



STATISTICAL BRIEF

April 2010

Hospital Stays for Circulatory Diseases, 2008

In 2008, there were nearly 400 thousand hospital stays for circulatory system diseases, which accounted for 13.6 percent of the 2.9 million total hospital stays in Texas. The aggregate charges for hospital stays with circulatory diseases were \$18.6 billion, over one-fifth of total charges for overall stays (\$89 billion).

Table 1 describes the general characteristics of hospitalizations for circulatory diseases. The mean length of hospital stay for the treatment of a circulatory disease was 4.9 days, which was slightly shorter than stays for all conditions combined (5.3 days). On average, hospital stays for diseases of the circulatory system were more expensive, originated in the emergency department (ED) more often, and resulted in more in-hospital deaths, as compared with hospital stays for all conditions. The average hospital charge per stay for circulatory diseases was about 54 percent higher than the average charge for all stays (\$46,980 per stay versus \$30,496 per stay). Patients hospitalized with circulatory diseases were, on average, about 22 years older than all patients admitted to the hospital (65.3 years versus 43.4 years). Moreover, hospital admissions originating in the ED accounted for 61.8 percent of all hospital stays for circulatory diseases; this figure was about 56 percent higher than the overall rate of 39.7 percent. Distinct differences also emerge for in-hospital mortality: 2.9 percent of patients admitted to the hospital for a circulatory disease died in the hospital, which was significantly higher than the average in-hospital death rate of 1.8 percent.

Table 2 highlights the specific circulatory diseases that resulted in hospitalization. The top 10 circulatory conditions comprised 11.3 percent of all hospitalizations. Congestive heart failure and coronary atherosclerosis were the two most common circulatory diseases causing hospitalization, accounted for 2.2 and 1.9 percent of all hospital stays, respectively. The next four most common circulatory diseases were acute heart conditions – cardiac dysrhythmias, acute myocardial infarction (heart attack), acute cerebrovascular disease (stroke), and nonspecific chest pain – each comprised a rate between 1.2 and 1.4 percent of all hospitalizations. Other common circulatory conditions included hypertension with complications, peripheral and visceral atherosclerosis, phlebitis, and transient cerebral ischemia. Among all 26 diseases of the circulatory system, the highest emergency admission rate was for transient cerebral ischemia (84.4 percent) and the highest in-hospital death rate was for cardiac arrest and ventricular

fibrillation (53.5 percent). It was also noted that hospitalizations for nonspecific chest pain had the shortest mean length of stay (2.2 days), the lowest in-hospital death rate (0.1 percent), the second highest emergency admission rate (81.1 percent), and the third lowest mean charge per stay (\$19,572). Compare to the overall mean age for hospitalizations, patients admitted to the hospital for each circulatory disease were significantly older with the mean age between 54 and 71 years old, except for the condition of cardiac and circulatory congenital anomalies for which patients hospitalized were extremely younger (mean age of 13). Also, among all circulatory diseases, cardiac and circulatory congenital anomalies resulted in the highest mean charge per stay (\$146,410) and the lowest emergency admission rate (9.1 percent).

Figure 1 shows the distribution of hospital stays by payer for the most frequent circulatory diseases. On average, Medicare was billed for more than half of all hospital stays for circulatory diseases, including the top five circulatory conditions: congestive heart failure, coronary atherosclerosis, cardiac dysrhythmias, acute myocardial infarction (heart attack), and acute cerebrovascular disease (stroke). Hospitalizations for congestive heart failure, the most common circulatory disease, were billed to Medicare at the especially high rate (72.4 percent). Compared to hospitalizations for other five common circulatory diseases, hospital stays for nonspecific chest pain were covered by private insurance at the highest rate (34.8 percent). Moreover, the rate of uninsured hospitalizations was about two-third higher for nonspecific chest pain than for all circulatory conditions combined (14.5 percent versus 8.6 percent).

Table 1. Hospitalizations for circulatory diseases compared to hospitalizations for all conditions, 2008

	Hospital stays for circulatory diseases*	Hospital stays for all conditions
Number of hospital stays (percentage of all hospital stays)	396,539 (13.6%)	2,918,553 (100.0%)
Mean length of stay (in days)	4.9	5.3
Mean charge per stay	\$46,980	\$30,496
Aggregate charges (percentage of total statewide charges)	\$18,630 million (20.9%)	\$89,005 million (100.0%)
Mean age	65.3	43.4
Percentage admitted through the emergency department	61.8%	39.7%
Percentage died in hospital	2.9%	1.8%

* Based on principal diagnosis.

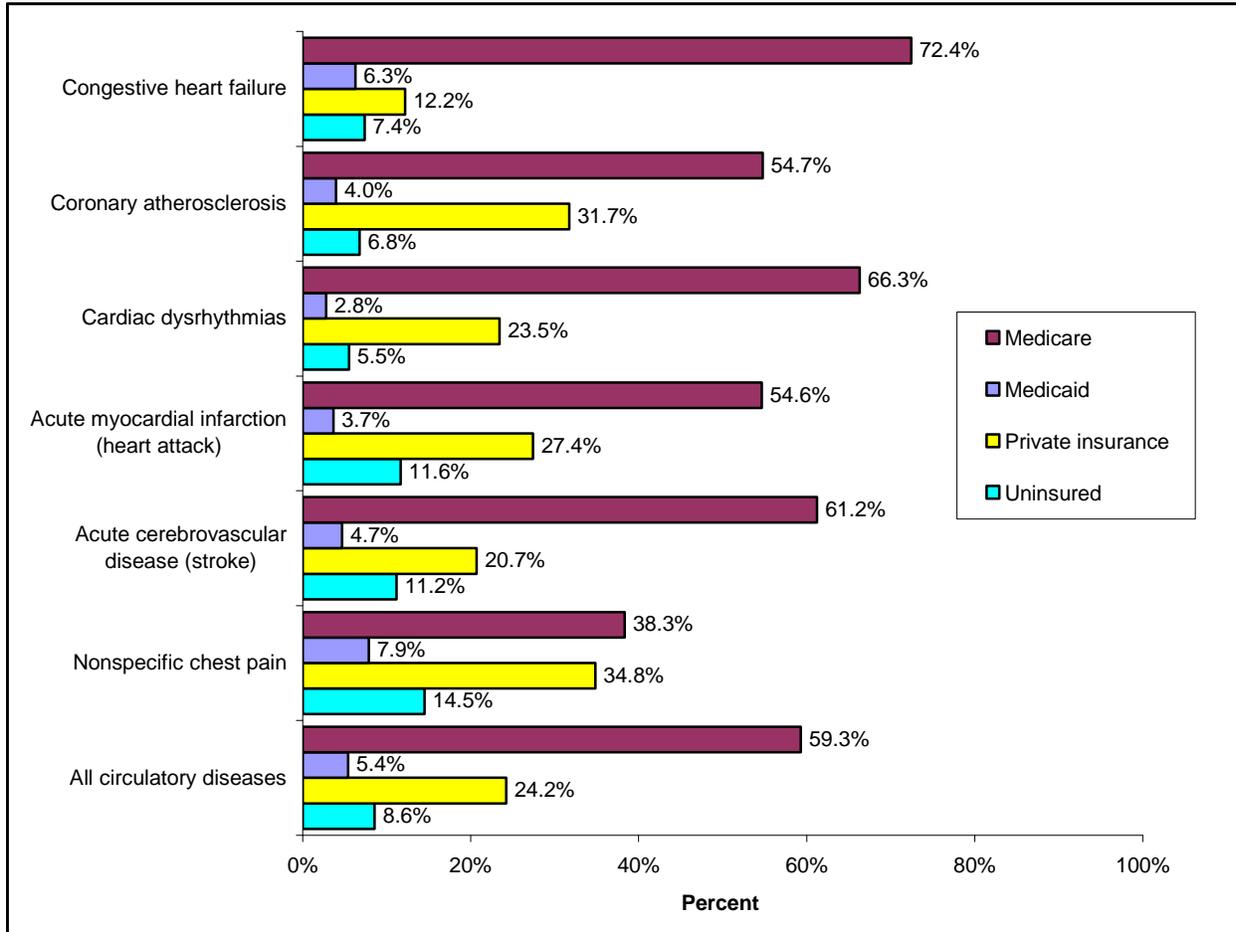
Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2008.

Table 2. Circulatory diseases that cause hospitalizations, 2008

	Principal diagnosis	Total number of stays	Percent of all hospital stays	Mean length of stay	Mean charge per stay	Percent admitted through the ED	Percent died in the hospital	Mean age
1	Congestive heart failure	65,057	2.2%	5.7	\$40,082	72.5%	3.1%	70
2	Coronary atherosclerosis	55,146	1.9%	4.0	\$61,313	40.9%	0.7%	65
3	Cardiac dysrhythmias	42,046	1.4%	3.7	\$34,874	62.8%	1.1%	69
4	Acute myocardial infarction (heart attack)	39,041	1.3%	5.4	\$70,066	71.6%	6.3%	66
5	Acute cerebrovascular disease (stroke)	37,249	1.3%	6.5	\$47,887	77.1%	8.2%	68
6	Nonspecific chest pain	35,338	1.2%	2.2	\$19,572	81.1%	0.1%	58
7	Hypertension with complications	20,955	0.7%	5.2	\$36,655	70.6%	1.6%	60
8	Peripheral and visceral atherosclerosis	13,673	0.5%	5.2	\$53,726	26.9%	3.0%	69
9	Phlebitis, thrombophlebitis and thromboembolism	11,760	0.4%	5.4	\$27,445	59.6%	0.8%	62
10	Transient cerebral ischemia	10,869	0.4%	2.8	\$21,831	84.4%	0.2%	68
11	Occlusion or stenosis of precerebral arteries	9,817	0.3%	2.5	\$32,282	13.6%	0.3%	71
12	Pulmonary heart disease	9,529	0.3%	6.6	\$42,176	71.6%	4.3%	62
13	Other circulatory disease	8,883	0.3%	4.5	\$30,657	67.5%	2.0%	65
14	Essential hypertension	5,472	0.2%	2.7	\$18,324	77.1%	0.2%	59
15	Aortic, peripheral, and visceral artery aneurysms	5,444	0.2%	6.8	\$105,073	21.3%	6.4%	68
16	Heart valve disorders	5,070	0.2%	9.3	\$133,668	18.4%	4.5%	67
17	Peri-, endo-, and myocarditis, cardiomyopathy	4,722	0.2%	8.6	\$70,103	50.4%	3.8%	54
18	Cardiac and circulatory congenital anomalies	3,579	0.1%	10.8	\$146,410	9.1%	2.8%	13
19	Conduction disorders	3,564	0.1%	3.7	\$59,731	48.7%	1.3%	71
20	Late effects of cerebrovascular disease	2,012	0.1%	13.4	\$44,153	36.0%	5.5%	70
21	Aortic and peripheral arterial embolism or thrombosis	1,966	0.1%	6.7	\$64,702	42.3%	4.4%	66
22	Other diseases of veins and lymphatics	1,791	0.1%	9.0	\$40,999	44.9%	2.0%	61
23	Other and ill-defined cerebrovascular disease	1,763	0.1%	4.7	\$59,547	35.1%	1.1%	59
24	Cardiac arrest and ventricular fibrillation	1,089	0.0%	5.0	\$67,526	74.8%	53.5%	62
25	Varicose veins of lower extremity	367	0.0%	16.4	\$19,305	21.3%	0.8%	67
26	Other and ill-defined heart disease	337	0.0%	4.9	\$49,737	52.8%	2.7%	62

Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2008.

Figure 1. Distribution of hospital stays for the most frequent circulatory diseases, by payer, 2008*



* Based on principal diagnosis.

Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2008.