

## STATISTICAL BRIEF #96

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# Potentially Preventable Hospitalizations among Medicare- Medicaid Dual Eligibles, 2008

*H. Joanna Jiang, Ph.D., Lauren M. Wier, M.P.H., D.E.B. Potter,  
M.S., Jacqueline Burgess, M.B.A.*

### Introduction

In 2008, about 8 million Medicare beneficiaries were enrolled in their states' Medicaid programs.<sup>1</sup> For these dually eligible individuals, Medicaid pays for the Medicare premiums and other out-of-pocket expenses such as deductibles and coinsurance, and for Medicaid-only services such as long-term care. Dual eligibles tend to be among the sickest and poorest persons with complex health care needs. Prior studies revealed that compared with other Medicare beneficiaries, dual eligibles are more likely to be in poor health, have multiple chronic physical conditions, and have more than one mental/cognitive condition.<sup>2,3</sup> On average, dual eligibles incur almost twice the level of total health expenditures (including Medicare, Medicaid, supplemental insurance, and out-of-pocket spending) as other Medicare beneficiaries. Overall, dual eligibles account for nearly half of all Medicaid spending and more than a quarter of all Medicare spending.<sup>4</sup>

Dual eligibles have been and will continue to be important to both federal and state public policymakers. Care for this population faces unique challenges due to split financial accountability between the two programs, diverse socio-demographic and clinical characteristics, and the related poverty and poor health of the population. These challenges create considerable difficulties for care coordination, which affects both access to care and the quality of care. Lack of access to care, poor quality of care, and inadequate management of health conditions, could lead to hospital admissions that are potentially preventable. Identifying conditions that are common reasons for potentially preventable hospitalizations would help guide development of strategies to improve care and patient outcomes while potentially lowering costs.

<sup>1</sup> Data based on Centers for Medicare & Medicaid Services (CMS) Enrollment Database, Provider Enrollment, Economic and Attributes Reports, provided by CMS Office of Research, Development, and Information, July 2010.

<sup>2</sup> MedPAC. "A Data Book: Healthcare Spending and the Medicare Program." June 2010.

<sup>3</sup> Kasper J., Watts M.O., and Lyons B. "Chronic Disease and Co-Morbidity among Dual Eligibles: Implications for Patterns of Medicaid and Medicare Service Use and Spending." The Henry J. Kaiser Family Foundation, July 2010.

<sup>4</sup> Lyons B. and Watts M.O. "Health Reform Opportunities: Improving Policy for Dual Eligibles." The Henry J. Kaiser Family Foundation, August 2009.

### Highlights

- In 2008, approximately 18 percent of Medicare beneficiaries were dually eligible for Medicaid. Dual eligibles accounted for about one-third of all Medicare hospital stays with a principal diagnosis of pressure ulcers (36 percent), asthma (32 percent), and diabetes (32 percent); and roughly one-quarter of stays for urinary tract infection (UTI), chronic obstructive pulmonary disease (COPD), and bacterial pneumonia.
- Compared with other Medicare beneficiaries, dual eligibles were more than twice as likely to be hospitalized for pressure ulcers, asthma, and diabetes, 52 percent more likely for urinary tract infection, and over 30 percent more likely for COPD and bacterial pneumonia.
- The top three causes of potentially preventable hospitalizations for dual eligibles were bacterial pneumonia (2,041 stays per 100,000 enrollees), congestive heart failure (CHF; 1,829 stays per 100,000 enrollees), and COPD (1,179 stays per 100,000 enrollees).
- Among the nine selected potentially preventable hospitalizations, stays for pressure ulcers had the highest average hospital cost per stay (\$15,000), irrespective of dual eligibility.
- About half of dual eligible stays for diabetes and asthma were among patients ages 18 to 64. However, elderly patients ages 85 and over accounted for one-third of stays for injurious falls and about one-quarter of stays for UTI, bacterial pneumonia, and dehydration.
- The greatest gap in potentially preventable hospitalizations between dual eligibles and non-dual eligibles occurred among those ages 65 to 74, for which the rate of stays for dual eligibles was nearly 2 to 4 times the rate of stays for non-dual eligibles, except for injurious falls.

This Statistical Brief presents data from the Healthcare Cost and Utilization Project (HCUP) on hospitalizations for nine medical conditions among dual eligibles. Seven of these conditions are selected from the Prevention Quality Indicators (PQI) developed by the Agency for Healthcare Research and Quality (AHRQ), including asthma, bacterial pneumonia, chronic obstructive pulmonary disease, congestive heart failure, dehydration, diabetes, and urinary tract infection. Data are also presented on injurious falls and pressure ulcers, two conditions that are highly relevant to the Medicare population. Hospitalizations for all of these conditions are identified based on principal diagnosis (i.e., the reason for admission). Hospitalization rates and hospital costs are presented for dual eligibles in comparison with other Medicare beneficiaries (non-dual eligibles). Hospitalization rate is based on total Medicare enrollment obtained from the Centers for Medicare & Medicaid Services (CMS). Patient demographics (age, gender, race/ethnicity) are also presented for dual eligibles hospitalized for each of the nine conditions.

HCUP data are all-payer hospital discharge data that capture admissions by both fee-for-service and managed care enrollees. Aggregate statistics presented in this brief are drawn from 27 states that collect multiple payer variables to allow identification of dual coverage by Medicare and Medicaid. All Medicare beneficiaries age 18 years and above are included, regardless of their place of residence (e.g., nursing home). All differences between estimates noted in the text are statistically significant at the 0.05 level or better.

## Findings

*Proportions of total number and hospital costs of potentially preventable hospitalizations by dual eligibles*  
In 2008, approximately 18 percent of Medicare beneficiaries were dual eligibles. Table 1 shows that dual eligible stays comprised 13 to 36 percent of all Medicare stays for the selected potentially preventable conditions in 2008. Dual eligible stays accounted for about one-third of all Medicare discharges with a principal diagnosis of pressure ulcers (36 percent), asthma (32 percent), and diabetes (32 percent), and roughly one-quarter of stays for urinary tract infection (UTI), chronic obstructive pulmonary disease (COPD), and bacterial pneumonia.

Likewise, dual eligible stays contributed to 14 to 37 percent of the total hospital costs for all Medicare stays for these selected chronic and acute conditions. The proportion of total costs attributable to dual eligibles by each individual condition was similar to the proportion of stays.

Extrapolated to the national level, the total number of hospitalizations for all nine conditions would be 727,906 for dual eligibles, or about nine hospital stays per 100 dual eligible beneficiaries. The total hospital costs would be approximately \$6.37 billion.

*Population-based rates and average hospital costs of potentially preventable hospitalizations, dual eligibles versus other Medicare beneficiaries, 2008*

Bacterial pneumonia was the condition with the highest rate of hospitalizations among dual eligibles (2,041 stays per 100,000 enrollees), followed by congestive heart failure (CHF) (1,829 stays per 100,000 enrollees) (table 2). Among other Medicare beneficiaries, CHF was the condition with the highest rate of hospitalizations (1,707 stays per 100,000 enrollees), followed by bacterial pneumonia (1,484 stays per 100,000 enrollees). The third most common condition for dual eligibles was COPD (1,179 stays per 100,000 enrollees). For other Medicare beneficiaries, it was injurious falls (1,109 stays per 100,000 enrollees).

Compared to other Medicare beneficiaries, dual eligibles had about twice the rate of stays for diabetes (861 versus 428 stays per 100,000 enrollees) and asthma (496 versus 244 stays per 100,000 enrollees). Stays principally for pressure ulcers were relatively rare among other Medicare beneficiaries (49 stays per 100,000), but occurred much more frequently among dual eligibles (119 stays per 100,000 enrollees). Hospitalization rates for UTI, bacterial pneumonia, and COPD were also substantially higher for the dually eligible. Only the rate of stays for injurious falls was higher among non-dual eligible beneficiaries compared to dual eligibles (1,109 versus 741 per 100,000 enrollees, respectively).

Stays for pressure ulcers had the highest average hospital cost per stay (around \$15,000), irrespective of dual eligibility, followed by stays principally for injurious falls (\$11,680 for dual eligibles and \$11,130 for

non-dual eligibles). The average hospital cost per dual eligible stay was consistently higher than the average hospital cost per non-dual eligible stay, except for two chronic conditions: diabetes (\$9,800 versus \$10,000) and COPD (\$7,490 versus \$7,620).

#### *Hospitalization rates of potentially preventable hospitalizations by age group, 2008*

Figure 1 shows age group differences in dual eligible and non-dual eligible hospitalization rates for these selected potentially preventable conditions. Dual eligible and non-dual eligible hospitalization rates tended to increase with age, except for diabetes, asthma, and COPD. For these three chronic conditions, rates decreased with age among those dual eligibles ages 65 and above. For asthma and diabetes, dual eligibles ages 18 to 64 had the highest hospitalization rates.

Dual eligible hospitalization rates tended to be higher than non-dual hospitalization rates across age groups, except in the oldest group (85 years and older). The most pronounced differences occurred to the 65 to 74 year age group, for which the rate of stays for dual eligibles was nearly 2 to 4 times the rate of stays for non-dual eligibles, except for injurious falls. In contrast, among Medicare beneficiaries ages 85 and older, non-dual eligibles had a much higher rate of stays than dual eligibles for CHF (5,416 versus 3,359 stays per 100,000 enrollees) and injurious falls (4,384 versus 2,082 stays per 100,000 enrollees).

#### *Patient demographic characteristics among dual eligible stays, 2008*

Table 3 presents patient characteristics of dual eligible hospital stays overall and for stays for selected potentially preventable conditions. Non-elderly adults (ages 18 to 64 years) accounted for 40 percent of all dual eligible stays. Nearly half of all stays (46 percent) were attributable to patients ages 65 to 84, and the rest (14 percent) to those ages 85 and over. In comparison, about half of stays for diabetes (52 percent) and asthma (50 percent) were among patients ages 18 to 64. Older elderly patients ages 85 and over accounted for one-third of stays for injurious falls and more than one-quarter of stays for UTI (30 percent), bacterial pneumonia (26 percent), and dehydration (25 percent).

Women accounted for the majority of all dual eligible hospital stays (63 percent), which was also reflected in stays for most of the selected conditions. However, women comprised more than three-quarters of stays for injurious falls (78 percent), asthma (77 percent), and UTI (75 percent).

In terms of race/ethnicity, 60 percent of all dual eligible hospital stays were for whites, 24 percent for blacks, and 10 percent for Hispanics. Whites comprised about three-fourths of dual eligible stays for COPD (76 percent), injurious falls (74 percent), and pneumonia (71 percent). Across the nine conditions, black dual eligible patients accounted for their highest proportions for diabetes (34 percent of all dual eligible diabetes stays), pressure ulcers (32 percent of all dual eligible pressure ulcer stays), asthma (30 percent of all dual eligible asthma stays), and CHF (30 percent of all dual eligible CHF stays). Hispanics accounted for their highest proportions for asthma (19 percent of all dual eligible asthma stays) and diabetes (15 percent of all dual eligible diabetes stays).

#### **Data Source**

The data in this Statistical Brief are based upon data from the HCUP 2008 SID for 27 states: Arkansas, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Vermont, West Virginia, and Wisconsin. These states were selected because they provided multiple payer variables to allow identifying dual coverage by Medicare and Medicaid. Supplemental sources included data from the 2008 CMS Enrollment Database, Provider Enrollment, Economic, and Attributes Reports.

Estimates of the total number of hospitalizations and total hospital costs at the national level are based on the HCUP 2008 Nationwide Inpatient Sample (NIS). The NIS is nationally representative of all community hospitals (i.e., short-term, non-federal, non-rehabilitation hospitals). The NIS is a sample of hospitals and includes all patients from each hospital, regardless of payer. It is drawn from a sampling frame that contains hospitals comprising about 95 percent of all discharges in the United States. The vast size of the NIS allows the study of topics at both the national and regional levels for specific subgroups of patients. In addition, NIS data are standardized across years to facilitate ease of use.

## Definitions

### *Types of hospitals included in HCUP*

HCUP is based on data from community hospitals, defined as short-term, non-federal, general and other hospitals, excluding hospital units of other institutions (e.g., prisons). HCUP data include OB-GYN, ENT, orthopedic, cancer, pediatric, public, and academic medical hospitals. They exclude long-term care, rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals, but these types of discharges are included if they are from community hospitals.

### *Unit of analysis*

The unit of analysis is the hospital discharge (i.e., the hospital stay), 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.

### *Costs and charges*

Total hospital charges were converted to costs using HCUP Cost-to-Charge Ratios based on hospital accounting reports from the Centers for Medicare and Medicaid Services (CMS).<sup>5</sup> Costs will tend to reflect the actual costs of production, while charges represent what the hospital billed for the case. For each hospital, a hospital-wide cost-to-charge ratio is used because detailed charges are not available across all HCUP States. Hospital charges reflect the amount the hospital charged for the entire hospital stay and does not include professional (physician) fees. For the purposes of this Statistical Brief, costs are reported to the nearest hundred.

### *Payer*

Payer is the expected primary payer for the hospital stay. To make coding uniform across all HCUP data 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. Patients covered by the State Children's Health Insurance Program (SCHIP) may be included here. Because most state data do not identify SCHIP patients specifically, it is not possible to present this information separately.
- Private insurance includes Blue Cross, commercial carriers, and private HMOs and PPOs.
- Other includes Workers' Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs.
- Uninsured includes an insurance status of "self-pay" and "no charge."

Up to three payers can be coded for a hospital stay in HCUP data. For purpose of this Statistical Brief, when this occurs, the following hierarchy is used:

- For Medicare stays, if any payer is listed as Medicare, the payer is "Medicare."
- For non-Medicare stays, if any payer is listed as Medicaid, the payer is "Medicaid."
- For stays that are neither Medicare nor Medicaid, if any payer is listed as private insurance, the payer is "private insurance."

Dual eligible is defined as having one of the payers coded as "Medicare" with any of the remaining payers coded as "Medicaid," regardless of the payer sequence.

### *Prevention Quality Indicators (PQIs)*

The PQIs are part of a set of AHRQ Quality Indicators (QIs) developed by investigators at Stanford University and the University of California under a contract with AHRQ. The PQIs are a set of measures that can be used with hospital inpatient discharge data to identify quality of care for "ambulatory care-sensitive conditions." These are conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease. PQI rates can also be affected by other factors such as disease prevalence.

<sup>5</sup> HCUP Cost-to-Charge Ratio Files (CCR). Healthcare Cost and Utilization Project (HCUP). 2001–2008. U.S. Agency for Healthcare Research and Quality, Rockville, MD. [www.hcup-us.ahrq.gov/db/state/costtocharge.jsp](http://www.hcup-us.ahrq.gov/db/state/costtocharge.jsp).

This Statistical Brief includes hospital discharge rates per 100,000 enrollees for the following seven potentially preventable conditions: Chronic Obstructive Pulmonary Disease (PQI 5), Congestive Heart Failure (PQI 8), Dehydration (PQI 10), Bacterial Pneumonia (PQI 11), Urinary Tract Infection (PQI 12), Adult Asthma (PQI 15), and Diabetes (with or without complications), which is presented as composite of three PQI: Diabetes Short-term Complications (PQI 1), Diabetes Long-term Complications (PQI 3), and Uncontrolled Diabetes (PQI 14). The original PQIs exclude patients transferred from skilled nursing facility, intermediate care facility, and another health care facility (other than hospital). Given that a significant proportion of Medicare and Medicaid beneficiaries reside in those facilities, this exclusion criterion was removed in this study to allow for capturing hospital admissions by those patients.

Data are also presented on pressure ulcers and injurious falls, two conditions that are not from the PQI but are highly relevant to the Medicare population. Pressure ulcers are a condition that typically results from prolonged periods of uninterrupted pressure on the skin, soft tissue, muscle, and bone. The occurrence of pressure ulcers may indicate the quality of care received by patients at home or in health care facilities, such as nursing homes and hospitals. Injurious falls are a common cause of fatal injuries among elderly adults ages 65 years and older. Common fall-related injuries include fractures, open wounds, and head traumas, and are serious enough to impair mobility and require admission to a long-term care facility for a year or more.

Further information on the AHRQ QIs, including documentation and free software downloads, is available at <http://www.qualityindicators.ahrq.gov/index.htm>. This Web site includes information on the new version of the PQIs, Version 4.1. It also includes information on the Pediatric Quality Indicators (PDIs, formerly referred to as PedQIs), which includes the hospital discharge rate measures for pediatric asthma and pediatric gastroenteritis.

#### *Reporting of race and ethnicity*

Not every state collects information on race/ethnicity, and within states that collect the information, some hospitals do not code race and ethnicity reliably. For the 27 states included in this study, 19 demonstrate acceptable quality in the race/ethnicity data elements. The other 8 states (Illinois, Indiana, Louisiana, Minnesota, Nebraska, North Carolina, Oregon, West Virginia) were excluded due to not collecting race/ethnicity, having a relatively high overall missing rate, or data anomalies such as missing one of the four race/ethnicity categories (i.e., white, black, Hispanic, other) examined in this study.

Data on Hispanics are collected differently among the states and also can differ from the Census methodology of collecting information on race (white, African American, Asian, American Indian/Alaska Native) separately from ethnicity (Hispanic, non-Hispanic). State data organizations often collect Hispanic ethnicity as one of several categories that include race. Therefore, for multistate analyses, HCUP creates the combined categorization of race and ethnicity for data from states that report ethnicity separately. When a state data organization collects Hispanic ethnicity separately from race, HCUP uses Hispanic ethnicity to override any other race category to create a Hispanic category for the uniformly coded race/ethnicity data element, while also retaining the original race and ethnicity data. This Statistical Brief reports the HCUP uniform coding of race/ethnicity for the following categories: white, non-Hispanic; black, non-Hispanic; and Hispanic.

#### **About HCUP**

HCUP is a family of powerful health care databases, software tools, and products for advancing research. Sponsored by the Agency for Healthcare Research and Quality (AHRQ), HCUP includes the largest all-payer encounter-level collection of longitudinal health care data (inpatient, ambulatory surgery, and emergency department) in the United States, beginning in 1988. HCUP is a Federal-State-Industry Partnership that brings together the data collection efforts of many organizations—such as State data organizations, hospital associations, private data organizations, and the Federal government—to create a national information resource.

HCUP would not be possible without the contributions of the following data collection Partners from across the United States:

**Arizona** Department of Health Services  
**Arkansas** Department of Health

**California** Office of Statewide Health Planning and Development  
**Colorado** Hospital Association  
**Connecticut** Hospital Association  
**Florida** Agency for Health Care Administration  
**Georgia** Hospital Association  
**Hawaii** Health Information Corporation  
**Illinois** Department of Public Health  
**Indiana** Hospital Association  
**Iowa** Hospital Association  
**Kansas** Hospital Association  
**Kentucky** Cabinet for Health and Family Services  
**Louisiana** Department of Health and Hospitals  
**Maine** Health Data Organization  
**Maryland** Health Services Cost Review Commission  
**Massachusetts** Division of Health Care Finance and Policy  
**Michigan** Health & Hospital Association  
**Minnesota** Hospital Association  
**Missouri** Hospital Industry Data Institute  
**Nebraska** Hospital Association  
**Nevada** Department of Health and Human Services  
**New Hampshire** Department of Health & Human Services  
**New Jersey** Department of Health and Senior Services  
**New Mexico** Health Policy Commission  
**New York** State Department of Health  
**North Carolina** Department of Health and Human Services  
**Ohio** Hospital Association  
**Oklahoma** State Department of Health  
**Oregon** Association of Hospitals and Health Systems  
**Pennsylvania** Health Care Cost Containment Council  
**Rhode Island** Department of Health  
**South Carolina** State Budget & Control Board  
**South Dakota** Association of Healthcare Organizations  
**Tennessee** Hospital Association  
**Texas** Department of State Health Services  
**Utah** Department of Health  
**Vermont** Association of Hospitals and Health Systems  
**Virginia** Health Information  
**Washington** State Department of Health  
**West Virginia** Health Care Authority  
**Wisconsin** Department of Health Services  
**Wyoming** Hospital Association

### About the SID

The HCUP State Inpatient Databases (SID) are hospital inpatient databases from data organizations participating in HCUP. The SID contain the universe of the inpatient discharge abstracts in the participating HCUP states, translated into a uniform format to facilitate multistate comparisons and analyses. Together, the SID encompass about 95 percent of all U.S. community hospital discharges in 2009. The SID can be used to investigate questions unique to one state; to compare data from two or more states; to conduct market area variation analyses; and to identify state-specific trends in inpatient care utilization, access, charges, and outcomes.

### For More Information

For more information about HCUP, visit [www.hcup-us.ahrq.gov](http://www.hcup-us.ahrq.gov)

For additional HCUP statistics, visit HCUPnet, our interactive query system, at [www.hcup.ahrq.gov](http://www.hcup.ahrq.gov).

For information on other hospitalizations in the U.S., download *HCUP Facts and Figures: Statistics on Hospital-Based Care in the United States in 2008*, located at <http://www.hcup-us.ahrq.gov/reports.jsp>.

For a detailed description of HCUP, please refer to the following publications:

Steiner, C., Elixhauser, A., Schnaier, J. *The Healthcare Cost and Utilization Project: An Overview. Effective Clinical Practice* 5(3):143–51, 2002.

*Introduction to the HCUP State Inpatient Databases (SID)*. Online. June 2010. U.S. Agency for Healthcare Research and Quality. [http://www.hcup-us.ahrq.gov/db/state/siddist/Introduction\\_to\\_SID.pdf](http://www.hcup-us.ahrq.gov/db/state/siddist/Introduction_to_SID.pdf).

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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other HCUP data and tools, and to share suggestions on how HCUP products might be enhanced to further meet your needs. Please e-mail us at [hcup@ahrq.gov](mailto:hcup@ahrq.gov) or send a letter to the address below:

Irene Fraser, Ph.D., Director  
Center for Delivery, Organization, and Markets  
Agency for Healthcare Research and Quality  
540 Gaither Road  
Rockville, MD 20850

**Table 1. Percentage of total number and hospital costs of potentially preventable hospitalizations by dual eligibles, 2008**

Preventable Conditions	Total Number of Hospitalizations			Total Hospital Costs (in millions)		
	All Medicare Patients	Dual Eligibles	Percentage by Duals	All Medicare Patients	Dual Eligibles	Percentage by Duals
<b>Chronic Conditions</b>						
Congestive Heart Failure	442,930	87,580	19.8%	\$3,650	\$760	20.8%
Chronic Obstructive Pulmonary Disease	233,250	56,470	24.2%	\$1,770	\$420	23.9%
Diabetes, with or without complications	130,410	41,250	31.6%	\$1,290	\$400	31.2%
Asthma	74,510	23,740	31.9%	\$530	\$170	32.5%
<b>Acute Infections</b>						
Bacterial Pneumonia	406,690	97,740	24.0%	\$3,770	\$950	25.2%
Urinary Tract Infection	188,360	48,790	25.9%	\$1,190	\$330	27.6%
<b>Other Conditions</b>						
Injurious Falls	266,420	35,460	13.3%	\$2,980	\$410	13.9%
Dehydration	99,630	20,050	20.1%	\$560	\$120	20.9%
Pressure Ulcers	15,830	5,700	36.0%	\$240	\$90	36.6%

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID), 2008, from the following 27 states: Arkansas, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Vermont, West Virginia, Wisconsin.



**Table 2. Hospitalization rate\* and average hospital cost per stay by dual eligibles versus other Medicare beneficiaries, 2008**

Preventable Conditions	Number of Hospitalizations per 100,000 Enrollees			Average Hospital Cost per Stay		
	Dual Eligibles	Non-Dual Eligibles	Percentage Difference between Duals and Non-Dual Eligibles	Dual Eligibles	Non-Dual Eligibles	Percentage Difference between Duals and Non-Dual Eligibles
<b>Chronic Conditions</b>						
Congestive Heart Failure	1,829	1,707	7.2%	\$8,670	\$8,140	6.5%
Chronic Obstructive Pulmonary Disease	1,179	849	38.9%	\$7,490	\$7,620	-1.7%
Diabetes, with or without complications	861	428	101.2%	\$9,800	\$10,000	-2.1%
Asthma	496	244	103.3%	\$7,210	\$7,000	3.0%
<b>Acute Infections</b>						
Bacterial Pneumonia	2,041	1,484	37.6%	\$9,720	\$9,150	6.3%
Urinary Tract Infection	1,019	670	52.0%	\$6,740	\$6,180	9.0%
<b>Other Conditions</b>						
Injurious Falls	741	1,109	-33.2%	\$11,680	\$11,130	4.9%
Dehydration	410	382	9.6%	\$5,860	\$5,550	5.6%
Pressure Ulcers	119	49	144.4%	\$15,200	\$14,790	2.8%

\* Denominator data based on Centers for Medicare & Medicaid Services (CMS) Enrollment Database, Provider Enrollment, Economic and Attributes Reports, provided by CMS Office of Research, Development, and Information, July 2010.

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID), 2008, from the following 27 states: Arkansas, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Vermont, West Virginia, Wisconsin.

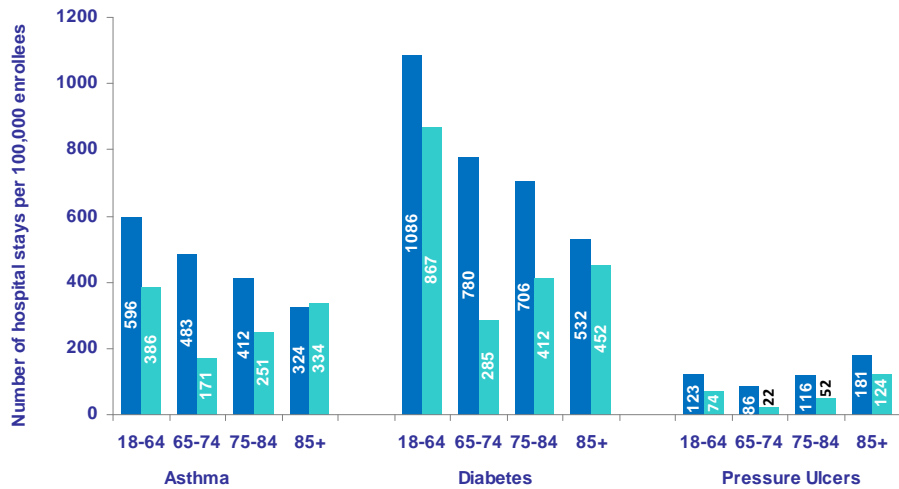
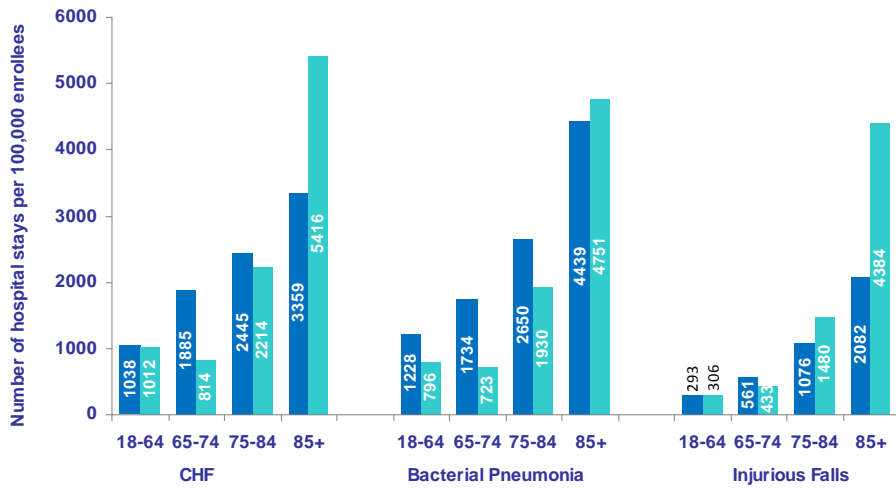
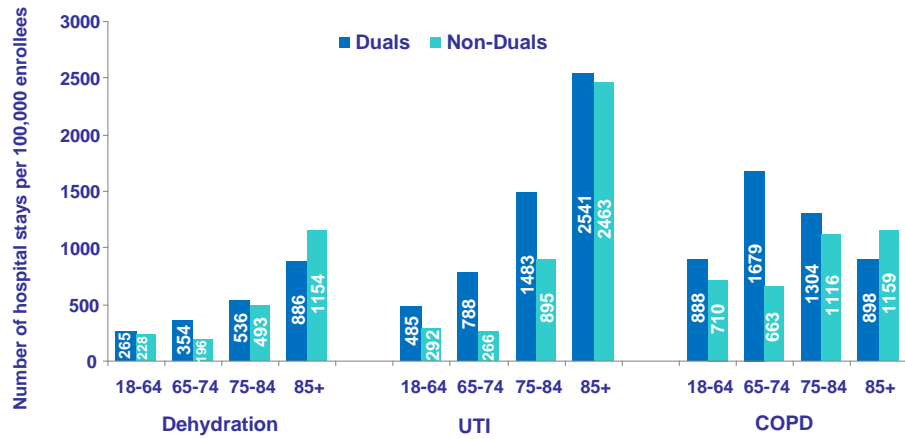
**Table 3. Percentage distribution of patient characteristics of potentially preventable hospitalizations, Medicare dual eligibles, 2008**

Preventable Conditions	Age (in years)			Gender	Race/Ethnicity			
	18-64	65-84	85+	Female	White	Black	Hispanic	Other
<b>Chronic Conditions</b>								
Congestive Heart Failure	23.5	54.8	21.7	65.9	52.4	29.6	12.6	5.4
Chronic Obstructive Pulmonary Disease	31.2	59.8	9.0	62.2	75.6	13.9	6.4	4.1
Diabetes, with or without complications	52.1	40.6	7.3	58.5	45.4	33.7	15.1	5.8
Asthma	49.7	42.5	7.8	76.5	45.2	29.7	18.6	6.5
<b>Acute Infections</b>								
Bacterial Pneumonia	24.9	49.4	25.7	60.1	71.4	14.9	8.8	4.9
Urinary Tract Infection	19.7	50.8	29.5	75.4	65.0	19.8	10.2	5.1
<b>Other Conditions</b>								
Injurious Falls	16.4	50.3	33.3	77.7	73.9	10.6	9.3	6.2
Dehydration	26.1	48.8	25.0	70.1	60.6	22.4	10.8	6.1
Pressure Ulcers	42.8	39.2	18.0	53.9	53.6	32.2	10.2	4.1
<b>All Hospitalized Dual Eligibles</b>	<b>39.9</b>	<b>45.7</b>	<b>14.4</b>	<b>62.6</b>	<b>59.6</b>	<b>24.1</b>	<b>10.3</b>	<b>6.0</b>

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID), 2008, from the following 27 states: Arkansas, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Vermont, West Virginia, Wisconsin. Race/ethnicity is based on 19 states with exclusion of the following 8 states due to data limitation: Illinois, Indiana, Louisiana, Minnesota, Nebraska, North Carolina, Oregon, West Virginia.



**Figure 1. Medicare hospitalization rates for selected conditions by age, by dual eligibility, 2008**



Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, State Inpatient Databases, 2008