



STATISTICAL BRIEF

June 2011

Hospital Stays Related to Asthma, 2009

In 2009, there were approximately 156 thousand asthma-related hospital stays in Texas, comprising 5.3 percent of all hospitalizations. Asthma was listed as the principal reason for hospitalization (i.e., the principal diagnosis) in 18.6 percent of these stays, and was listed as a secondary diagnosis in 81.4 percent of these stays. The aggregate hospital charges for stays related to asthma totaled about \$5.7 billion, or 4.8 percent of total charges for overall hospital stays (\$118.6 billion).

Table 1 presents the characteristics of hospital stays related to asthma compared to stays with no mention of asthma. Hospital stays principally for asthma were, on average, 1.7 days shorter than non-asthma stays (3.6 days versus 5.3 days). Adjusting for differences in lengths of stay, the mean hospital charge per day for stays with asthma as a principal diagnosis was about \$900 lower than the mean charge per day for stays with no mention of asthma (\$6,721 versus \$7,642). Resource use for stays with no mention of asthma was very comparable to stays for which asthma was listed as a secondary diagnosis.

A much greater percent of hospitalizations principally for asthma were admitted through the emergency department (ED) compared to non-asthma stays (71.3 percent versus 39.3 percent). While asthma stays with a principal diagnosis originated in the ED more often, the in-hospital death rate for these patients was much lower compared to patients with no mention of asthma (0.25 percent versus 1.78 percent). Secondary cases of asthma also originated in the ED more frequently (50.9 percent) and resulted in lower in-hospital death rate (1.12 percent) compared to non-asthma stays.

Accounting for population size, the rate of hospitalization with a secondary diagnosis of asthma was much higher than the rate of hospitalization with a principal diagnosis of asthma among each age group – it was more than 4 times greater for all ages (5.1 stays versus 1.2 stays per 1,000 population). While stays principally for asthma did not vary appreciably in the age groups, the rate of hospitalization with a secondary diagnosis of asthma increased with age – there were 2.7 stays per 1,000 population for children (0-17 years), 3.5 stays per 1,000 population for 18-44 years, 6.7 stays per 1,000 population for 45-64 years, and sharply increasing to 14.4 stays per 1,000 population for the elderly (65+ years). Overall rates of asthma-related hospitalizations were highest among the elderly. This pattern is in contrast to non-asthma stays for which the

highest rate of hospitalization was for the elderly at 323.0 stays per 1,000 population with lower hospitalization rates for the remaining age groups.

Asthma was more often a secondary reason for hospitalization rather than the principal reason. Among those stays with asthma noted as a secondary diagnosis, Table 2 shows the five most common principal reasons why patients were hospitalized. Pneumonia was, by far, the most common principal reason for hospitalization in asthma-related stays being noted in 11,874, or 9.4 percent, of asthma-related stays. In contrast, only 2.4 percent of stays with no mention of asthma noted pneumonia as a principal diagnosis. Mood disorders and osteoarthritis were the next two most common principal reasons for 4.7 and 3.3 percent of stays with a secondary diagnosis of asthma, respectively. Mood disorders were noted most commonly in non-asthma stays among those five principal conditions. Compared to patients with no mention of asthma, patients with asthma were nearly twice as likely to have a condition of osteoarthritis noted as the principal reason for hospitalization.

Government payers, Medicare and Medicaid, were billed for 52.9 percent of stays principally for asthma and 54.6 percent of stays for asthma noted as a secondary condition, which was comparable to the percentage (54.8 percent) of all hospital stays billed to public payers (Figure 1). Relative to their shares of all hospital stays, Medicaid was billed for disproportionately more stays principally for asthma (27.0 percent of stays for asthma compared to 22.4 percent of all stays), while Medicare was billed with greater frequency when asthma was listed as a secondary diagnosis (36.3 percent of secondary cases of asthma compared to 32.4 percent of all stays). Similar to their share of all hospital stays, private insurers were billed for about one-third of asthma-related stays. Uninsured stays accounted for 8 to 12 percent of asthma-related stays and about 9 percent of all hospitalizations.

Table 1. Characteristics of hospital stays related to asthma compared to stays with no mention of asthma, 2009

	Hospital stays with:		
	Asthma as a principal diagnosis	Asthma as a secondary diagnosis	No mention of asthma
Number of hospital stays (percent of all stays)	28,967 (1.0%)	126,934 (4.3%)	2,791,586 (94.7%)
Percentage of asthma stays	18.6%	81.4%	
Mean length of stay (in days)	3.6	5.2	5.3
Mean charge per stay	\$23,971	\$39,453	\$40,454
Mean charge per day	\$6,721	\$7,578	\$7,642
Aggregate charges (in millions)	\$694	\$5,008	\$112,930
Percent admitted from the emergency department	71.3%	50.9%	39.3%
Percent died in hospital	0.25%	1.12%	1.78%
<i>Hospitalization rate per 1,000 population</i>			
All ages	1.2	5.1	112.6
<i>Age group</i>			
0-17 years	1.7	2.7	89.9
18-44 years	0.5	3.5	78.9
45-64 years	1.3	6.7	106.5
65+ years	2.2	14.4	323.0

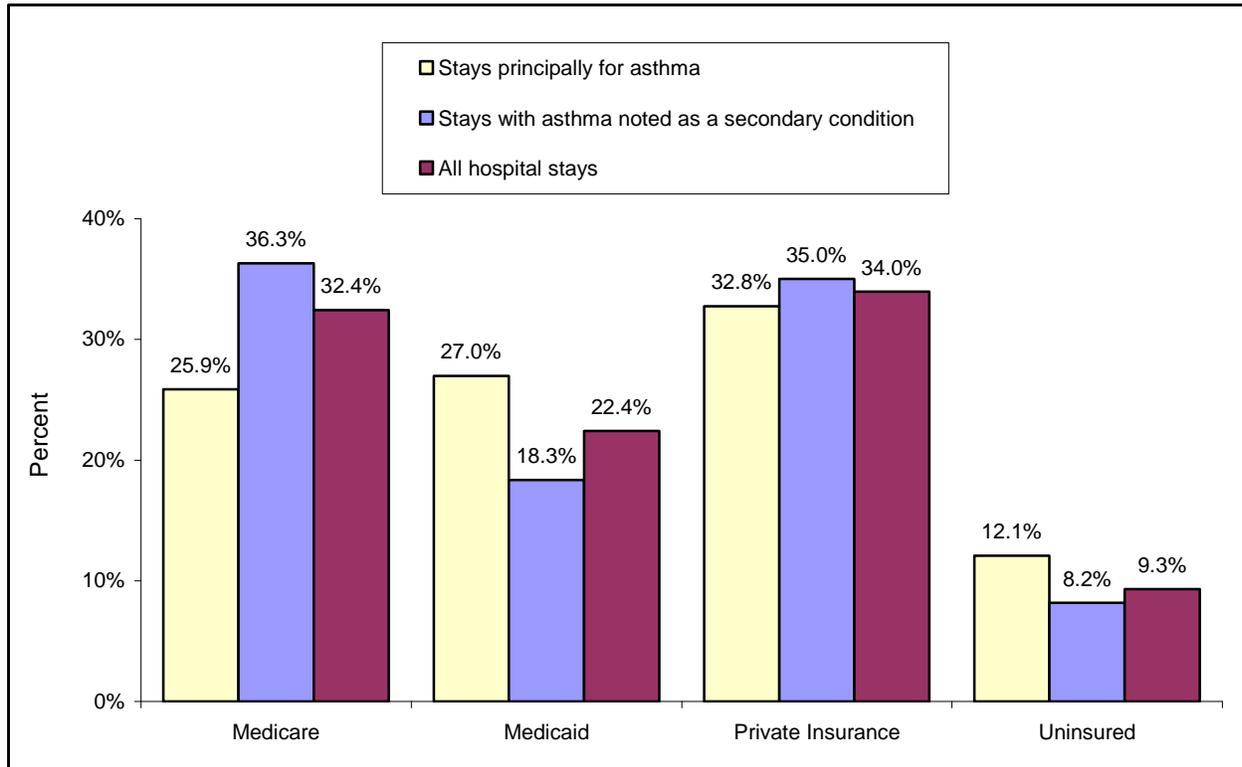
Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2009.

Table 2. Five most common principal diagnoses for hospital stays with asthma noted as a secondary condition, 2009

Rank	Principal diagnosis	Number of stays with asthma as a secondary diagnosis	Percentage of stays with this principal diagnosis among:	
			Stays with asthma as a secondary diagnosis	Stays with no mention of asthma
1	Pneumonia	11,874	9.4%	2.4%
2	Mood disorders	5,936	4.7%	3.3%
3	Osteoarthritis	4,251	3.3%	1.7%
4	Congestive heart failure, nonhypertensive	3,964	3.1%	2.2%
5	Back pain (spondylosis, intervertebral disc disorders, other back problems)	3,334	2.6%	1.5%

Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2009.

Figure 1. Distribution of hospital stays related to asthma compared to all stays, by payer, 2009



Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2009.