostic Category	Medicare	Medicaid	Private Insurance	Uninsured	Other
	Charges in Millions (Percent)				
Total Charges	\$53,037 (100%)	\$15,982 (100%)	\$29,877 (100%)	\$9,408 (100%)	\$10,276 (100%)
Circulatory System	\$12,200 (23.0%)	\$1,376 (8.6%)	\$3,733 (12.5%)	\$1,439 (15.3%)	\$1,644 (16.0%)
Respiratory System	\$7,269 (13.7%)	\$1,521 (9.5%)	\$2,266 (7.6%)	\$1,108 (11.8%)	\$864 (8.4%)
Musculoskeletal System	\$6,394 (12.1%)	\$615 (3.8%)	\$3,502 (11.7%)	\$635 (6.7%)	\$1,470 (14.3%)
Digestive System	\$4,713 (8.9%)	\$902 (5.6%)	\$2,282 (7.6%)	\$843 (9.0%)	\$805 (7.8%)
Pregnancy and Childbirth	\$27 (0.1%)	\$3,380 (21.2%)	\$3,911 (13.1%)	\$576 (6.1%)	\$885 (8.6%)
Nervous System	\$3,224 (6.1%)	\$803 (5.0%)	\$1,815 (6.1%)	\$909 (9.7%)	\$706 (6.9%)
All Other Conditions	\$19,210 (36.2%)	\$7,385 (46.2%)	\$12,368 (41.4%)	\$3,898 (41.4%)	\$3,902 (38.0%)

\* Based on principal diagnosis defined by Major Diagnostic Category (MDC).

Hospital charges by diagnostic category varied by payer, as did the distribution of charges.

- Stays for circulatory conditions accounted for the largest share of hospital charges for Medicare (23.0 percent) and the uninsured (15.3 percent).
- Stays for respiratory conditions accounted for larger shares of hospital charges for Medicare (13.7 percent) and the uninsured (11.8 percent) than for Medicaid (9.5 percent) and private insurance (7.6 percent).
- Stays for pregnancy and childbirth accounted for the largest share of hospital charges for Medicaid (21.2 percent) and private insurance (13.1 percent).

## Distribution of Aggregate Charges by Payer for Selected Diagnostic Categories\*, 2009



\* Based on principal diagnosis defined by Major Diagnostic Category (MDC).

- Nearly 60 percent of charges for circulatory conditions were billed to Medicare, followed by private insurance (18.3 percent). Uninsured stays accounted for 7.1 percent of the charges and 6.7 percent were for Medicaid.
- The majority of charges for respiratory conditions were billed to Medicare (55.8 percent). Private insurance and Medicaid were respectively billed for 17.4 percent and 11.7 percent of the aggregate charges.
- About half (50.7 percent) of the charges for musculoskeletal conditions were for stays with Medicare as primary expected payer. Stays covered by private insurance accounted for 27.8 percent of these charges while only about 5 percent of the charges were for stays covered by either Medicaid or the uninsured.

## SECTION 5

### **WOMEN'S HEALTH**

- EXHIBIT 5.1 Overview of Female and Male Hospital Stays
- EXHIBIT 5.2 Common Conditions During Hospital Stays for Females
- EXHIBIT 5.3 Procedures
- EXHIBIT 5.4 Children
- EXHIBIT 5.5 Childbirth

## EXHIBIT 5.1 Overview of Female and Male Hospital Stays

### Number of Hospital Stays by Age and Payer by Sex, 2009

Age Group and Payer	Number of Stays in Thousands		Ratio of Females to Males
	Males	Females	
All stays	1,073.3	1,697.9	1.58
<b>Age</b>			
<1 year	226.2	212.4	0.94
1-17 years	82.8	90.6	1.09
18-44 years	148.8	600.4	4.04
45-64 years	269.7	323.5	1.20
65-84 years	289.4	359.8	1.24
85+ years	56.4	111.2	1.97
<b>Payer</b>			
Medicare	386.8	526.4	1.36
Medicaid	201.3	428.7	2.13
Private insurance	282.0	465.9	1.65
Uninsured	98.8	130.7	1.32
Other	104.4	146.1	1.40

Note: Excludes 176,003 stays (or 6.0 percent) with missing sex.

Overall, males accounted for 38.7 percent and females accounted for 61.3 percent of all hospital stays in 2009. About 6 out of every 10 hospitalizations were for females.

- There were 226.2 thousand male stays and 212.4 thousand female stays for children less than one year old, although the female stays were higher than the male stays for all ages.
- Among patients 18-44 years old, female stays were four times the male stays (600 versus 149 thousand stays); this difference is largely due to childbirth-related hospitalizations for females.
- For those 85 years and older, female stays were almost twice as male stays (111 versus 56 thousand stays).
- Medicare was the primary payer for 389 thousand male stays and 526 thousand female stays.
- More than two-thirds (68.1 percent) of hospital stays billed by Medicaid were females. The Medicaid program covers childbirth-related stays, resulting in a large difference in the number of Medicaid stays between males and females.

- The ratio of females to males for uninsured stays (1.32) was similar to that for Medicare stays (1.36).

**Number of Stays by Age and Payer for Maternal and Non-maternal Females\*, 2009**

Age Group and Payer	Number of Stays in Thousands	
	Maternal Females	Non-maternal Females
	(15-44 Years)	(All Ages)
All female stays	417.6	1,280.3
Percent of all female stays	24.3%	75.7%
Age		
0-14 year	-	267.3
15-19 years	55.8	25.4
20-24 years	111.8	23.3
25-34 years	199.7	65.6
35-44 years	50.3	104.2
45+ years	-	794.5
Payer		
Medicare	1.8	524.6
Medicaid	214.7	214.0
Private insurance	139.1	326.8
Uninsured	28.1	102.6
Other	33.9	112.2

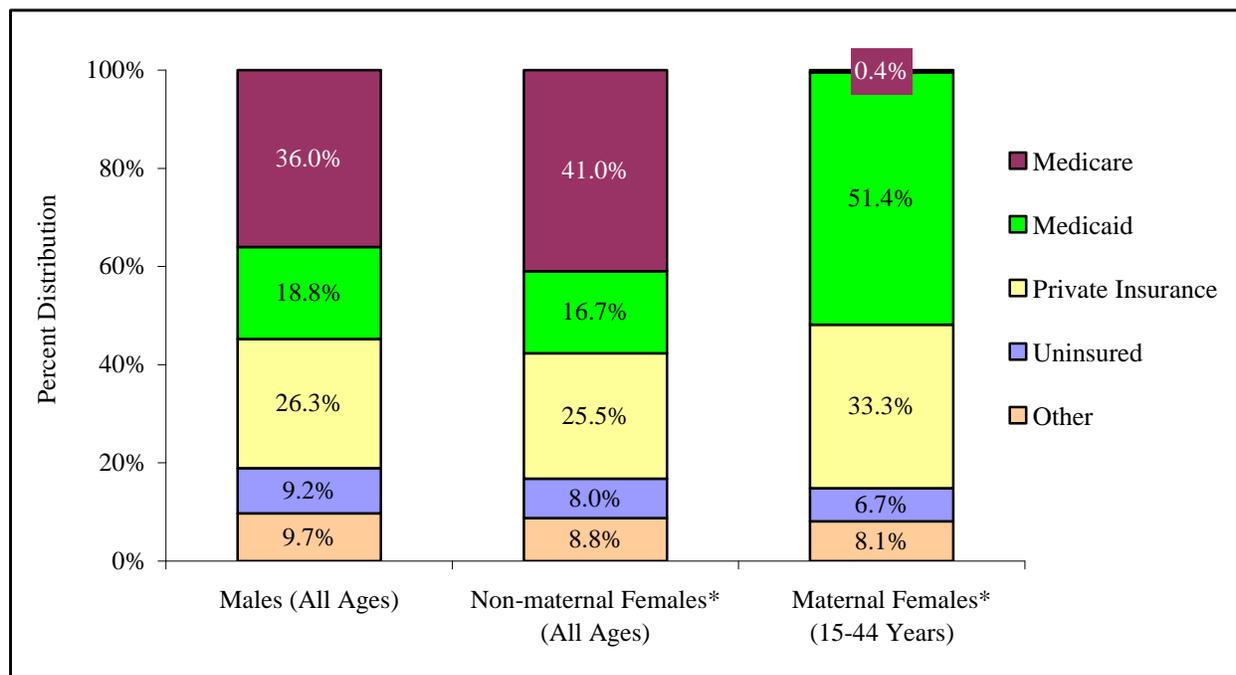
\* Maternal female stays are hospital stays for females ages 15-44 who are pregnant or gave birth;

Non-maternal female stays are hospital stays for females of all ages who are not pregnant and did not give birth.

Note: Excludes 176,003 stays (or 6.0 percent) with missing sex.

- Maternal females accounted for nearly one-quarter (24.3 percent) of all female stays (418 thousand maternal stays versus 1,280 thousand non-maternal stays).
- Maternal stays were higher than non-maternal stays among 15-19, 20-24, and 25-34 years old, as expected. Non-maternal females 45 years and older had 795 thousand stays, accounting for about 62 percent of all non-maternal stays.
- Medicaid was the primary payer for 215 thousand maternal stays. Private insurance was the primary payer for an additional 139 thousand maternal stays.
- The numbers of stays by Medicaid between maternal and non-maternal females were almost the same (215 thousand maternal stays and 214 thousand non-maternal stays).
- Medicare was the primary payer for the greatest number of non-maternal stays (525 thousand non-maternal stays), followed by private insurance (327 thousand non-maternal stays).

## Distribution of Hospital Stays by Payer and Sex, 2009



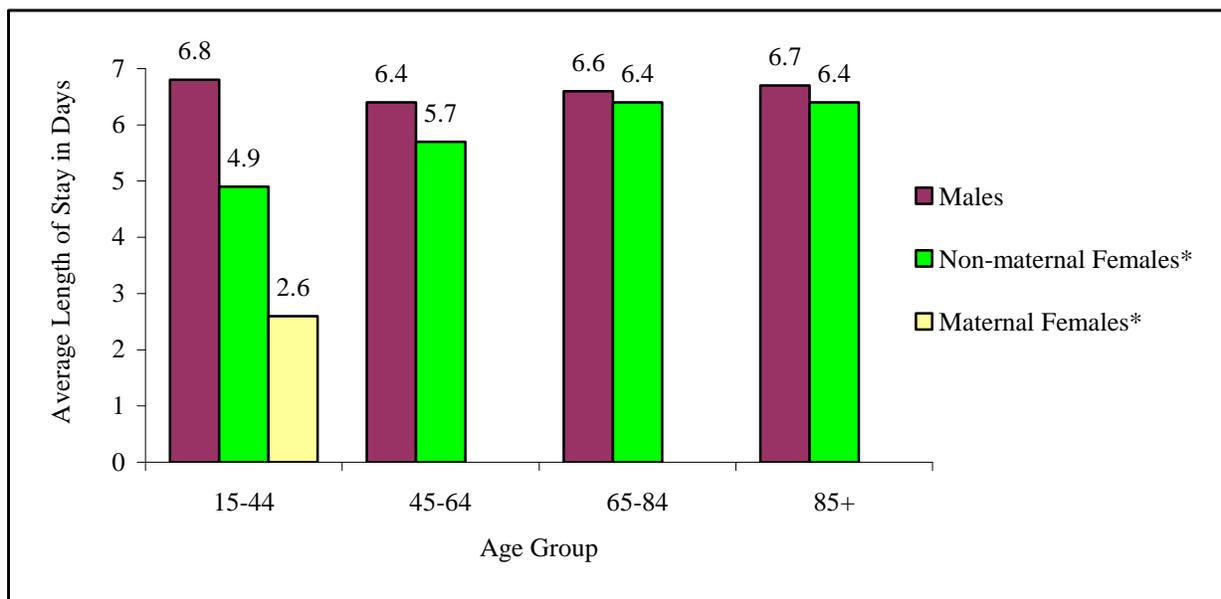
\* Maternal female stays are hospital stays for females ages 15-44 who are pregnant or gave birth;

Non-maternal female stays are hospital stays for females of all ages who are not pregnant and did not give birth.

Note: Excludes 176,003 stays (or 6.0 percent) with missing sex.

- Medicare was the primary payer for the largest percentage of male stays (36.0 percent) and non-maternal female stays (41.0 percent).
- Because Medicare covers disabled individuals of all ages, a small share of maternal stays (0.4 percent) had a primary payer of Medicare.
- More than half (51.4 percent) of maternal stays had Medicaid as the primary payer. Private insurance was the primary payer for one-third (33.3 percent) of maternal stays.
- Private insurance was the primary payer for about 26 percent of both male and non-maternal female stays.

## Average Length of Stay by Age and Sex, 2009



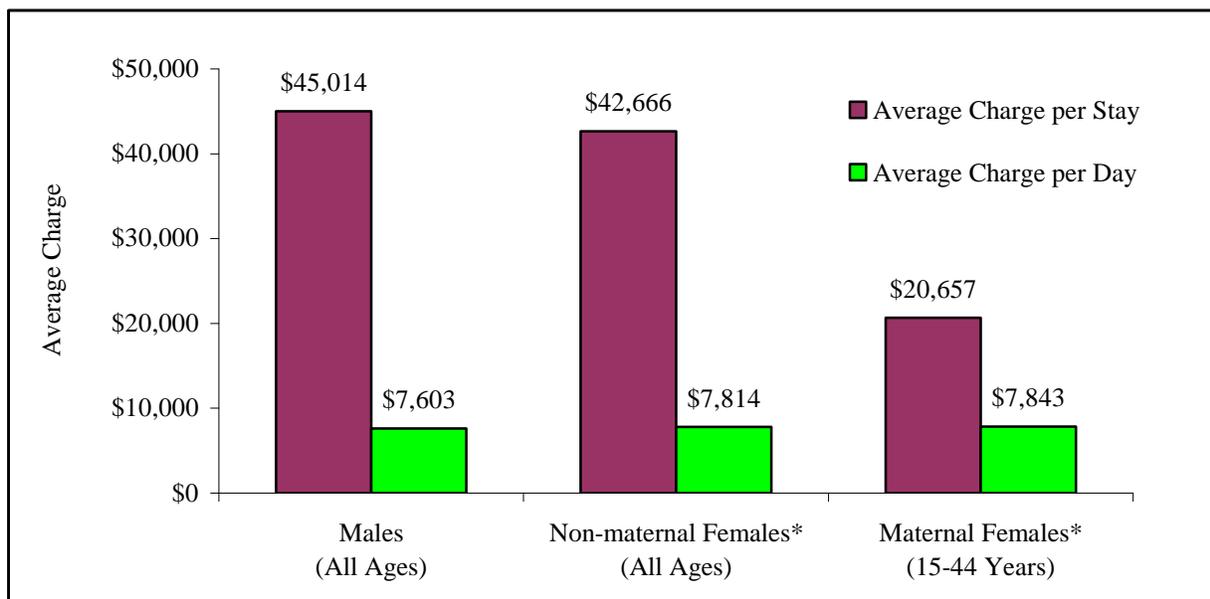
\* Maternal female stays are hospital stays for females ages 15-44 who are pregnant or gave birth;

Non-maternal female stays are hospital stays for females of all ages who are not pregnant and did not give birth.

Note: Excludes 176,003 stays (or 6.0 percent) with missing sex.

- Maternal females 15-44 years old had an average length of hospital stay of 2.6 days, compared to 4.9 days for non-maternal females and 6.8 days for males.
- For all age groups, males had a longer average length of hospital stay than non-maternal females.
- The average length of hospital stay increased with age for non-maternal females.

## Average Charge per Stay and per Day by Sex, 2009



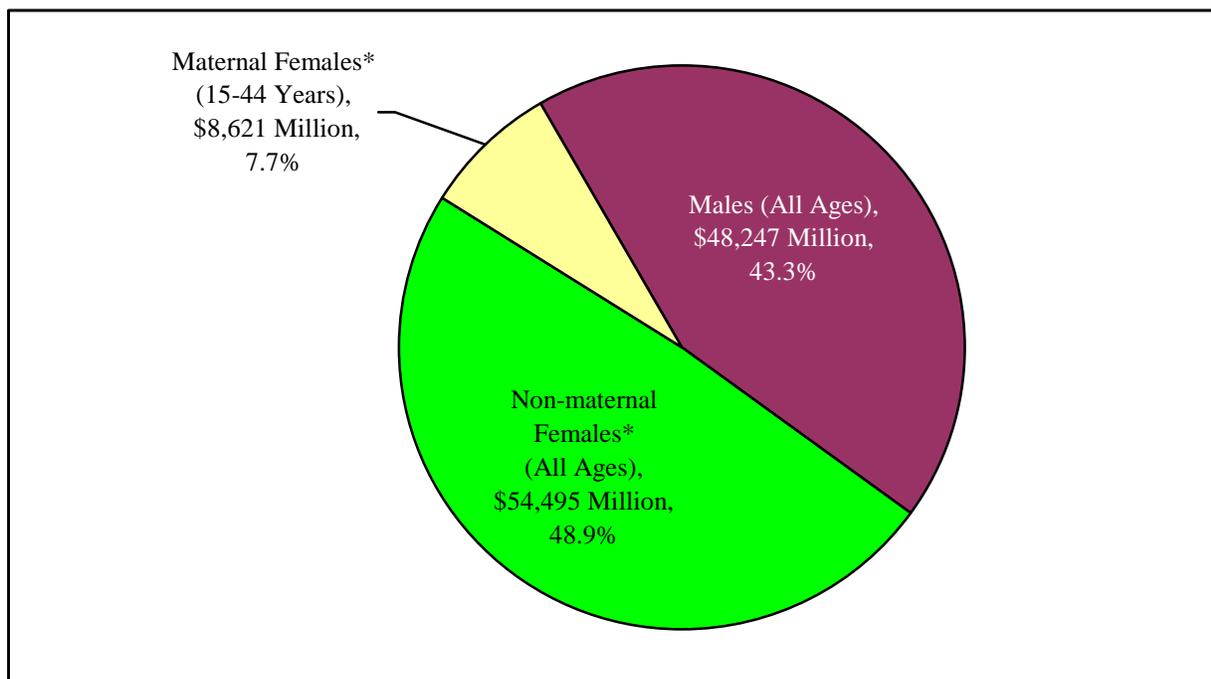
\* Maternal female stays are hospital stays for females ages 15-44 who are pregnant or gave birth;

Non-maternal female stays are hospital stays for females of all ages who are not pregnant and did not give birth.

Note: Excludes 176,003 stays (or 6.0 percent) with missing sex.

- On average, hospital charge per stay for non-maternal females was lower than for males (\$42,666 versus \$45,014).
- However, the average charge per day of a hospital stay was about \$200 more for non-maternal females than for males (\$7,814 versus \$7,603).
- Stays for maternal females had an average charge of \$20,657, less than half of the charge of a non-maternal stay (\$42,666).
- The average charge per day of a maternal stay was similar to the average charge per day of a non-maternal stay (about \$7,800).

## Distribution of Aggregate Hospital Charges by Sex, 2009



\* Maternal female stays are hospital stays for females ages 15-44 who are pregnant or gave birth;

Non-maternal female stays are hospital stays for females of all ages who are not pregnant and did not give birth.

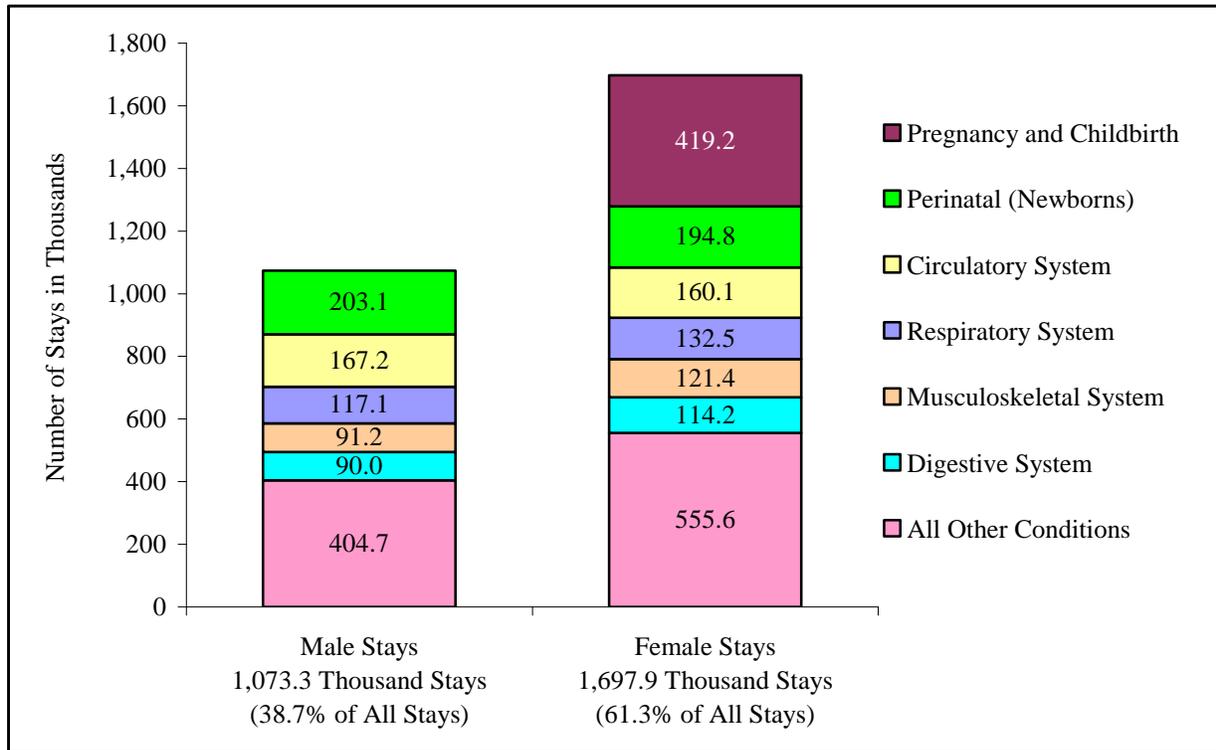
Note: Excludes 176,003 stays (or 6.0 percent) with missing sex.

In 2009, the aggregate hospital charges in Texas were about \$119 billion.

- Of more than half of charges attributable to stays for females, 48.9 percent was for non-maternal stays and 7.7 percent was for maternal stays.
- Even when maternal females are excluded, females still accounted for more shares of total charges than males (48.9 percent versus 43.3 percent).

## EXHIBIT 5.2 Common Conditions During Hospital Stays for Females

### Hospital Stays for Males and Females by Major Reason\*, 2009



\* Based on principal diagnosis defined by Major Diagnostic Category (MDC).

Note: Excludes 176,003 stays (or 6.0 percent) with missing sex.

- Giving birth (mothers) or being born (infants) accounted for 817 thousand hospitalizations, about 30 percent of all hospital stays.
- When stays for pregnancy and childbirth are excluded, circulatory conditions were the most frequent cause of hospital stays for both males and females, accounting for 327 thousand stays. Circulatory conditions accounted for 15.6 percent of male stays and 9.4 percent of female stays.
- Excluding pregnancy and childbirth, the largest sex differences in reasons for hospitalization were for diseases of the musculoskeletal system (121 thousand female versus 91 thousand male stays).
- Even when pregnancy and childbirth stays are excluded, females accounted for more stays than males – 1,279 thousand stays for females compared to 1,073 thousand stays for males.

**Number of Hospital Stays for the Most Frequent Principal Diagnoses for Adults 18 Years and Older by Sex, 2009**

Principal CCS Diagnosis	Number of Stays in Thousands		Ratio of Females to Males
	Males	Females	
All stays for adults	764.3	1,394.8	1.82
<b>Female stays more than male stays</b>			
Rehabilitation care, fitting of prostheses, and adjustment of devices	25.8	38.6	1.50
Congestive heart failure	30.0	32.2	1.08
Pneumonia	27.4	33.5	1.22
Septicemia	25.4	30.0	1.18
Osteoarthritis	20.3	31.3	1.54
Mood disorders	17.6	28.3	1.61
Spondylosis, intervertebral disc disorders, and other back problems	21.5	23.9	1.12
Complication of device, implant or graft	21.4	22.6	1.06
Cardiac dysrhythmias	19.4	21.7	1.12
Chronic obstructive pulmonary disease and bronchiectasis	17.4	22.9	1.32
Urinary tract infections	9.9	28.3	2.85
Biliary tract disease	11.5	23.4	2.04
<b>Male stays more than female stays</b>			
Coronary atherosclerosis	28.1	17.7	0.63
Skin and subcutaneous tissue infections	20.1	18.7	0.93
Diabetes mellitus with complications	18.6	18.0	0.97
Acute myocardial infarction	21.8	14.6	0.67
<b>Female-specific diagnoses</b>			
Trauma to vulva and perineum due to childbirth	-	66.0	-
Maternal stay with previous C-section	-	57.2	-
Other complications of birth	-	54.4	-
Other complications of pregnancy	-	45.2	-

Note: Excludes 169,539 stays (or 7.3 percent) for adults with missing sex.

This table focuses on the top 20 most common conditions treated for adults 18 years and older. Diagnoses related to pregnancy and childbirth, including trauma to vulva and perineum due to childbirth, maternal stay with previous C-section, and other complications of birth and pregnancy, occurred more frequently than other diagnoses. If pregnancy and childbirth are excluded, most diagnoses were common to both males and females, although there were some differences by sex.

Females had more stays than males for several conditions:

- Stays for urinary tract infections were almost 3 times greater for females than males.
- Biliary tract disease was diagnosed at twice the number of stays for females as males.
- Females were about 60 percent more likely than males to be hospitalized for mood disorders.
- Osteoarthritis or rehabilitation care had about 50 percent more stays for females than males.

Males had more stays than females for several conditions:

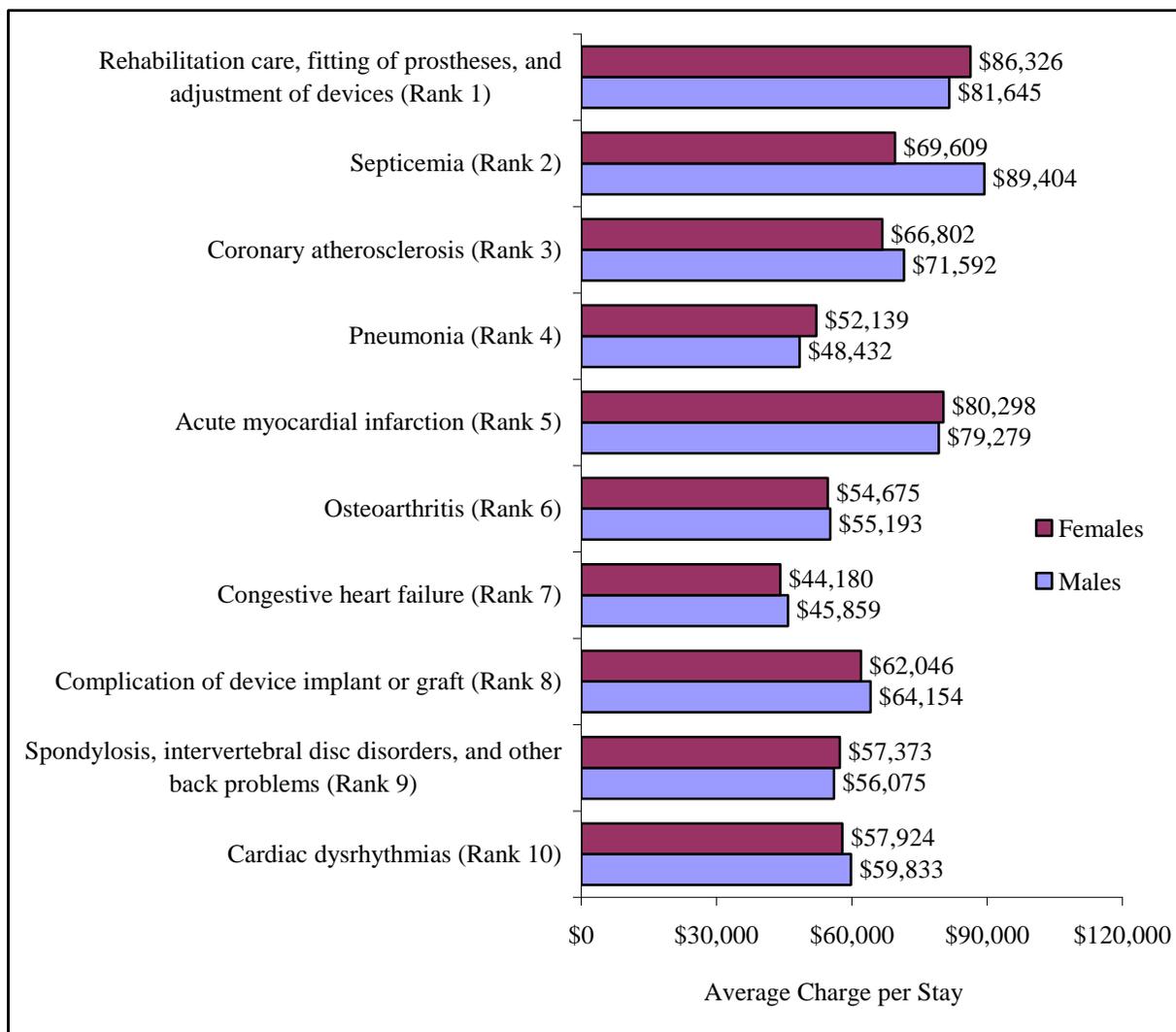
- More than 60 percent of stays for coronary atherosclerosis were among males.
- Females were one-third less likely than males to be hospitalized for acute myocardial infarction.

Four heart-related diagnoses were among the twenty most common principal diagnoses for both males and females:

- Congestive heart failure, coronary atherosclerosis, cardiac dysrhythmias, and acute myocardial infarction.

Infections such as septicemia, skin and subcutaneous tissue infections, and urinary tract infections were common reasons for hospital stays among both males and females.

**Average Charge per Stay for the Most Frequent Principal Diagnoses for Adults 18 Years and Older by Sex, 2009**



Note: Excludes 169,539 stays (or 7.3 percent) for adults with missing sex.  
 The diagnoses are ranked by aggregate charges across both sexes.

Average charges per stay for the most frequent principal diagnoses were either lower for females or were similar for males and females except for rehabilitation care and pneumonia.

- Four out these 10 diagnoses were cardiovascular conditions. Stays for the three (coronary atherosclerosis, congestive heart failure, and cardiac dysrhythmias) were less expensive for females than for males, and the one (acute myocardial infarction) was similar between females and males.

- The average charge per stay for septicemia was about \$20,000 lower for females than for males (\$69,609 versus \$89,404).
- Average charges were similar for females and males for stays involving acute myocardial infarction, osteoarthritis, and spondylosis.

## EXHIBIT 5.3 Procedures

### Number of Hospital Stays for the Most Frequent All-listed Procedures for Adults 18 Years and Older by Sex, 2009

All-listed CCS Procedures	Number of Stays in Thousands		Ratio of Females to Males
	Males	Females	
All stays for adults with any procedure	474.5	967.1	2.04
<b>Female stays more than male stays</b>			
Blood transfusion	89.8	131.4	1.46
Other vascular catheterization	63.3	82.9	1.31
Other therapeutic procedures	39.6	52.8	1.33
Hemodialysis	36.2	37.1	1.02
Upper gastrointestinal endoscopy	29.9	41.8	1.40
Knee arthroplasty	16.2	26.2	1.62
Laminectomy, excision intervertebral disc	18.1	19.0	1.05
Cholecystectomy and common duct exploration	12.1	24.8	2.05
<b>Male stays more than female stays</b>			
Diagnostic cardiac catheterization, coronary arteriography	50.4	35.6	0.71
Respiratory intubation and mechanical ventilation	39.9	39.8	1.00
Other OR procedures on vessels	44.2	32.7	0.74
Other non-OR therapeutic cardiovascular procedures	32.6	22.8	0.70
Percutaneous transluminal coronary angioplasty (PTCA)	23.8	13.4	0.56
<b>Female-specific procedures</b>			
Other procedures to assist delivery	-	166.8	-
Cesarean section	-	132.3	-
Repair of obstetric laceration	-	103.7	-
Artificial rupture of membranes to assist delivery	-	65.3	-
Hysterectomy	-	41.0	-
Fetal monitoring	-	37.3	-
Ligation or occlusion of fallopian tubes	-	37.0	-

Note: Excludes 169,539 stays (or 7.3 percent) for adults with missing sex.

Blood transfusion was the most frequently performed procedure for both sexes when pregnancy and childbirth procedures are excluded.

Females had more stays with the following procedures than males:

- Stays with cholecystectomy and common duct exploration were more than twice as high for females as for males.

- Stays with knee arthroplasty performed were 62 percent more for females than males.
- Female stays with upper gastrointestinal endoscopy were 40 percent greater than male stays.

Males had more stays with the following procedures than females:

- Two heart-related procedures—diagnostic cardiac catheterization and PTCA—were performed more often for males than females.
  - PTCA was performed in 77 percent more stays for males than females.
  - Diagnostic cardiac catheterization was performed in 41 percent more stays for males than females
- Females were 30 percent less likely than males to have other non-OR therapeutic cardiovascular procedures.

For three top ranking procedures (hemodialysis, laminectomy, and respiratory intubation and mechanical ventilation), there was little difference between males and females in the number of procedures performed.

**EXHIBIT 5.4 Children**

**Number of Hospital Stays for the Most Frequent Principal Diagnoses for Children 0-17 Years by Sex, 2009**

Age Group and Principal CCS Diagnosis	Number of Stays		Ratio of Males to Females
	Males	Females	
All stays for children	308,982	303,043	1.02
<b>&lt;1 year</b>			
Liveborn (newborn infant)	196,013	189,247	1.04
Acute bronchitis	5,279	3,622	1.46
Other perinatal conditions	3,971	3,065	1.30
Pneumonia	1,982	1,355	1.46
Hemolytic jaundice and perinatal jaundice	1,710	1,291	1.32
<b>1-4 years</b>			
Pneumonia	3,529	3,099	1.14
Asthma	3,088	1,693	1.82
Fluid and electrolyte disorders	1,950	1,774	1.10
Skin and subcutaneous tissue infections	1,647	1,715	0.96
Acute bronchitis	1,755	1,359	1.29
<b>5-9 years</b>			
Asthma	2,502	1,433	1.75
Mood disorders	2,501	828	3.02
Pneumonia	1,629	1,406	1.16
Appendicitis and other appendiceal conditions	1,476	981	1.50
Fluid and electrolyte disorders	643	592	1.09
<b>10-14 years</b>			
Mood disorders	5,358	5,094	1.05
Appendicitis and other appendiceal conditions	2,027	1,211	1.67
Asthma	1,067	571	1.87
Skin and subcutaneous tissue infections	633	453	1.40
Pneumonia	582	503	1.16
<b>15-17 years</b>			
Mood disorders	4,048	5,532	0.73
Trauma to vulva and perineum due to childbirth	-	3,983	-
Other complications of birth	-	3,346	-
Other complications of pregnancy	-	2,311	-
Appendicitis and other appendiceal conditions	1,036	770	1.35

Note: Excludes 6,464 stays (or 1.0 percent) for children with missing sex.

Hospital stays for children ages 0-17 overall were essentially equally split between males and females. While some of the most common conditions varied by age group, some conditions were common across several age groups.

- Acute bronchitis was a top five condition among infants less than one year old and children 1-4 years old. Together, male children under 5 years old had about 40 percent more stays for acute bronchitis compared to female children (7,034 male stays versus 4,981 female stays).
- Pneumonia was a common condition in all age groups except for 15-17 years old. While male stays had 46 percent more than female stays among infants less one year old, there was only 14-16 percent more stays for males compared to females in other three age groups (1-4 years, 5-9 years, and 10-14 years old).
- Asthma was also a common condition in three age groups (1-4 years, 5-9 years, and 10-14 years old). In these age groups, male children were 75 to 87 percent more likely than female children to be hospitalized for asthma.
- Fluid and electrolyte disorders were common among children 1-4 and 5-9 years old. There were no much male-to-female differences in stays among these age groups.
- Mood disorders and appendicitis were common among 5-9, 10-14, and 15-17 years old.

For infants:

- The most common condition was liveborn (newborn infant), which was similar in hospital stays for males and females (males had 50.9 percent and females had 49.1 percent of stays).
- Other top conditions among infants occurred more frequently in males.

For children 1-4 years:

- Pneumonia was the most common condition among 1-4 years old for which male stays were slightly higher than female stays (3,529 males versus 3,099 females).
- Asthma was the second most common condition and was 82 percent more for male stays than for female stays.

For children 5-9 years:

- Among children 5-9 years old, asthma was the most common condition for which male stays had three-quarters more compared to female stays.

- Other common conditions for which male stays were higher than female stays were mood disorders (75 percent of stays were males) and appendicitis (60 percent of stays were males).

For children 10-14 years:

- Among 10-14 years old, mood disorders was the most common condition and the stays were similar for males and females.
- Appendicitis was the second most common condition for which males had two-thirds more stays than females.

For children 15-17 years:

- Mood disorders was the most common condition in children 15-17 years old. Males were 27 percent less likely than females to be hospitalized for mood disorders.
- Conditions related to pregnancy and childbirth (trauma to vulva and perineum due to childbirth, other complications of birth and pregnancy) were common among females in this age group.
- Males had 35 percent more stays for appendicitis than females.

**Number of Hospital Stays for the Most Frequent All-listed procedures for Children 0-17 Years by Sex, 2009**

Age Group and All-listed CCS Procedures	Number of Stays		Ratio of Males to Females
	Males	Females	
All stays for children with any procedure	204,841	159,110	1.29
<b>&lt;1 year</b>			
Prophylactic vaccinations and inoculations	86,370	83,754	1.03
Circumcision	97,499	-	-
Ophthalmologic and otologic diagnosis and treatment	31,417	31,013	1.01
Other therapeutic procedures	16,603	14,076	1.18
Respiratory intubation and mechanical ventilation	10,266	7,618	1.35
<b>1-4 years</b>			
Incision and drainage, skin and subcutaneous tissue	914	1,161	0.79
Other vascular catheterization	1,029	949	1.08
Blood transfusion	1,003	847	1.18
Respiratory intubation and mechanical ventilation	811	658	1.23
Magnetic resonance imaging	705	540	1.31
<b>5-9 years</b>			
Appendectomy	1,508	997	1.51
Other vascular catheterization	708	546	1.30
Blood transfusion	592	467	1.27
Diagnostic spinal tap	554	364	1.52
Cancer chemotherapy	469	407	1.15
<b>10-14 years</b>			
Appendectomy	2,030	1,271	1.60
Other vascular catheterization	806	627	1.29
Blood transfusion	671	661	1.02
Cancer chemotherapy	589	576	1.02
Diagnostic spinal tap	438	365	1.20
<b>15-17 years</b>			
Other procedures to assist delivery	-	8,227	-
Repair of current obstetric laceration	-	6,532	-
Cesarean section	-	4,009	-
Artificial rupture of membranes to assist delivery	-	3,390	-
Episiotomy	-	2,970	-

Note: Excludes 6,464 stays (or 1.0 percent) for children with missing sex.

Overall, children stays with a procedure were nearly 30 percent more for males than for females. Although some of the most frequent procedures varied by age group, some procedures were common across several age groups.

- All of the top 5 most common procedures are the same for children 5-9 years and 10-14 years old.
- Other vascular catheterization and blood transfusion were two common procedures in three age groups (1-4 years, 5-9 years, and 10-15 years old).
- Respiratory intubation and mechanical ventilation were commonly performed among young children (less than 1 year and 1-4 years old).

For infants:

- The most common procedure performed on infants was vaccinations and inoculations. Male infants with this procedure were slightly higher than female infants (86.4 thousand males versus 83.8 thousand females).
- Circumcision was also a common procedure performed among male infants.

For children 1-4 years:

- Incision and drainage of the skin was the most common procedure among children 1-4 years old. Males were about 20 percent less likely than females to have this procedure performed.
- Another common procedure among 1-4 years old was magnetic resonance imaging for which males experienced about 30 percent more stays compared to females.

For children 5-9 and 10-14 years:

- Appendectomy was the most frequently performed procedure in children 5-9 and 10-14 years old. Males underwent appendectomy in more than half stays compared to females for both age groups.
- Other vascular catheterization was the second most common procedure performed among both age groups. The ratios of male stays to female stays with this procedure were similar (about 1.3) for these two age groups.
- Blood transfusion ranked 3 among both age groups. While males had 27 percent more stays with blood transfusion than females among children 5-9 years old, the stays with blood transfusion between males and females were close among children 10-14 years old.
- Diagnostic spinal tap was another common procedure for which males were more likely than females to be hospitalized among both age groups.

For children 15-17 years:

- All of the top 5 procedures were performed in children 15-17 years old among females and they were related to pregnancy and childbirth.

## EXHIBIT 5.5 Childbirth

### Number of Hospital Stays for the Most Frequent Principal Diagnosis for Childbirth Stays\*, 2009

Principal CCS Diagnosis	Number of Stays in Thousands	Percent of Stays
All childbirth stays	373.7	100.0%
Trauma to vulva and perineum due to childbirth	69.7	18.6%
Maternal stay with previous C-section	57.4	15.4%
Other complications of birth	51.7	13.8%
Normal pregnancy and/or delivery	34.0	9.1%
Other complications of pregnancy	29.7	7.9%
Hypertension complicating pregnancy, childbirth and the puerperium	20.5	5.5%
Fetal distress and abnormal forces of labor	18.0	4.8%
Prolonged pregnancy	16.6	4.4%
Umbilical cord complication	15.3	4.1%
Polyhydramnios and other problems of amniotic cavity	14.9	4.0%

\* Childbirth stays are hospital stays for females ages 15-44 who gave birth.

Note: Excludes 73,656 stays (or 8.4 percent) for patients ages 15-44 with missing sex.

Among the 417.6 thousand maternal stays in 2009, there were 373.7 thousand stays (or 89.5 percent) for childbirth.

- Trauma to vulva and perineum due to childbirth was the most frequent principal diagnosis and comprised 18.6 percent of all childbirth stays.
- Maternal stay with previous C-section and other complications of birth were the second and third most common conditions, accounting for 15.4 percent and 13.8 percent of all childbirth stays, respectively.

**Number of Hospital Stays for the Most Frequent All-listed Procedures for Childbirth Stays\*, 2009**

<b>All-listed CCS Procedures</b>	<b>Number of Stays with the Procedure in Thousands</b>	<b>Percent of Stays for Childbirth</b>
All childbirth stays with any procedure	373.4	99.9%
Other procedures to assist delivery	173.7	46.5%
Cesarean section	135.9	36.3%
Repair of current obstetric laceration	109.7	29.3%
Artificial rupture of membranes to assist delivery	68.4	18.3%
Ligation or occlusion of fallopian tubes	36.5	9.8%
Fetal monitoring	35.9	9.6%
Episiotomy	34.9	9.4%
Forceps, vacuum, and breech delivery	21.4	5.7%
Other therapeutic procedures	11.1	3.0%
Other non-OR therapeutic procedures of urinary tract	9.7	2.6%

\* Childbirth stays are hospital stays for females ages 15-44 who gave birth.

Note: Excludes 73,656 stays (or 8.4 percent) for patients ages 15-44 with missing sex.

Almost all childbirth stays (373 thousand or 99.9 percent) had a procedure performed during hospitalizations.

- Other procedures to assist delivery were most frequently performed, accounting for 46.5 percent of all stays for childbirth.
- More than one-third (36.3 percent) of childbirth stays had the cesarean section performed.
- Repair of obstetric laceration (ranked third) accounted for about 30 percent of childbirth stays.

## SOURCES AND METHODS

### Data Source

The analysis in this report is based on *Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2009*, Texas Health Care Information Collection (THCIC), Center for Health Statistics (CHS), Texas Department of State Health Services (DSHS).

### Coding Diagnoses and Procedures

Diagnoses and procedures associated with an inpatient hospitalization can be defined using several different medical condition classification systems. The Clinical Classifications Software (CCS) was used predominantly within this report to identify specific diagnoses and procedures. CCS is based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*, a uniform and standardized coding system containing over 13,600 diagnosis codes and 3,700 procedure codes. Each discharge record in the PUDF is associated with one or more ICD-9-CM diagnosis code(s) and may contain one or more ICD-9-CM procedure code(s) if a procedure was performed during that hospitalization. Each hospital stay can have multiple CCS diagnoses and multiple CCS procedures.

In the CCS system, ICD-9-CM codes are clustered into a smaller number of clinically meaningful categories that are sometimes more useful for presenting descriptive statistics than are individual ICD-9-CM codes. The CCS tool groups ICD-9-CM codes into 285 diagnostic and 231 procedure categories. CCS codes are used extensively in this report to define groups of diagnoses and procedures for analysis. The CCS codes allow the reader to quickly and easily recognize patterns in broad categories of hospital utilization. More information on CCS can be found online (<http://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp>).

In addition, diagnoses can also be grouped into Diagnosis Related Groups (DRGs). DRGs comprise a classification system that categorizes patients into groups that are clinically coherent and homogeneous with respect to resource use. DRGs group patients according to diagnosis, type of treatment (procedures), age, and other relevant criteria. DRGs, in turn, can be summarized into Major Diagnostic Categories (MDCs), which are broad groups of DRGs. Each hospital stay has one DRG and one MDC assigned to it.

## DEFINITIONS

For definitions of medical terms, refer to:

<http://www.nlm.nih.gov/medlineplus/mplusdictionary.html>

### **Aggregate charges**

Aggregate charges are the sum of all charges for all hospital stays.

### **Charges**

Hospital charges reflect the amount the hospital billed for the entire hospital stay and do not include professional (physician) fees. The charge is generally more than the amount paid to the hospital by payers for the hospitalization and is also generally far more than what it costs hospitals to provide care.

### **Childbirth stays**

Childbirth stays are hospital stays for females ages 15-44 who gave birth.

### **Diagnoses**

**Principal diagnosis:** The condition established after study to be chiefly responsible for the patient's admission to the hospital.

**Secondary diagnoses:** The concomitant conditions (up to 24) that coexist at the time of admission or that develop during the stay.

### **Discharge status**

Discharge status indicates the disposition of the patient at the time of discharge from the hospital, and includes the following six categories: routine (to home), transfer to another short-term hospital, transfer to long-term care and other facilities (including skilled nursing facility, intermediate care, rehabilitation care, swing bed, and another type of facility such as a nursing home), home health care, against medical advice, or in-hospital deaths.

### **In-hospital deaths**

In-hospital deaths refer to hospitalizations in which the patient died during his or her hospital stay.

### **Length of stay**

Length of stay is the number of nights the patient remained in the hospital for his or her stay. A patient admitted and discharged on the same day has a length of stay equal to 0.

### **Maternal female stays**

Maternal female stays are hospital stays for females ages 15-44 who are pregnant or gave birth.

### **Non-maternal female stays**

Non-maternal female stays are hospital stays for females of all ages who are not pregnant or did not give birth.

**Patient age**

Patient age in years, calculated based on the patient's date of birth and admission date to the hospital.

**Payers**

Payer is the expected payer for the hospital stay. To make coding uniform across all PUDF sources, payer combines detailed categories into more general groups:

**Medicare** includes fee-for-service and managed care Medicare patients.

**Medicaid** includes fee-for-service and managed care Medicaid patients.

**Private insurance** includes Blue Cross, commercial carriers, and private HMOs and PPOs.

**Uninsured** includes an insurance status of "self-pay" and "no charge".

**Other** includes Workers' Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs.

When more than one payer is listed for a hospital discharge, the first-listed payer is used.

**Procedures**

**Principal procedure** is the procedure that was performed for definitive treatment rather than one performed for diagnostic or exploratory purposes (i.e., the procedure that was necessary to take care of a complication). If two procedures appear to meet this definition, the procedure most related to the principal diagnosis is selected as the principal procedure.

**All-listed procedures** include all procedures (up to 25) performed during the hospital stay.

**Stays**

The unit of analysis for PUDF data is the hospital stay (i.e., the hospital discharge), not a person or patient. This means that a person who is admitted to the hospital multiple times in one year will be counted each time as a separate "discharge" from the hospital.