



Hospitalizations in Tennessee 2008

Tennessee Department of Health
Office of Policy, Planning and Assessment
Surveillance, Epidemiology and Evaluation

Hospitalizations in Tennessee 2008

Report prepared by:

Audrey M Bauer, DVM, MPH
Yinmei Li, MD, PhD

Surveillance, Epidemiology and Evaluation
Office of Policy, Planning and Assessment
Tennessee Department of Health

Tennessee Department of Health Organization

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Key Findings

In 2008, there were approximately 832,000 in-patient hospitalizations in Tennessee and the hospitalization rate was 13,189 hospitalizations per 100,000 population. Although the annual number of hospitalizations increased slightly between 1999 and 2008, the annual hospitalization rate remained steady.

Who is admitted to the hospital?

- Hospitalizations varied by age group, with persons 65 years and older having the highest hospitalization rate. Although people in this age group made up just 13% of the population, they accounted for 36% of all hospital stays.
- Women were hospitalized more frequently than men. The primary reason for this difference was hospitalizations for pregnancy and childbirth.
- Blacks were hospitalized more frequently than whites, with black females having the highest hospitalization rate when compared to other race/gender groups.

Why are patients admitted to the hospital?

- Infant birth was the most common reason for hospitalization, accounting for 10% of all discharges.
- Four of the ten most common reasons for hospitalization were cardiovascular diseases.
- The most common reason for hospitalization varied by age group:
 - Infants less than 1 year – birth
 - 1-17 year olds – mood disorders
 - 18-44 year olds – mood disorders*
 - 45-64 year olds – coronary atherosclerosis
 - 65-79 year olds – chronic obstructive pulmonary disease
 - 80+ year olds – congestive heart failure
- Pneumonia was the only diagnosis among the ten most common reasons for hospitalization for all age groups.

How are patients admitted to the hospital?

- Approximately 47% of hospitalizations were routine, while another 47% originated in the emergency department (ED). The remaining 6% of hospital admissions were from other hospitals, long-term care facilities or other sources.
- Admissions through the ED increased 18% between 1999 and 2008.

* After exclusion of pregnancy- and childbirth-related conditions.

Key Findings

- Mean charges for admissions through the ED were 16% higher than charges for routine admissions.
- The percentage of hospitalizations originating in the ED was higher for blacks than for whites.
- Almost three-quarters of all uninsured hospital stays originated in the ED.
- The most common diagnosis among patients admitted through the ED was pneumonia.
- The five diagnoses with the highest percentage of admissions through the ED were all injuries or poisonings.

How much do hospitals charge?

- In 2008, charges for inpatient hospitalizations totaled \$20.1 billion, and each hospital stay resulted in mean charges of approximately \$24,000.
- Total charges more than doubled between 1999 and 2008, while mean charges increased 76% during this time period.
- The most expensive condition was spinal cord injury with mean charges of approximately \$120,000.
- Four of the ten most expensive conditions were related to care of infants with complications and three out of ten were related to the cardiovascular system.
- The most expensive conditions were relatively uncommon – the ten most expensive conditions accounted for less than 1% of all hospital discharges.

Who is billed for hospital care?

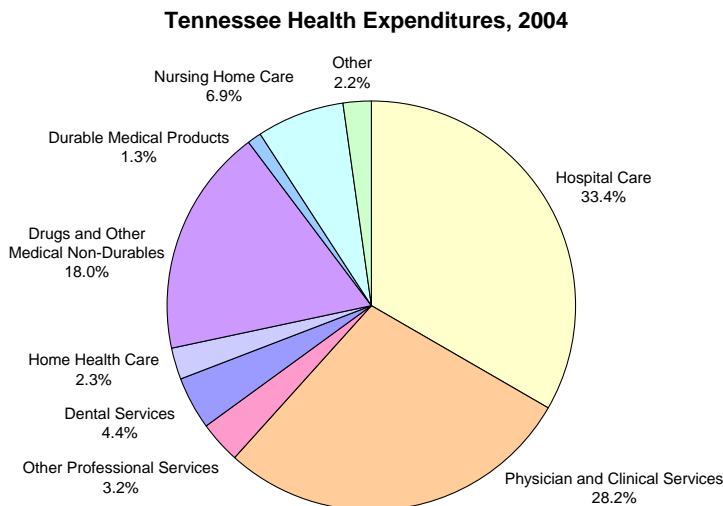
- TennCare was billed for the largest percentage of hospital stays (36%), followed by Medicare (32%), private insurance (26%) and uninsured stays (6%).
- The most common diagnosis among hospitalizations billed to Medicare was pneumonia.
- The most common diagnosis among hospitalizations billed to TennCare, private insurers and uninsured stays was infant birth.

How are patients discharged from the hospital?

- The majority of hospital discharges (73%) were routine.
- 2% of patients were discharged to short-term care facilities and the most common diagnosis was rehabilitation care.
- 12% of patients were discharged to long-term care facilities and the most common diagnosis was hip fracture.
- 2% of patients died while hospitalized. The most common diagnosis among patients who died in-hospital was septicemia, and the diagnosis with the highest in-hospital mortality rate was cardiac arrest/ventricular fibrillation.
- Less than 1% of patients left against medical advice and the most common diagnosis among these patients was mood disorders.

Introduction

In 2004, healthcare expenditures in Tennessee totaled \$32.2 billion dollars.¹ This represented 15.6% of the gross state product and was almost double the amount spent in 1995.¹ The largest proportion of these expenditures (33.4%) went towards hospital care.¹ Information on hospitalizations is therefore critical to understanding and addressing healthcare costs. In addition, hospitalization data are important for documenting the burden of disease in the state, as well as the demands placed on its healthcare system.



The following report contains a detailed description of inpatient hospitalizations in Tennessee for the year 2008, and includes discharges from all hospitals licensed by the Tennessee Department of Health. The overall organization of the report is based on The Agency for Healthcare Research and Quality's fact book entitled *Hospitalizations in the United States, 2002*.²

In addition to a brief description of Tennessee hospitals, the report answers the following questions:

- Who is admitted to the hospital?
- Why are patients admitted to the hospital?
- How are patients admitted to the hospital?
- How much do hospitals charge?
- Who is billed for hospital care?
- How are patients discharged from the hospital?

Appendices provide detailed information about hospitalizations for specific diagnoses (including number of discharges, hospitalization rate, mean charges, mean length of stay, admissions from the emergency department and in-hospital deaths), as well as hospitalization rates and most common reasons for hospitalization by county.

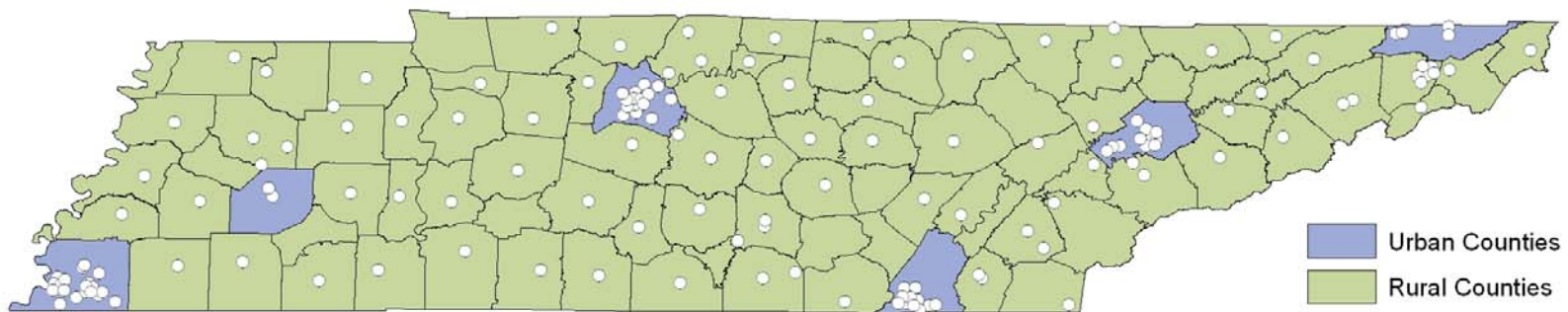
This report offers a detailed and up-to-date overview of inpatient hospitalizations in the state and is intended to inform health professionals, policy makers, and other organizations and individuals interested in improving health and healthcare in Tennessee.

Overview of Hospitals and Hospitalizations in Tennessee

Location of Hospitals

- In 2008, there were 157 hospitals licensed by the Tennessee Department of Health (TDH).*
 - 61% of these hospitals were located within rural counties and 39% were in urban counties.

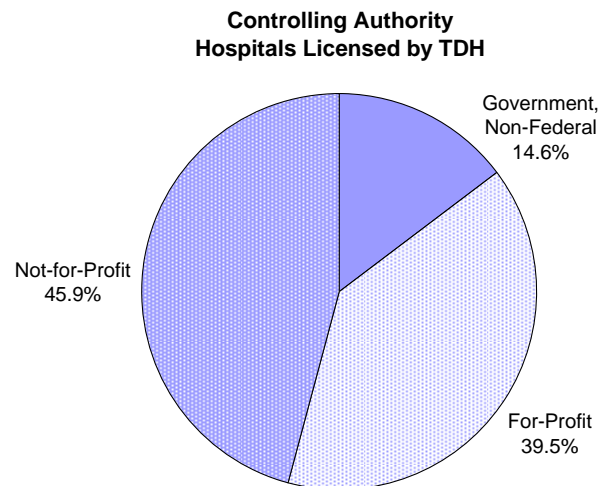
Hospitals Licensed by the Tennessee Department of Health



* The TDH does not license federal facilities (e.g. VA hospitals) or those licensed by the Tennessee Department of Mental Health and Developmental Disabilities.

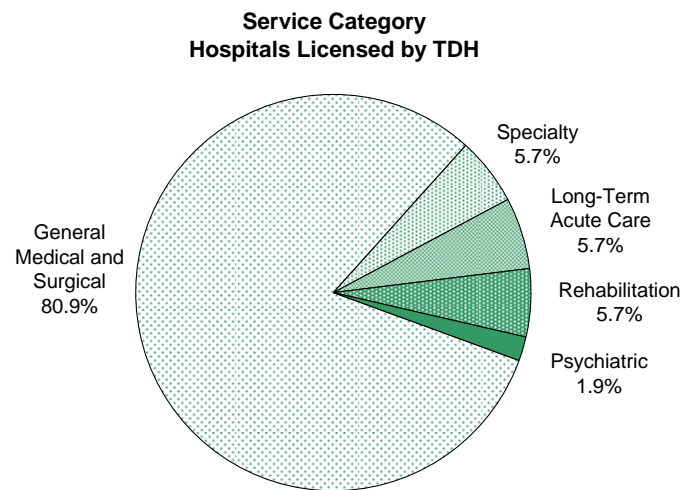
Controlling Authority

- Approximately 46% of hospitals were nongovernmental non-profits operated by churches or other not-for-profit organizations.
- Approximately 40% were investor-owned, for-profit hospitals operated through partnerships or corporations.
- The remaining hospitals (15%) were non-federal government facilities operated by counties, city-counties or hospital districts/authorities.



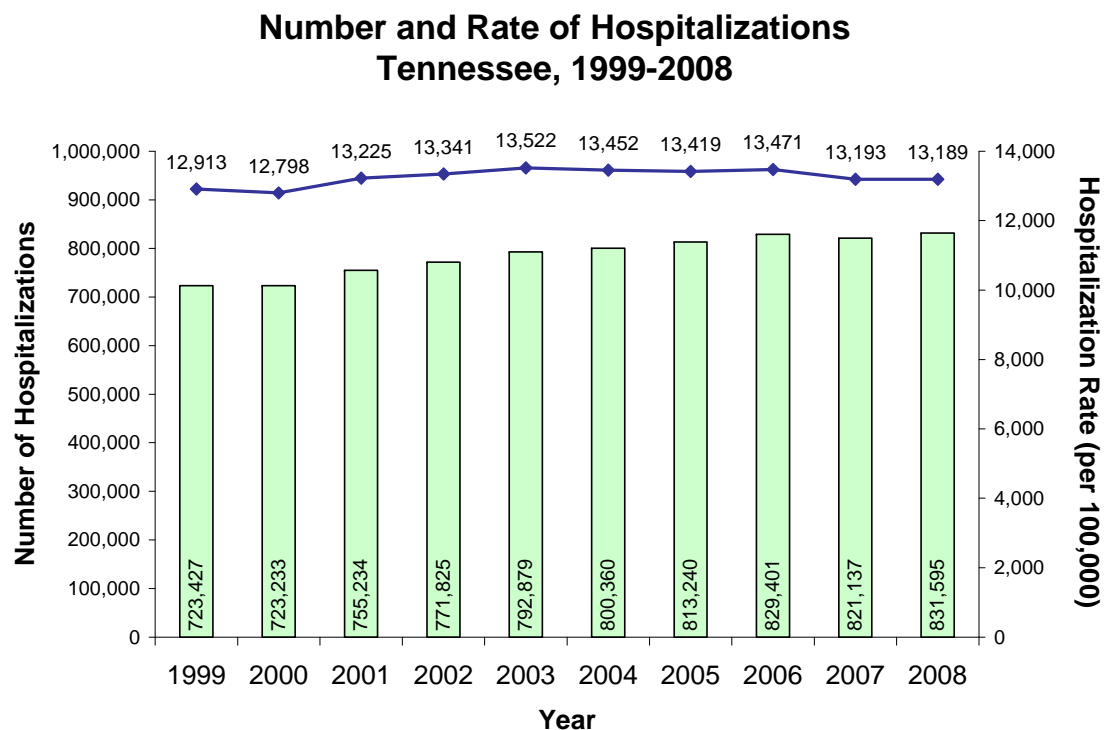
Service Category

- The majority of hospitals (81%) were categorized as general medical and surgical facilities.
- Specialty, long-term acute care and rehabilitation facilities each made up approximately 6% of hospitals.
 - Specialty hospitals included obstetrics and gynecology, pediatrics and spinal surgery.
- Approximately 2% of hospitals were categorized as psychiatric facilities.



Number and Rate of Hospitalizations*

- In 2008 there were approximately 832,000 inpatient hospitalizations in Tennessee and the age-adjusted hospitalization rate was 13,189 hospitalizations per 100,000 population.
- The annual hospitalization rate increased 2% between 1999 and 2008; however, this change was not statistically significant.
- The annual number of hospitalizations increased 15% between 1999 and 2008. This was primarily a reflection of an increase in population size over this time period.



* See Appendix A for hospitalization rates by county.

Who is admitted to the hospital?

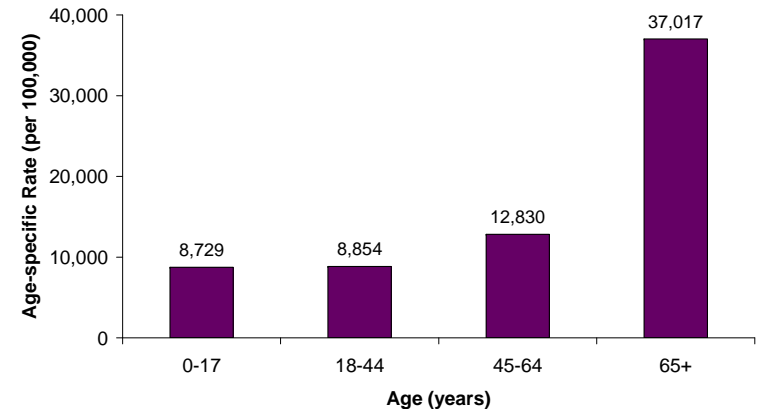
Hospitalizations by Age

- The median age of hospitalized patients was 54 years.
- The hospitalization rate was highest among people aged 65 years and older.
 - Although people in this age group made up just 13% of the Tennessee population, they accounted for 36% of all hospital stays.

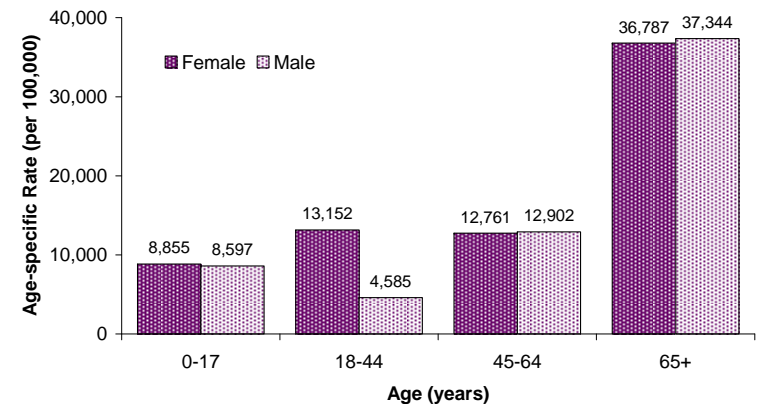
Hospitalizations by Gender

- The age-adjusted hospitalization rate among women was approximately 14,700 per 100,000 population, compared to 11,800 per 100,000 among men.
- Among people aged 0-17, 45-64 and 65 years and older, the hospitalization rates among women and men were nearly equal. However, among those 18-44 years of age, the hospitalization rate was almost three times as high among women compared to men.
 - Approximately 3 out of every four hospitalized patients between the ages of 18 and 44 were women.
 - Over one-half of hospitalizations for women aged 18-44 years were for conditions related to pregnancy and childbirth.
 - When conditions related to pregnancy and childbirth were excluded, hospitalizations for women and men aged 18-44 years were more evenly distributed (54.6% versus 45.4%, respectively).

Hospitalizations by Age
Tennessee, 2008



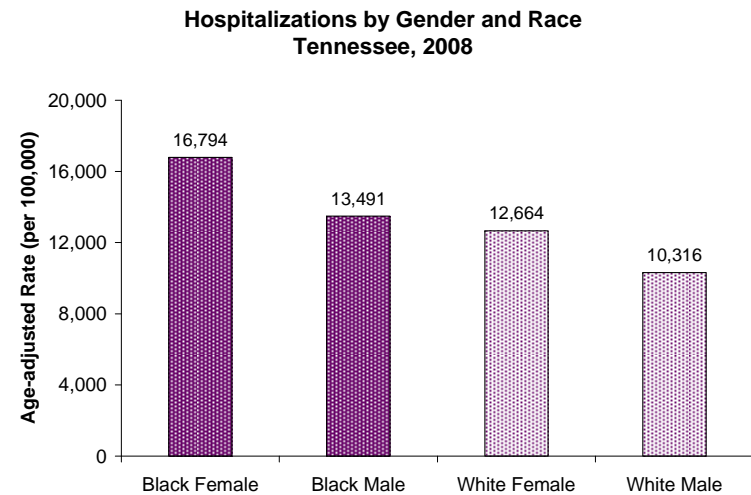
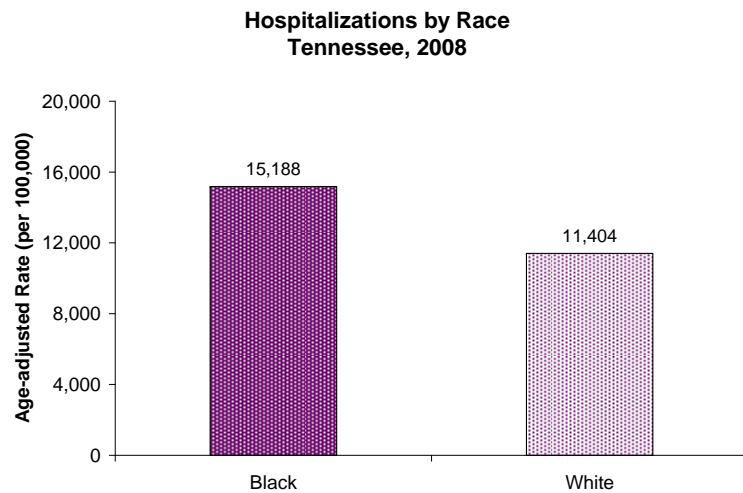
Hospitalizations by Age and Gender
Tennessee, 2008



Who is admitted to the hospital?

Hospitalizations by Race

- The age-adjusted hospitalization rate among blacks was approximately 30% higher than among whites.
- The age-adjusted hospitalization rate was highest among black females and lowest among white males.



Why are patients admitted to the hospital?

Most Common Reasons for Hospitalization*

- The most common reason for hospitalization was infant birth, which accounted for 10% of all hospital discharges.
- Four out of the ten most common diagnoses were cardiovascular diseases: congestive heart failure, hardening of the arteries, irregular heart beat and heart attack. Together, these four conditions accounted for 9% of all hospital discharges.

Top 10 Principal Diagnoses in Tennessee Hospitals – 2008

| Rank | Total Number of Discharges | Percent of All Discharges | Hospitalization Rate (per 100,000) |
|---|----------------------------|---------------------------|------------------------------------|
| 1. Newborn infant | 81,763 | 9.8 | 1,404 |
| 2. Pneumonia | 29,519 | 3.6 | 462 |
| 3. Congestive heart failure | 23,164 | 2.8 | 357 |
| 4. Chronic obstructive pulmonary disease (COPD) | 21,963 | 2.6 | 330 |
| 5. Mood disorders | 21,288 | 2.6 | 345 |
| 6. Coronary atherosclerosis (hardening of the heart arteries) | 21,036 | 2.5 | 312 |
| 7. Septicemia (blood infection) | 17,549 | 2.1 | 272 |
| 8. Osteoarthritis (degenerative joint disease) | 17,151 | 2.1 | 252 |
| 9. Cardiac dysrhythmias (irregular heart beat) | 15,894 | 1.9 | 245 |
| 10. Acute myocardial infarction (heart attack) | 14,919 | 1.8 | 225 |

*See Appendix B for most common reasons for hospitalization by county and Appendix C for a complete listing of all principal diagnoses.

Why are patients admitted to the hospital?

Most Common Reasons for Hospitalization *cont.*

- Eight diagnoses were among the ten most common reasons for hospitalization (based on number of discharges) in both 1999 *and* 2008.
- Stroke and other maternal complications of birth were among the top ten in 1999 but not 2008.
 - Hospitalizations for stroke decreased 7% during this time period to become the 17th most common cause of hospitalization in 2008.
 - Hospitalizations for other maternal complications of birth decreased 12% to become the 12th most common cause of hospitalization.
- Blood infection and osteoarthritis were among the top ten in 2008 but not 1999.
 - Hospitalizations for blood infection increased 130% during this time period to become the 7th most common cause of hospitalization in 2008.
 - Hospitalizations for osteoarthritis increased 141% to become the 8th most common cause of hospitalization.

Top 10 Principal Diagnoses in Tennessee Hospitals -- 1999 vs. 2008

| | 1999 Rank | 2008 Rank |
|--|-----------|-----------|
| Newborn infant | 1 | 1 |
| Pneumonia | 2 | 2 |
| Congestive heart failure | 4 | 3 |
| Chronic obstructive pulmonary disease (COPD) | 5 | 4 |
| Mood disorders | 6 | 5 |
| Coronary atherosclerosis (hardening of the heart arteries) | 3 | 6 |
| Septicemia (blood infection) | 21 | 7 |
| Osteoarthritis (degenerative joint disease) | 24 | 8 |
| Cardiac dysrhythmias (irregular heart beat) | 10 | 9 |
| Acute myocardial infarction (heart attack) | 7 | 10 |
| Acute cerebrovascular disease (stroke) | 8 | 17 |
| Other maternal complications of birth | 9 | 12 |

Why are patients admitted to the hospital?

Most Common Reasons for Hospitalization by Age*

- Infant birth was the most common diagnosis among patients less than 1 year of age.
- Mood disorders were the most common diagnosis among 1 to 17 year olds.
- For patients 18-44 years of age, eight out of the top ten reasons for hospitalization were related to pregnancy and childbirth. When pregnancy- and childbirth-related conditions were excluded, the most common diagnosis for this age group was mood disorders.
- The most common diagnoses among patients aged 45-64, 65-79 and 80+ years were hardening of the heart arteries, chronic obstructive pulmonary disease and congestive heart failure, respectively.
- Pneumonia was the only diagnosis among the top ten for all age groups.
- Three out of the ten most common diagnoses among 45-64 year olds and four out of the top ten among those aged 65-79 and 80+ years were cardiovascular diseases.
- Some conditions were among the top ten only within certain age groups. For example:
 - Asthma – patients 1-17 years
 - Diabetes mellitus with complications – patients 18-44 years
 - Hip fracture – patients 80 years and older
 - Stroke – patients 80 years and older

* Excludes diagnoses related to pregnancy and childbirth.

Why are patients admitted to the hospital?

| Top 10 Principal Diagnoses in Tennessee Hospitals by Age Group – 2008* | | | | | | |
|---|---|-------------------|--------------------|--------------------|--------------------|------------------|
| | Age Group | | | | | |
| | <1 Year | 1-17 Years | 18-44 Years | 45-64 Years | 65-79 Years | 80+ Years |
| Total Number of Discharges | 94,133 | 28,936 | 114,963 | 208,167 | 182,903 | 112,557 |
| | Number of Discharges for this Condition (Rank) | | | | | |
| Newborn infant | 81,760 (1) | | | | | |
| Other conditions occurring around the time of birth | 1,796 (2) | | | | | |
| Acute bronchitis | 1,731 (3) | 578 (9) | | | | |
| Premature birth and low birthweight | 596 (4) | | | | | |
| Pneumonia | 587 (5) | 2,234 (2) | 3,103 (4) | 7,361 (4) | 8,771 (2) | 7,463 (2) |
| Fever of unknown origin | 541 (6) | | | | | |
| Hemolytic and perinatal jaundice (infant jaundice following birth) | 536 (7) | | | | | |
| Digestive birth defects | 427 (8) | | | | | |
| Skin and subcutaneous tissue infections | 370 (9) | 1,647 (4) | 4,018 (2) | | | |
| Urinary infection | 363 (10) | 563 (10) | 2,132 (10) | | | 4,884 (4) |
| Mood disorders | | 2,339 (1) | 9,878 (1) | 6,504 (5) | | |
| Asthma | | 1,858 (3) | | | | |
| Fluid and electrolyte disorders (primarily dehydration and fluid overload) | | 934 (5) | | | | |
| Appendicitis | | 918 (6) | | | | |
| Epilepsy, convulsions | | 916 (7) | | | | |
| Chemotherapy and radiation therapy | | 656 (8) | | | | |
| Diabetes mellitus with complications | | | 3,650 (3) | | | |
| Gallbladder disease | | | 2,664 (5) | | | |
| Chest pain | | | 2,581 (6) | 6,133 (6) | | |
| Schizophrenia and other psychotic disorders | | | 2,380 (7) | | | |
| Spondylosis, intervertebral disc disorders (back problems) | | | 2,362 (8) | 4,941 (9) | | |
| Pancreatic disorders other than diabetes | | | 2,167 (9) | | | |
| Coronary atherosclerosis (hardening of the heart arteries) | | | | 9,562 (1) | 8,162 (4) | |
| Chronic obstructive pulmonary disease (COPD) | | | | 8,150 (2) | 9,397 (1) | 3,361 (9) |
| Osteoarthritis (degenerative joint disease) | | | | 7,614 (3) | 7,563 (5) | |
| Acute myocardial infarction (heart attack) | | | | 5,986 (7) | 4,784 (10) | 3,072 (10) |
| Congestive heart failure | | | | 5,839 (8) | 8,343 (3) | 7,925 (1) |
| Complications of device, implant or graft | | | | 4,868 (10) | | |
| Cardiac dysrhythmias (irregular heart beat) | | | | | 6,559 (6) | 4,396 (5) |
| Septicemia (blood infection) | | | | | 5,824 (7) | 4,898 (3) |
| Rehabilitation care, fitting of prostheses, adjustment of devices | | | | | 5,580 (8) | 3,694 (7) |
| Respiratory failure, insufficiency, arrest (adult) | | | | | 4,812 (9) | |
| Hip fracture | | | | | | 3,950 (6) |
| Acute cerebrovascular disease (stroke) | | | | | | 3,688 (8) |

* Excludes diagnoses related to pregnancy and childbirth.

Why are patients admitted to the hospital?

Most Common Reasons for Hospitalization by Race

- Infant birth was the most common diagnosis among both blacks and whites.
 - Among hospitalizations for a principle diagnosis of infant birth, 14.5% of black newborns had a secondary diagnosis of preterm birth and/or low birthweight, compared to 10.8% of white newborns.
- Congestive heart failure, pneumonia, and blood infection were among the top ten diagnoses for both blacks and whites.
- Three of the ten most common diagnoses among blacks, and four of the ten most common among whites were cardiovascular diseases.
- Two of the top ten diagnoses among blacks were related to complications of pregnancy and childbirth, while these conditions were not among the top ten for whites.
- Diabetes was the fifth most common reason for hospitalization among blacks, but the 24th most common among whites. The diabetes hospitalization rate was three times as high among blacks compared to whites (398/100,000 vs. 131/100,000, respectively).
- Stroke was the tenth most common reason for hospitalization among blacks, but the 17th most common among whites. The stroke hospitalization rate was twice as high among blacks compared to whites (315/100,000 vs. 157/100,000, respectively).

Why are patients admitted to the hospital?

Most Common Reasons for Hospitalization by Race *cont.*

| Top 10 Principal Diagnoses in Tennessee Hospitals by Race – Blacks | | | |
|---|----------------------------|---------------------------|------------------------------------|
| Rank | Total Number of Discharges | Percent of all Discharges | Hospitalization Rate (per 100,000) |
| 1. Newborn infant | 17,106 | 12.1 | 1,324 |
| 2. Congestive heart failure | 5,026 | 3.5 | 623 |
| 3. Pneumonia | 3,674 | 2.6 | 426 |
| 4. Diabetes mellitus w/ complications | 3,566 | 2.5 | 398 |
| 5. Other maternal complications of birth | 3,204 | 2.3 | 293 |
| 6. Other complications of pregnancy | 3,061 | 2.2 | 272 |
| 7. High blood pressure with complications | 2,860 | 2.0 | 337 |
| 8. Septicemia (blood infection) | 2,763 | 1.9 | 356 |
| 9. Complications of device, implant or graft | 2,591 | 1.8 | 297 |
| 10. Acute cerebrovascular disease (stroke) | 2,529 | 1.8 | 315 |

| Top 10 Principal Diagnoses in Tennessee Hospitals by Race – Whites | | | |
|---|----------------------------|---------------------------|------------------------------------|
| Rank | Total Number of Discharges | Percent of all Discharges | Hospitalization Rate (per 100,000) |
| 1. Newborn infant | 51,683 | 8.6 | 1,176 |
| 2. Pneumonia | 23,600 | 3.9 | 430 |
| 3. Chronic obstructive pulmonary disease (COPD) | 18,820 | 3.1 | 325 |
| 4. Mood disorders | 17,228 | 2.9 | 341 |
| 5. Coronary atherosclerosis (hardening of the heart arteries) | 17,028 | 2.8 | 292 |
| 6. Congestive heart failure | 16,417 | 2.7 | 288 |
| 7. Osteoarthritis (degenerative joint disease) | 13,578 | 2.2 | 230 |
| 8. Cardiac dysrhythmias (irregular heart beat) | 12,740 | 2.1 | 225 |
| 9. Septicemia (blood infection) | 12,615 | 2.1 | 225 |
| 10. Acute myocardial infarction (heart attack) | 11,540 | 1.9 | 201 |

Why are patients admitted to the hospital?

Most Common Reasons for Hospitalization by Diagnosis Category*

- Diseases of the circulatory system were the most common reason for hospitalization, accounting for approximately 17% of all hospital stays.
 - The four most common circulatory system diseases were also among the ten most common diagnoses overall.
- The second most common reason for hospitalization was diseases of the respiratory system.
 - Pneumonia was the most common diagnosis among respiratory system discharges (32.2%).
- The third and fourth most common reasons for hospitalization were pregnancy/childbirth and newborns/perinatal conditions, respectively. Together, these two categories accounted for approximately one-fifth of all hospital stays.
 - Infant birth was the most common diagnosis among newborns/perinatal conditions (96.1%) and the most common diagnosis among all discharges (9.8%).
- Diseases of the genitourinary tract were the eighth most common reason for hospitalization.
 - Acute kidney failure was the second most common diagnosis among genitourinary tract discharges (25.4%).
 - The hospitalization rate for acute kidney failure almost quadrupled between 1999 and 2008, from 40 to 156 hospitalizations per 100,000 population. This was the largest increase among all diagnoses during this time period.
- Septicemia made up over three-quarters of discharges for infectious and parasitic diseases.
- Infections made up almost 90% of skin and subcutaneous tissue diseases.
- The least common reason for hospitalization was birth defects which accounted for less than 1% of all hospital stays.

* See Appendix C for a complete listing of principal diagnoses grouped by diagnosis category.

Why are patients admitted to the hospital?

Most Common Reasons for Hospitalization by Diagnosis Category *cont.*

| Principal Diagnoses in Tennessee Hospitals by Diagnosis Category – 2008 | | | |
|--|----------------------------|---------------------------|------------------------------------|
| Rank | Total Number of Discharges | Percent of All Discharges | Hospitalization Rate (per 100,000) |
| 1. Diseases of the circulatory system | 141,712 | 17.1 | 2,163 |
| 2. Diseases of the respiratory system | 91,776 | 11.1 | 1,425 |
| 3. Pregnancy and childbirth | 89,840 | 10.8 | 1,506 |
| 4. Newborns and perinatal conditions | 85,037 | 10.3 | 1,460 |
| 5. Diseases of the digestive system | 72,386 | 8.7 | 1,132 |
| 6. Injury and poisoning | 62,743 | 7.6 | 987 |
| 7. Mental disorders | 43,118 | 5.2 | 694 |
| 8. Disease of the genitourinary tract | 39,799 | 4.8 | 630 |
| 9. Diseases of the musculoskeletal system | 39,532 | 4.8 | 598 |
| 10. Cancer | 35,166 | 4.2 | 537 |
| 11. Endocrine, nutritional and metabolic diseases | 30,121 | 3.6 | 474 |
| 12. Symptoms, signs and ill-defined conditions | 28,481 | 3.4 | 447 |
| 13. Infectious and parasitic diseases | 22,689 | 2.7 | 354 |
| 14. Diseases of the nervous system | 18,149 | 2.2 | 288 |
| 15. Disease of the skin and subcutaneous tissue | 15,976 | 1.9 | 254 |
| 16. Diseases of the blood and blood-forming organs | 9,281 | 1.1 | 147 |
| 17. Birth defects | 2,946 | 0.4 | 49 |

Top 5 Principal Diagnoses in Tennessee Hospitals by Diagnosis Category – 2008

Diseases of the circulatory system

1. Congestive heart failure*
2. Coronary atherosclerosis*
3. Cardiac dysrhythmias*
4. Acute myocardial infarction*
5. Chest pain

Diseases of the respiratory system

1. Pneumonia*
2. Chronic obstructive pulmonary disease*
3. Respiratory failure, insufficiency, arrest
4. Asthma
5. Aspiration pneumonitis

Pregnancy and childbirth

1. Other maternal complications of birth
2. Other complications of pregnancy
3. Trauma to vulva and perineum due to childbirth
4. Previous C-section
5. Normal pregnancy and/or delivery

Newborns and perinatal conditions

1. Newborn infant*
2. Other conditions occurring around the time of birth
3. Premature birth and low birthweight
4. Hemolytic and perinatal jaundice
5. Infant respiratory distress syndrome

Diseases of the digestive system

1. Gallbladder disease
2. Gastrointestinal bleeding
3. Intestinal obstruction without hernia
4. Pancreatic disorders other than diabetes
5. Diverticulosis and diverticulitis

Injury and poisoning

1. Complications of device, implant or graft
2. Complications of surgery or medical care
3. Hip fracture
4. Fracture of leg
5. Other fractures

Mental disorders

1. Mood disorders*
2. Schizophrenia and other psychotic disorders
3. Delirium, dementia, and other cognitive disorders
4. Substance-related disorders
5. Alcohol-related disorders

Diseases of the genitourinary tract

1. Urinary infection
2. Acute kidney failure
3. Urinary tract stones
4. Menstrual disorders
5. Prolapse of female genital organs

Diseases of the musculoskeletal system

1. Osteoarthritis*
2. Spondylosis, intervertebral disc disorders
3. Other connective tissue disease
4. Other bone disease & musculoskeletal deformities
5. Infective arthritis and osteomyelitis

Cancer

1. Metastasis
2. Cancer of the bronchial tubes and lungs
3. Benign tumor of the uterus
4. Other and unspecified benign tumor
5. Chemotherapy and radiation therapy

Endocrine, nutritional and metabolic diseases

1. Fluid and electrolyte disorders
2. Diabetes mellitus with complications
3. Other endocrine, nutritional & metabolic disorders
4. Other endocrine disorders
5. Thyroid disorders

Symptoms, signs and ill-defined conditions

1. Rehabilitation
2. Syncope
3. Abdominal pain
4. Fever of unknown origin
5. Nausea and vomiting

Infectious and parasitic diseases

1. Septicemia*
2. Viral infection
3. AIDS/HIV infection
4. Hepatitis
5. Mycoses

Diseases of the nervous system

1. Epilepsy, convulsions
2. Other nervous system disorders
3. Headache, including migraine
4. Dizziness or vertigo
5. Other hereditary/degenerative conditions

Diseases of the skin and subcutaneous tissue

1. Skin and subcutaneous tissue infections
2. Chronic ulcer of skin
3. Other skin disorders
4. Other inflammations of the skin
5. n/a

Diseases of blood & blood-forming organs

1. Iron deficiency and other anemia
2. Sickle cell anemia
3. Diseases of white blood cells
4. Coagulation and bleeding disorders
5. Posthemorrhagic anemia

Birth defects

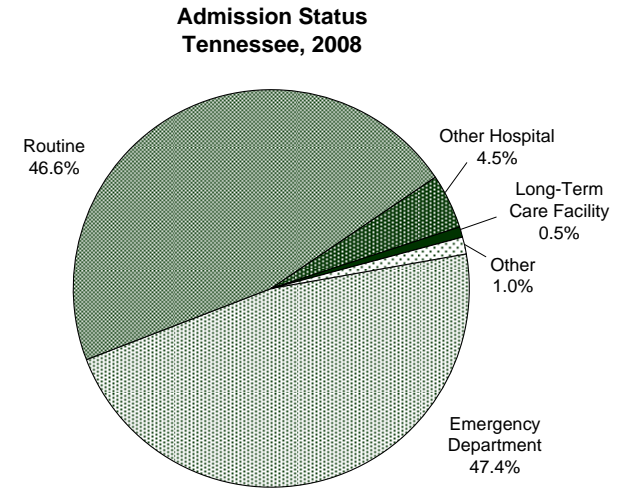
1. Other birth defects
2. Cardiac and circulatory birth defects
3. Digestive birth defects
4. Genitourinary birth defects
5. Nervous system birth defects

*Among the top ten most common diagnoses overall (see page 9).

How are patients admitted to the hospital?

Admission Status

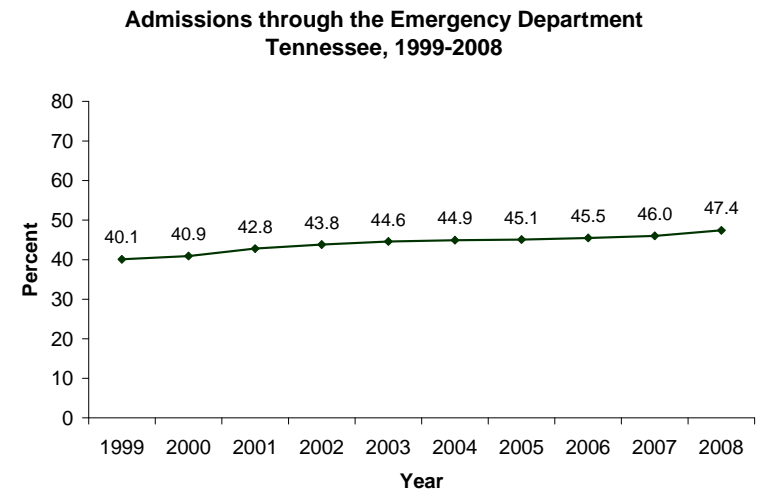
- Approximately 47% of patients were admitted from the emergency department.
- A similar percentage of admissions were routine in nature.
- The remaining 6% of hospital admissions were from other hospitals, long-term care facilities, or other sources.



Admissions through the Emergency Department

Admissions through the emergency department (ED) tend to be more expensive and serious than routine admissions.²

- Between 1999 and 2008, there was an 18% increase in the percentage of hospitalizations that originated in the ED.
- The percentage of hospitalizations originating in the ED was higher for blacks than for whites in 2008 (56.3% vs. 45.7%, respectively).

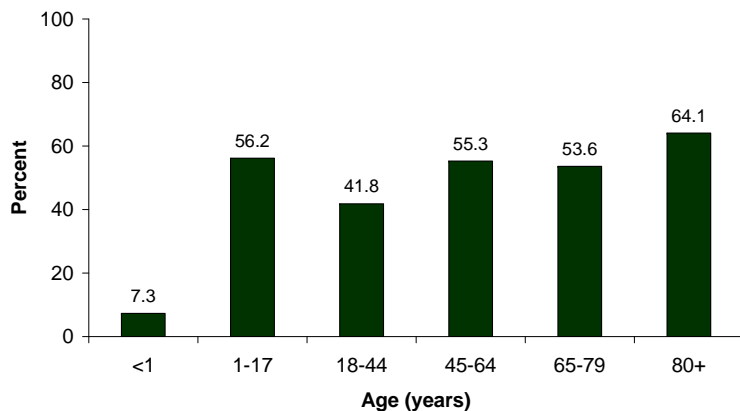


How are patients admitted to the hospital?

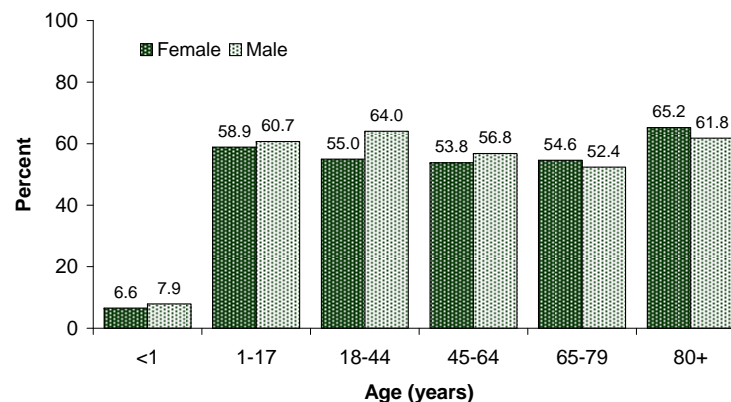
Admissions through the Emergency Department *cont.*

- The percentage of hospitalizations originating in the ED was lowest among infants less than 1 year of age (7%).
 - The low percentage of admissions through the ED among infants is a reflection of the relatively high percentage of routine admissions among this age group (91%), which were primarily for birth.
 - When hospitalizations for a principle diagnosis of birth were excluded, approximately 55% of admissions among infants originated in the ER.
- Among adults, the percentage of admissions originating in the ED was lowest among 18-44 year olds (42%). However, this was due in part to the high percentage of routine, pregnancy- and childbirth-related diagnoses within this age group. When pregnancy and birth-related admission were excluded, the percentage of admission through the ED was 59.1%.
- Among younger age groups (less than 65 years of age), the percentage of hospitalizations that originated in the ED was higher among males than among females. Among older age groups (65 years and above) females had the higher percentage of admissions through the ED.

**Admissions through the ED by Age
Tennessee, 2008**



**Admissions through the ED by Age and Gender*
Tennessee, 2008**



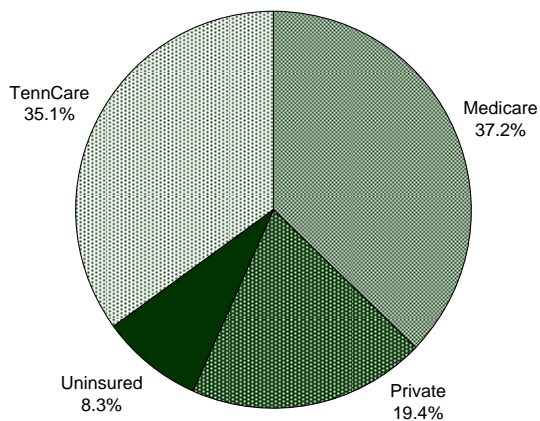
* Excludes diagnoses related to pregnancy and childbirth.

How are patients admitted to the hospital?

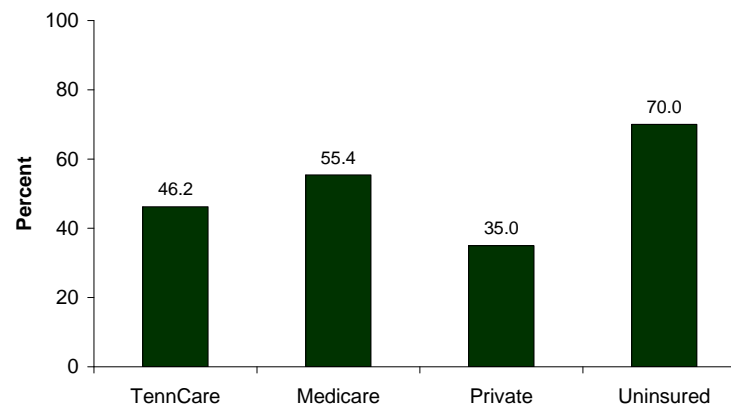
Admissions through the Emergency Department *cont.*

- Mean charges for admissions through the ED were 16% higher than charges for routine admissions (\$24,837 vs. \$21,491, respectively).
- Among all hospitalizations originating in the ED, the largest percentage were charged to Medicare (37%), followed closely by TennCare (35%). Uninsured stays made up the smallest percentage of hospitalizations beginning in the ED.
- Approximately one-half of all hospitalizations charged to TennCare and to Medicare originated in the ED, compared to about one-third for private insurance.
- Almost three-quarters of all uninsured hospital stays originated in the ED.

Percent of All Stays Beginning in the ED that are Billed to Each Payer
Tennessee, 2008



Percent of Each Payer's Hospital Stays that Began in the ED
Tennessee, 2008



How are patients admitted to the hospital?

Admissions through the Emergency Department *cont.*

- The most common diagnosis among patients admitted through the ED was pneumonia, which accounted for approximately 6% of all hospitalizations originating in the ED.
- Five out of the ten most common diagnoses among hospitalized patients admitted through the ED were cardiovascular diseases: congestive heart failure, chest pain, heart attack, stroke and irregular heart beat. Together, these five conditions accounted for approximately 15% of all hospitalizations originating in the ED.

Top 10 Principal Diagnoses among Hospitalized Patients Admitted through the ED – Tennessee, 2008

| Rank | Total Number of Discharges | Percent of All Hospital Discharges Admitted through the ED |
|---|----------------------------|--|
| 1. Pneumonia | 22,174 | 5.6 |
| 2. Congestive heart failure | 17,130 | 4.3 |
| 3. Chronic obstructive pulmonary disease (COPD) | 16,251 | 4.1 |
| 4. Septicemia (blood infection) | 14,536 | 3.7 |
| 5. Urinary infection | 11,367 | 2.9 |
| 6. Chest pain | 10,873 | 2.8 |
| 7. Acute myocardial infarction (heart attack) | 10,484 | 2.7 |
| 8. Acute cerebrovascular disease (stroke) | 10,108 | 2.6 |
| 9. Cardiac dysrhythmias (irregular heart beat) | 9,892 | 2.5 |
| 10. Skin and subcutaneous tissue infections | 9,011 | 2.3 |

How are patients admitted to the hospital?

Admissions through the Emergency Department *cont.*

- Among individual diagnoses, the percentage of hospitalizations originating in the ED ranged from approximately 1% for rehabilitation care to 90% for crush injuries.*
- The five diagnoses with the highest percentage of hospitalizations beginning in the ED were injuries or poisonings: crush injuries; poisoning by psychiatric drugs; open wounds of the head, neck or trunk; skull and face fractures; and poisoning by other medications and drugs.
- Three out of the ten diagnoses with the highest percentage of hospitalizations beginning in the ED were symptoms, signs or ill-defined conditions influencing health status: shock, fainting, and malaise/fatigue.

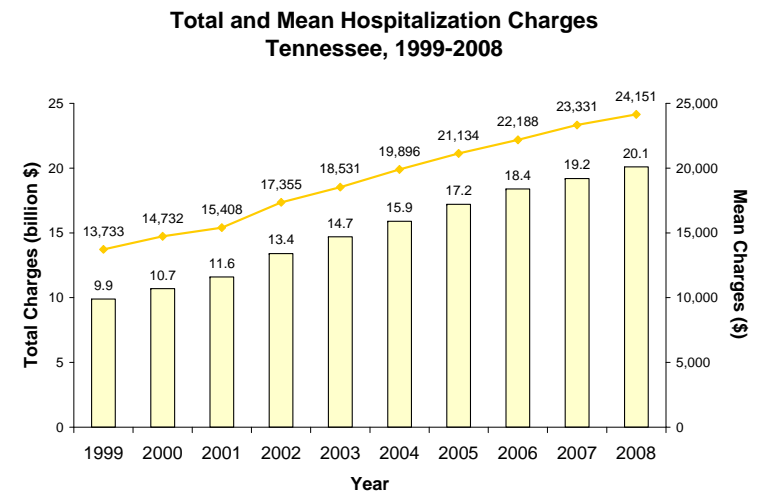
| Diagnoses with Highest Percent of Admissions through the ED – Tennessee, 2008 | |
|---|--|
| Rank | Percent of Discharges for this Diagnosis that were Admitted through the ED |
| 1. Crushing or internal injury | 89.5 |
| 2. Poisoning by psychiatric drugs | 87.7 |
| 3. Open wounds of head, neck and trunk | 87.3 |
| 4. Skull and face fractures | 84.5 |
| 5. Poisoning by other medications and drugs | 84.0 |
| 6. Shock | 84.0 |
| 7. Syncope (fainting) | 82.3 |
| 8. Blindness and vision problems | 81.6 |
| 9. Transient cerebral ischemia | 81.5 |
| 10. Malaise (physical discomfort) and fatigue | 81.3 |

* Two diagnoses (infant birth and cataracts) had no admissions originating in the ED.

How much do hospitals charge?

Total and Mean Hospital Charges

- In 2008, charges for inpatient hospitalizations in Tennessee totaled \$20.1 billion, and each hospital stay resulted in a mean (average) charge of approximately \$24,000.
- After adjusting for inflation, total charges more than doubled between 1999 and 2008, from \$9.9 to \$20.1 billion.
- During this same time period, the mean hospital charge increased 76%, from approximately \$14,000 to \$24,000.



Conditions with the Highest Charges

- Combined, the ten most expensive diagnoses had mean charges almost 4 times as high as the overall mean hospital charge (\$91,000 vs. \$24,000, respectively).
- The most expensive condition was spinal cord injury, which had a mean charge of approximately \$120,000.
- Four of the ten most expensive diagnoses were related to care of infants with complications: cardiac and circulatory birth defects; respiratory distress; prematurity and low birth weight; and other birth defects.
- Three of the ten most expensive diagnoses were related to the cardiovascular system: heart valve disorders; cardiac and circulatory birth defects; and aneurysms.

How much do hospitals charge?

Conditions with the Highest Charges *cont.*

- Conditions with the highest mean charges were relatively uncommon. The ten most expensive diagnoses combined accounted for less than 1% of all hospital discharges.
- Infant birth, which was the most common reason for hospitalization in 2008, had the second lowest mean charge among all diagnoses at approximately \$6,000. Medical examination/evaluation had the lowest mean charge (about \$3,000).
- Even though long lengths of stay can be costly, four of the ten most expensive diagnoses were not among those with the longest stays: heart valve disorders; cardiac and circulatory birth defects; aneurysms; and other birth defects.

Top 10 Principal Diagnoses with the Highest Mean Charges – Tennessee, 2008

| Rank | Mean Charges (\$) | Mean Length of Stay (days) |
|--|-------------------|----------------------------|
| 1. Spinal cord injury | 119,779 | 13 |
| 2. Heart valve disorders | 109,451 | 9 |
| 3. Immunity disorders | 105,544 | 16 |
| 4. Cardiac and circulatory birth defects | 105,536 | 9 |
| 5. Infant respiratory distress syndrome | 97,442 | 22 |
| 6. Premature birth and low birthweight | 94,260 | 25 |
| 7. Leukemia (cancer of the blood) | 90,751 | 14 |
| 8. Aneurysm (ballooning or rupture of an artery) | 75,366 | 5 |
| 9. Other birth defects | 74,785 | 4 |
| 10. Polio and other brain or spinal infections | 71,333 | 13 |

How much do hospitals charge?

Conditions with the Highest Charges *cont.*

- Mean charges for the majority of diagnoses examined in this report (227) increased between 1999 and 2008. The degree of increase ranged from 23% for acute renal failure to 238% for other aftercare.*
- Fourteen diagnoses had no statistically significant trend in mean charges during this time period.
- No diagnoses exhibited a decrease in mean charges during this time period.
- Mean charges for cardiac and circulatory birth defects, one of the ten most expensive diagnoses in 2008, increased 156% between 1999 and 2008.
- Four of the ten diagnoses with the largest increases in mean charges were related to the musculoskeletal system: back problems, other acquired musculoskeletal deformities, pathological fractures and acquired foot deformities.

Diagnoses with the Largest Increases in Mean Charges – TN, 1999-2008

| Rank | Percent Increase |
|---|------------------|
| 1. Other aftercare | 238 |
| 2. Spondylosis, intervertebral disc disorders (back problems) | 222 |
| 3. Other injuries | 219 |
| 4. Malaise (physical discomfort) and fatigue | 170 |
| 5. Cardiac and circulatory birth defects | 156 |
| 6. Other acquired musculoskeletal deformities | 152 |
| 7. Other urinary cancer | 151 |
| 8. Pathological fracture (fracture of bone weakened by disease) | 151 |
| 9. Acquired foot deformities | 147 |
| 10. Poisoning by substances other than medicine | 145 |

* Nineteen diagnoses were excluded from trend analyses due to the small number of hospitalizations for these conditions (<50 stays per year on average).

How much do hospitals charge?

Conditions with the Longest Lengths of Stay

- In 2008, there were a total of 3.9 million hospital-days spent in Tennessee hospitals, and the mean (average) length of stay was 4.7 days.
- Between 1999 and 2008, the mean length of stay decreased slightly, from 4.8 to 4.7 days
- The two diagnoses with the longest lengths of stay were related to care of infants with complications: prematurity and low birth weight, and respiratory distress.
- Conditions with the longest mean lengths of stay were relatively uncommon. Combined, the ten diagnoses with the longest stays accounted for approximately 2% of all hospital discharges.
- Even though long lengths of stay can be costly, four of the ten diagnoses with the longest stays were not among those with the highest mean charges: tuberculosis, rehabilitation care, other aftercare, and skin ulcers.

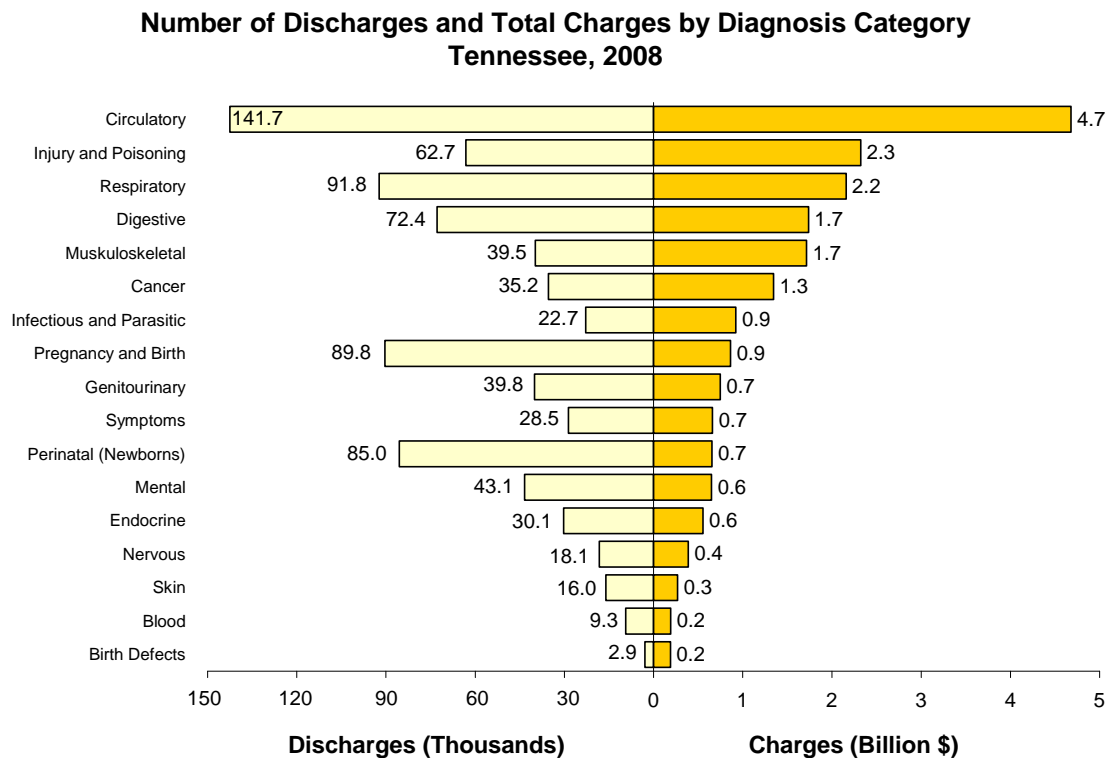
Top 10 Principal Diagnoses with the Longest Length of Stay – Tennessee, 2008

| Rank | Mean Length of Stay (days) | Mean Charges (\$) |
|--|----------------------------|-------------------|
| 1. Premature birth and low birthweight | 25 | 94,260 |
| 2. Infant respiratory distress syndrome | 22 | 97,442 |
| 3. Tuberculosis | 16 | 41,415 |
| 4. Immunity disorders | 16 | 105,544 |
| 5. Leukemia (cancer of the blood) | 14 | 90,751 |
| 6. Rehabilitation care, fitting of prostheses, adjustment of devices | 14 | 29,246 |
| 7. Polio and other brain or spinal infections | 13 | 71,333 |
| 8. Spinal cord injury | 13 | 119,779 |
| 9. Other aftercare | 12 | 39,329 |
| 10. Chronic ulcer of skin | 11 | 34,477 |

How much do hospitals charge?

Hospital Charges by Diagnosis Category

- Diseases of the circulatory system accounted for both the highest total charges across all diagnosis categories (\$4.7 billion), as well as the greatest number of discharges.
- Birth defects accounted for both the lowest total charges (\$0.2 billion) and the fewest number of hospitalizations.
- Although pregnancy/childbirth and perinatal conditions were the third and fourth most common reasons for hospitalization (together accounting for over one-fifth of all stays), they accounted for just 8% of total hospital charges.

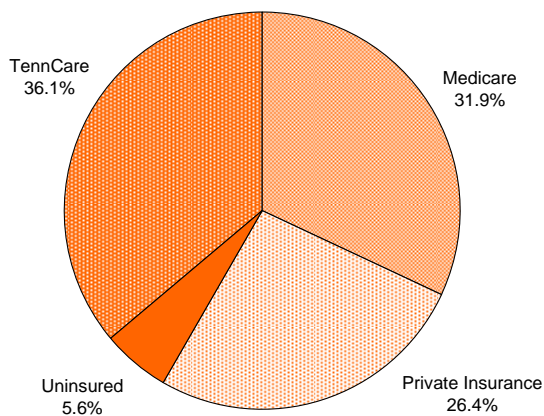


Who is billed for hospital care?

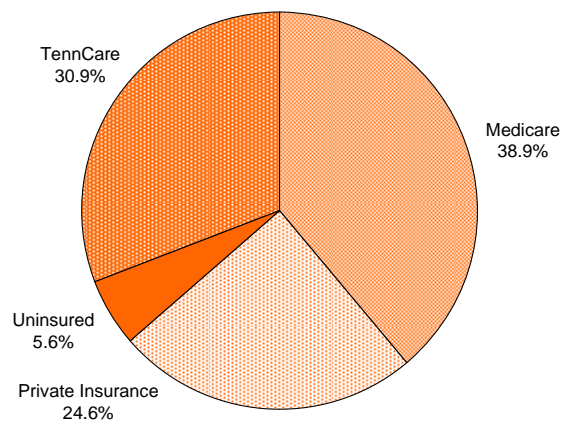
Payers of Hospital Care

- Together, Medicare and TennCare were billed for over two-thirds of all hospital stays and all hospital charges in 2008.
 - Medicare was billed for 32% of all stays and 39% of all charges
 - TennCare was billed for 36% of all stays and 31% of all charges.
- Private insurance was billed for 26% of all hospitalizations and 25% of all hospital charges.
- Uninsured hospitalizations accounted for 6% of all stays and of all charges.

**Percent of Hospital Stays Billed to Each Payer
Tennessee, 2008**



**Percent of Hospital Charges Billed to Each Payer
Tennessee, 2008**

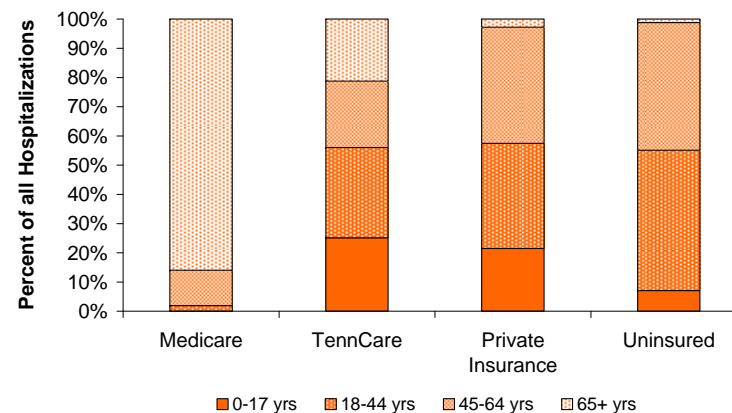


Who is billed for hospital care?

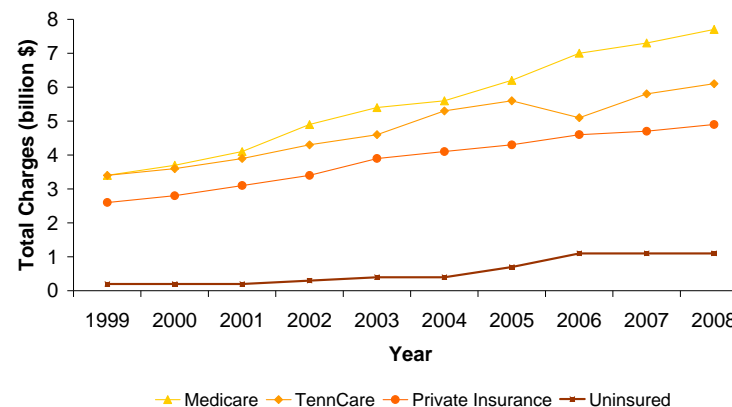
Payers of Hospital Care *cont.*

- The distribution of hospitalizations by age group varied greatly by payer.
 - The percentage of hospitalizations for 0-17 year olds was lowest among hospital stays billed to Medicare (0.04%) and greatest among stays billed to TennCare (25%).
 - The percentage of hospitalizations for those 65 years and older was highest among hospital stays billed to Medicare (86%) and lowest among stays billed to private insurance and among uninsured stays (2.8% and 1.2%, respectively).
 - The majority of hospital stays billed to private insurance and the majority of uninsured stays were for young and middle aged adults (18-64 years).
- After adjusting for inflation, total hospital charges increased for all payers between 1999 and 2008:
 - Medicare – 129% increase to \$7.7 billion
 - TennCare – 79% increase to \$6.1 billion
 - Private insurance – 87% increase to \$4.8 billion
 - Uninsured hospitalizations – 496% increase to \$1.1 billion

Distribution of Hospitalizations by Payer and Age
Tennessee, 2008



Total Hospital Charges by Payer
Tennessee, 1999-2008



Who is billed for hospital care?

Most Common Reasons for Hospitalization by Payer – Medicare

- The most common reason for hospitalization for Medicare beneficiaries was pneumonia, followed closely by congestive heart failure. Each diagnosis accounted for approximately 5% of all discharges billed to Medicare.
- Pneumonia was the only condition among the ten most common diagnoses for all payers.
- Seven of the ten most common diagnoses among Medicare patients were related to the cardiovascular and respiratory systems.
- Medicare patients made up over one-half of all discharges for congestive heart failure, irregular heart beat, osteoarthritis, rehabilitation care, and stroke.

Top 10 Principal Diagnoses Billed to Medicare – Tennessee, 2008

| Rank | Total Number of Discharges | Percent of All Discharges Billed to Medicare | Medicare's Share of All Discharges for this Condition |
|--|----------------------------|--|---|
| 1. Pneumonia | 13,188 | 5.0 | 45.1 |
| 2. Congestive heart failure | 13,111 | 5.0 | 57.1 |
| 3. Chronic obstructive pulmonary disease (COPD) | 9,976 | 3.8 | 45.9 |
| 4. Coronary atherosclerosis (hardening of the heart arteries) | 9,793 | 3.7 | 46.9 |
| 5. Cardiac dysrhythmias (irregular heart beat) | 9,609 | 3.7 | 60.8 |
| 6. Osteoarthritis (degenerative joint disease) | 8,952 | 3.4 | 52.5 |
| 7. Rehabilitation care, fitting of prostheses, adjustment of devices | 8,521 | 3.3 | 64.4 |
| 8. Septicemia (blood infection) | 8,304 | 3.2 | 47.7 |
| 9. Acute cerebrovascular disease (stroke) | 6,941 | 2.7 | 55.2 |
| 10. Acute myocardial infarction (heart attack) | 6,864 | 2.6 | 46.3 |

Who is billed for hospital care?

Most Common Reasons for Hospitalization by Payer – TennCare

- The most common reason for hospitalization for TennCare beneficiaries was infant birth, which accounted for approximately 15% of all discharges billed to TennCare.
- Five of the ten most common diagnoses among TennCare patients were related to birth and pregnancy.
- TennCare patients made up over one-half of all discharges for infant birth, mood disorders, other complications of pregnancy, other maternal complications of birth, and previous C-section.
- Mood disorders were the second most common diagnosis among TennCare patients.

Top 10 Principal Diagnoses Billed to TennCare – Tennessee, 2008

| Rank | Total Number of Discharges | Percent of All Discharges Billed to TennCare | TennCare's Share of All Discharges for this Condition |
|---|----------------------------|--|---|
| 1. Newborn infant | 45,671 | 15.4 | 57.0 |
| 2. Mood disorders | 10,762 | 3.6 | 51.2 |
| 3. Pneumonia | 10,064 | 3.4 | 34.4 |
| 4. Chronic obstructive pulmonary disease (COPD) | 8,985 | 3.0 | 41.4 |
| 5. Other complications of pregnancy | 7,782 | 2.6 | 64.2 |
| 6. Other maternal complications of birth | 7,510 | 2.5 | 54.7 |
| 7. Congestive heart failure | 7,138 | 2.4 | 31.1 |
| 8. Septicemia (blood infection) | 6,348 | 2.1 | 36.4 |
| 9. Trauma to vulva and perineum due to childbirth | 6,009 | 2.0 | 50.2 |
| 10. Previous C-section | 5,498 | 1.9 | 53.7 |

Who is billed for hospital care?

Most Common Reasons for Hospitalization by Payer – Private Insurance

- The most common reason for hospitalizations billed to private insurers was infant birth, which accounted for approximately 15% of all discharges billed to private insurers and 40% of all discharges for this condition.
- Five of the ten most common diagnoses billed to private insurers were related to birth and pregnancy.
- As with TennCare beneficiaries, mood disorders were the second most common diagnosis among patients with private insurance.
- Patients with private insurance made up over one-third of all discharges for infant birth, osteoarthritis, other maternal complications of birth, trauma to the vulva and perineum, previous C-section and back problems.

Top 10 Principal Diagnoses Billed to Private Insurers – Tennessee, 2008

| Rank | Total Number of Discharges | Percent of All Discharges Billed to Private Insurers | Private Insurer's Share of All Discharges for this Condition |
|---|----------------------------|--|--|
| 1. Newborn infant | 32,146 | 14.8 | 40.1 |
| 2. Mood disorders | 6,249 | 2.9 | 29.7 |
| 3. Osteoarthritis | 6,193 | 2.9 | 36.3 |
| 4. Other maternal complications of birth | 5,832 | 2.7 | 42.5 |
| 5. Trauma to vulva and perineum due to childbirth | 5,569 | 2.6 | 46.5 |
| 6. Coronary atherosclerosis (hardening of the heart arteries) | 5,343 | 2.5 | 25.6 |
| 7. Pneumonia | 4,525 | 2.1 | 15.5 |
| 8. Previous C-section | 4,431 | 2.0 | 43.3 |
| 9. Spondylosis, intervertebral disc disorders (back problems) | 4,413 | 2.0 | 38.5 |
| 10. Other complications of pregnancy | 3,893 | 1.8 | 32.1 |

Who is billed for hospital care?

Most Common Reasons for Hospitalization by Payer – Uninsured

- Among uninsured patients, the most common reason for hospitalization was infant birth. However, this accounted for just 5% of all discharges among the uninsured and 3% of all discharges for infant birth.
- Six of the ten most common diagnoses among the uninsured were related to the cardiovascular and respiratory systems.
- Skin infections were the second most common diagnosis among the uninsured, who accounted for approximately 13% of all discharges for this condition.
- Diabetes hospitalizations should be preventable with proper disease management and ambulatory care. Although the uninsured made up 6% of all hospitalizations, they accounted for approximately 13% of all discharges for diabetes.

Top 10 Principal Diagnoses for the Uninsured – Tennessee, 2008

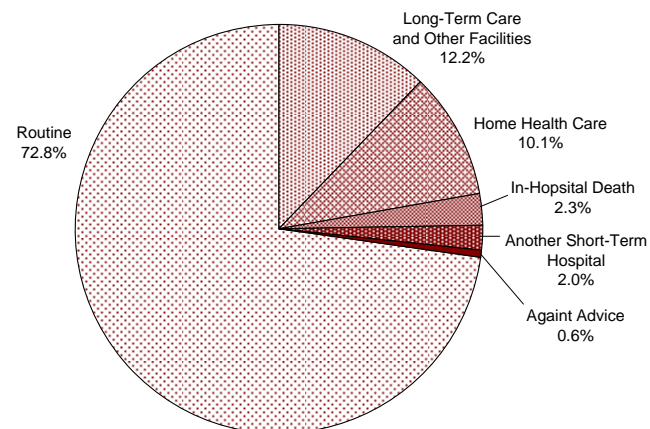
| Rank | Total Number of Discharges | Percent of All Discharges among the Uninsured | Percent of All Discharges for this Condition that are Uninsured |
|---|----------------------------|---|---|
| 1. Newborn infant | 2,207 | 4.8 | 2.8 |
| 2. Skin and subcutaneous tissue infections | 1,809 | 3.9 | 13.3 |
| 3. Chest pain | 1,652 | 3.6 | 12.9 |
| 4. Diabetes mellitus with complications | 1,500 | 3.2 | 13.3 |
| 5. Pneumonia | 1,469 | 3.2 | 5.0 |
| 6. Acute myocardial infarction (heart attack) | 1,317 | 2.8 | 8.9 |
| 7. Coronary atherosclerosis (hardening of the heart arteries) | 1,207 | 2.6 | 5.8 |
| 8. Pancreatic disorders other than diabetes | 1,147 | 2.5 | 17.3 |
| 9. Congestive heart failure | 1,000 | 2.2 | 4.4 |
| 10. Chronic obstructive pulmonary disease (COPD) | 913 | 2.0 | 4.2 |

How are patients discharged from the hospital?

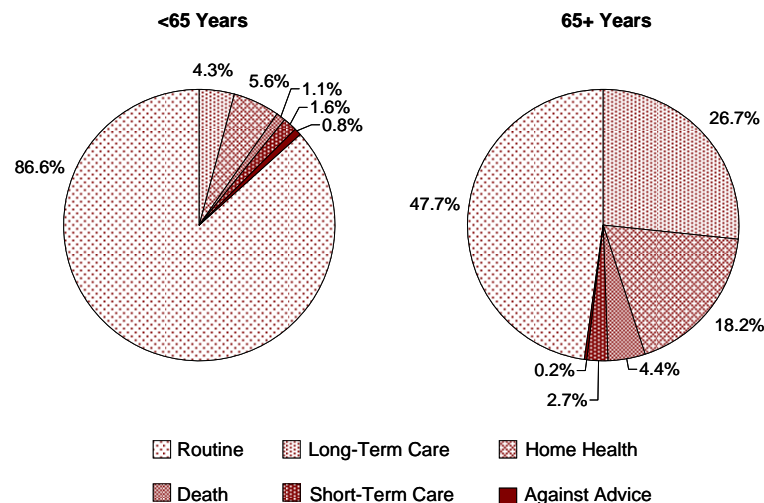
Discharge Status

- The majority of hospital discharges in 2008 (73%) were routine in nature (i.e. patients returned home following completion of care).
- Another 10% of patients returned home but with additional home healthcare needs.
- Approximately 12% of patients were discharged to a long-term care/other facility, while an additional 2% went to a different short-term care hospital.
- Approximately 2% of patients died while in the hospital.
- Less than 1% of hospitalized patients left against medical advice.

Discharge Status
Tennessee, 2008



Discharge Status by Age
Tennessee, 2008



Discharge Status by Age

- Discharge status varied greatly by age.
 - Routine discharges were more common among patients less than 65 years of age compared to those 65 and older.
 - Patients 65 years and older were more likely than younger patients to be discharged to a long-term care facility or to home healthcare. They were also more likely to die while hospitalized.

How are patients discharged from the hospital?

Discharges to Short-Term Care Hospitals

Hospitalizations that result in transfer to another short-term care hospital often signify that the patient required more specialized services than the original facility could provide.²

- The most common diagnosis among patients discharged to short-term care hospitals was rehabilitation care, which accounted for 8.4% of all discharges to these types of facilities.
- The second most common diagnosis among discharges to short-term care hospitals was infant birth.*
- Six of the ten most common diagnoses among patients discharged to short-term care hospitals were related to the cardiovascular and respiratory systems.

Top 10 Principal Diagnoses for Discharges to Short-Term Care Hospitals – Tennessee, 2008

| Rank | Total Number of Discharges | Percent of All Discharges to Short-Term Care Hospitals |
|--|----------------------------|--|
| 1. Rehabilitation care, fitting of prostheses, adjustment of devices | 1,412 | 8.4 |
| 2. Newborn infant* | 1,101 | 6.5 |
| 3. Acute myocardial infarction (heart attack) | 992 | 5.9 |
| 4. Coronary atherosclerosis (hardening of the heart arteries) | 926 | 5.5 |
| 5. Pneumonia | 752 | 4.5 |
| 6. Congestive heart failure | 711 | 4.2 |
| 7. Septicemia (blood infection) | 588 | 3.5 |
| 8. Respiratory failure, insufficiency, arrest (adult) | 475 | 2.8 |
| 9. Cardiac dysrhythmias (irregular heart beat) | 452 | 2.7 |
| 10. Mood disorders | 410 | 2.4 |

* All newborn infants transferred to short-term care facilities had at least one secondary diagnosis and the majority had more than one. For example, 49% were premature and/or low birthweight, 22% had one or more birth defects and 19% had respiratory distress.

How are patients discharged from the hospital?

Discharges to Long-Term Care Hospitals

Hospitalizations that result in transfer to long-term care and other facilities (such as nursing homes, hospice facilities, and long-term care hospitals) tend to be those in which a patient's functional status has been compromised.²

- The most common diagnosis among patients discharged to long-term care facilities was hip fracture, which accounted for approximately 6% of all discharges to long-term care facilities.
- Blood infection, pneumonia, stroke and osteoarthritis each accounted for approximately 5% of discharges to this type of facility.
- Delirium and dementia accounted for approximately 3% of discharges to long-term care facilities and were the 8th most common diagnosis among this type of discharge.

Top 10 Principal Diagnoses for Discharges to Long-Term Care Hospitals – Tennessee, 2008

| Rank | Total Number of Discharges | Percent of All Discharges to Long-Term Care Hospitals |
|---|----------------------------|---|
| 1. Hip fracture | 5,550 | 5.5 |
| 2. Septicemia (blood infection) | 5,440 | 5.3 |
| 3. Pneumonia | 5,326 | 5.2 |
| 4. Acute cerebrovascular disease (stroke) | 5,153 | 5.1 |
| 5. Osteoarthritis (degenerative joint disease) | 4,922 | 4.8 |
| 6. Urinary Infection | 4,191 | 4.1 |
| 7. Congestive heart failure | 3,893 | 3.8 |
| 8. Delirium, dementia, and other cognitive disorders | 3,125 | 3.1 |
| 9. Respiratory failure, insufficiency, arrest (adult) | 2,792 | 2.7 |
| 10. Acute kidney failure | 2,566 | 2.5 |

How are patients discharged from the hospital?

In-Hospital Deaths

In-hospital deaths refer to hospitalizations in which the patient died during his or her stay. Patients may be admitted to the hospital for end-of-life care; therefore, mortality for some conditions is expected to be high. Note that the listed conditions are the primary reason for hospitalization and not necessarily the underlying cause of death.

- In 2008, there were approximately 18,700 in-hospital deaths in Tennessee.
- The condition with the highest number of in-hospital deaths was blood infection, which accounted for approximately 2,900 in-hospital deaths.
- Three conditions were among those with both the highest number of deaths and the highest in-hospital mortality rates: blood infection, adult respiratory failure and aspiration pneumonitis.*

Top 10 Principal Diagnoses with the Highest Number of In-Hospital Deaths – Tennessee, 2008

| Rank | Total Number Deaths | In-Hospital Mortality Rate* (percent) |
|--|---------------------|--|
| 1. Septicemia (blood infection) | 2,856 | 16.3 |
| 2. Respiratory failure, insufficiency, arrest (adult) | 1,845 | 15.0 |
| 3. Acute cerebrovascular disease (stroke) | 1,237 | 9.8 |
| 4. Pneumonia | 1,155 | 3.9 |
| 5. Acute myocardial infarction (heart attack) | 913 | 6.1 |
| 6. Congestive heart failure | 853 | 3.7 |
| 7. Aspiration pneumonitis (aspiration of stomach contents into lung) | 627 | 13.1 |
| 8. Acute kidney failure | 538 | 5.3 |
| 9. Cancer of the bronchial tubes and lungs | 491 | 12.1 |
| 10. Metastasis (spread of cancer or secondary cancer) | 397 | 9.7 |

* The in-hospital mortality rate is the percentage of patients with this principal diagnosis who died while in the hospital.

How are patients discharged from the hospital?

In-Hospital Deaths *cont.*

- The condition with the highest in-hospital mortality rate was cardiac arrest/ventricular fibrillation. Over one-half of patients admitted for this condition died while hospitalized.
- Intrauterine hypoxia and birth asphyxia had the second highest in-hospital mortality rate (32%). However, this condition was relatively uncommon, with 25 admissions and 8 deaths in 2008.
- Although the in-hospital mortality rate for pneumonia was relatively low (3.9%), hospitalizations for this condition were common, and as a result the number of in-hospital deaths for pneumonia patients was relatively high.
- Three of the ten diagnoses with the highest in-hospital mortality rates, and two of the ten diagnoses with the highest number of inpatient deaths were related to cancer.

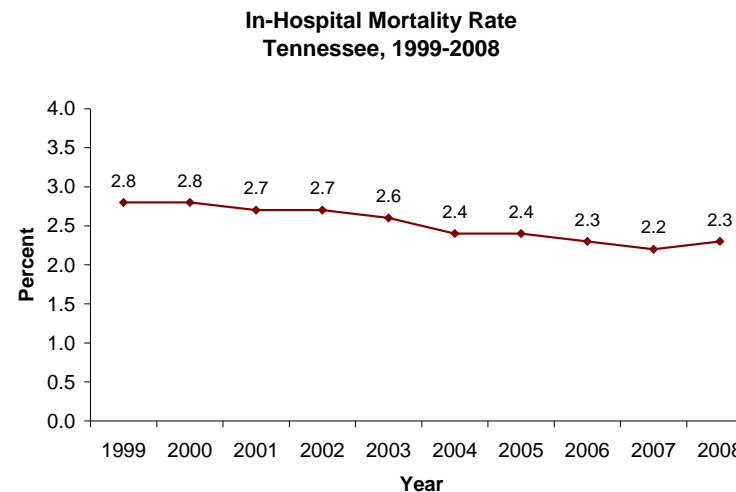
Top 10 Principal Diagnoses with the Highest Inpatient Mortality Rates – Tennessee, 2008

| Rank | Total Number Deaths | In-Hospital Mortality Rate (percent) |
|---|---------------------|--------------------------------------|
| 1. Cardiac arrest and ventricular fibrillation | 204 | 58.8 |
| 2. Intrauterine hypoxia and birth asphyxia (lack of oxygen to baby in uterus or during birth) | 8 | 32.0 |
| 3. Shock | 21 | 25.9 |
| 4. Coma, stupor and brain damage | 101 | 21.2 |
| 5. Septicemia (blood infection) | 2,856 | 16.3 |
| 6. Other and unspecified cancer | 24 | 15.8 |
| 7. Cancer of liver and bile duct in liver | 54 | 15.2 |
| 8. Respiratory failure, insufficiency, arrest (adult) | 1,845 | 15.0 |
| 9. Leukemia (cancer of blood) | 109 | 13.5 |
| 10. Aspiration pneumonitis (aspiration of stomach contents into lung) | 627 | 13.1 |

How are patients discharged from the hospital?

In-Hospital Deaths *cont.*

- Between 1999 and 2008, the in-hospital mortality rate decreased approximately 18%, from 2.8% to 2.3%.
- For the majority of diagnoses examined in this report (186) there was no statistically significant trend in the in-hospital mortality rate between 1999 and 2008.*
- Fifty-one diagnoses exhibited a decrease in mortality during this time period. The degree of decrease ranged from 2% to 76%. The five diagnoses with the largest decreases in mortality were:
 - Rehabilitation Care – 76% decrease
 - Other acquired deformities – 73% decrease
 - Schizophrenia and other psychotic disorders – 63% decrease
 - Pathological fracture – 63% decrease
 - Other disorders of stomach and duodenum– 63% decrease
- Four diagnoses exhibited an increase in mortality during this time period:
 - Intestinal infection – 134% increase
 - Other conditions occurring around the time of birth – 50% increase
 - Cancer of head and neck – 34% increase
 - Brain injury – 9% increase



* Nineteen diagnoses were excluded from trend analyses due to the small number of hospitalizations for these conditions (<50 stays per year on average).

How are patients discharged from the hospital?

In-Hospital Deaths *cont.*

- Infant birth was the most common admitting diagnosis among patients less than 1 year of age who died while hospitalized. However, the majority of these infants had secondary diagnoses which could have contributed to their deaths. For example, 85% were premature and/or low birthweight, 47% had one or more birth defects and 33% had respiratory distress.
- Brain injury was the most common diagnosis among 1-17 year olds who died in-hospital.
- For all adult age groups (18-44, 45-64, 65-79 and 80+ years), blood infection was the most common diagnosis among patients who died while hospitalized.
- Blood infection and respiratory failure were the only diagnoses among the top ten for all age groups.
- Among each age group, the condition with the highest in-hospital mortality rate was cardiac arrest.

How are patients discharged from the hospital?

Top 10 Principal Diagnoses with the Highest Number of In-Hospital Deaths by Age Group – Tennessee, 2008*

| | Age Group | | | | | |
|---|--|------------|-------------|-------------|-------------|-----------|
| | <1 Year | 1-17 Years | 18-44 Years | 45-64 Years | 65-79 Years | 80+ Years |
| Total Number of Deaths | 412 | 98 | 998 | 4,136 | 6,353 | 6,717 |
| | Number of Deaths for this Condition (Rank) | | | | | |
| Newborn infant [†] | 276 (1) | | | | | |
| Other conditions occurring around the time of birth | 35 (2) | | | | | |
| Premature birth and low birthweight | 25 (3) | | | | | |
| Cardiac and circulatory birth defects | 16 (4) | | | | | |
| Infant respiratory distress syndrome | 10 (5) | | | | | |
| Intrauterine hypoxia and birth asphyxia | 8 (6) | | | | | |
| Other birth defects | 5 (7) | | | | | |
| Coma, stupor and brain damage | 4(8) | 7 (3) | | | | |
| Septicemia (blood infection) | 3 (9) | 6 (4) | 110 (1) | 615 (1) | 997 (1) | 1,125 (1) |
| Respiratory failure, insufficiency, arrest (adult) | 3 (9) | 8 (2) | 76 (3) | 446 (2) | 777 (2) | 535 (3) |
| Nervous system birth defects | 3 (9) | | | | | |
| Medical examination/evaluation | 3 (9) | | | | | |
| Brain injury | | 25 (1) | 85 (2) | | | |
| Congestive heart failure | | 4 (5) | 21 (10) | 101 (8) | 274 (6) | 453 (5) |
| Other lower respiratory disease | | 4 (5) | | | | |
| Epilepsy, convulsions | | 3 (7) | | | | |
| Complications of device, implant or graft | | 3 (7) | 22 (8) | 79 (10) | | |
| Other injuries | | 3 (7) | | | | |
| Crushing or internal injury | | 3 (7) | 44 (6) | | | |
| AIDS/HIV infection | | | 62 (4) | | | |
| Acute cerebrovascular disease (stroke) | | | 53 (5) | 316 (3) | 383 (4) | 484 (4) |
| Metastasis (spread of cancer or secondary cancer) | | | 24 (7) | 159 (7) | 164 (10) | |
| Pneumonia | | | 22 (8) | 190 (4) | 390 (3) | 553 (2) |
| Other liver disease | | | 21 (10) | 98 (9) | | |
| Acute myocardial infarction (heart attack) | | | | 176 (5) | 335 (5) | 388 (7) |
| Cancer of the bronchial tubes and lungs | | | | 164 (6) | 243 (7) | |
| Acute kidney failure | | | | | 191 (8) | 260 (8) |
| Aspiration pneumonitis (aspiration of stomach contents into lung) | | | | | 165 (9) | 395 (6) |
| Hip fracture | | | | | | 163 (9) |
| Urinary infection | | | | | | 118 (10) |

*In cases of ties (multiple diagnoses with the same number of deaths), diagnoses were assigned the same ranking.

[†]The majority of newborn infants who died while hospitalized had at least one secondary diagnosis. For example, 85% were premature and/or low birthweight, 47% had one or more birth defects and 33% had respiratory distress.

How are patients discharged from the hospital?

Patients Leaving Against Medical Advice

- The most common diagnosis among patients who left against medical advice was mood disorders, which accounted for 10% of all patients leaving against advice.
- Three of the ten most common diagnoses among patients who left against medical advice were mental health-related illnesses: mood disorders, substance abuse disorders and alcohol abuse disorders.
- Uninsured patients were more likely to leave against medical advice than those with either government or private insurance. Approximately 2% of uninsured patients left against advice, compared to 0.8% among TennCare patients and 0.3% among Medicare and privately insured patients.

Top 10 Principal Diagnoses for which Patients Left Against Medical Advice – Tennessee, 2008

| Rank | Total Number of Discharges | Percent of All Discharges in which Patients Left Against Advice |
|---|----------------------------|---|
| 1. Mood disorders | 487 | 9.9 |
| 2. Chest pain | 251 | 5.1 |
| 3. Diabetes mellitus with complications | 210 | 4.3 |
| 4. Substance abuse disorders | 208 | 4.2 |
| 5. Chronic obstructive pulmonary disease (COPD) | 187 | 3.8 |
| 6. Alcohol abuse disorders | 181 | 3.7 |
| 7. Pneumonia | 159 | 3.2 |
| 8. Congestive heart failure | 150 | 3.0 |
| 9. Skin and subcutaneous tissue infections | 144 | 2.9 |
| 10. Pancreatic disorders other than diabetes | 105 | 2.1 |

Summary

Inpatient hospitalization rates in Tennessee have remained unchanged in recent years while total hospitalization charges have more than doubled and mean charges have increased 76%. Many common causes of hospitalization are among the leading causes of death in Tennessee (e.g. diseases of the heart, stroke, COPD and pneumonia). In addition, many conditions for which individuals are commonly hospitalized (e.g. COPD, asthma, diabetes, and low birthweight) are responsive to proper disease management, and hospitalizations for these conditions could be avoided with appropriate ambulatory care and prevention measures.⁴ High rates of hospitalization for these conditions may indicate poor access to or utilization of outpatient health care, a need for evidence-based practice guidelines for primary care providers, lack of patient compliance to treatment, or other factors. Hospitalizations account for a substantial portion of health care expenditures and place an important burden on individuals, families and the healthcare system. Information on hospitalizations is therefore essential for addressing rising healthcare costs and improving health and healthcare.

Tennessee's Hospital Discharge Data System offers a wealth of information about hospitalizations in the state – demographic characteristics of patients, reasons for hospitalization, discharge outcomes, charges for and payers of hospital care, etc. This data may be useful in a variety of ways, including injury and disease surveillance, public health planning and community assessments, quality assessment and performance improvement, health services and health policy research, and to inform public policy and legislation.³ The current report offers a detailed overview of hospitalizations in the state and is intended to inform health professionals, policy makers, and other organizations and individuals interested in health and healthcare. It is hoped that the information contained in the report will stimulate additional interest and research and lead to improved health for all Tennesseans.

Appendix A: 2008 Hospitalization Rates by County*

| County | Number of Hospitalizations | Hospitalization Rate (per 100,000) |
|--------------------------------------|----------------------------|------------------------------------|
| Metropolitan Regions/Counties | | |
| Davidson | 78,986 | 13,310 |
| Hamilton | 41,465 | 12,326 |
| Knox | 49,229 | 11,546 |
| Madison | 12,298 | 12,475 |
| Shelby | 116,362 | 13,000 |
| Sullivan | 23,981 | 14,190 |
| East Region | | |
| Anderson | 9,431 | 11,414 |
| Blount | 16,318 | 12,689 |
| Campbell | 7,183 | 15,556 |
| Claiborne | 4,877 | 14,211 |
| Cocke | 5,373 | 13,946 |
| Grainger | 3,286 | 13,947 |
| Hamblen | 10,057 | 15,188 |
| Jefferson | 7,002 | 13,459 |
| Loudon | 7,539 | 14,484 |
| Monroe | 6,555 | 13,561 |
| Morgan | 3,626 | 17,345 |
| Roane | 6,971 | 11,743 |
| Scott | 3,495 | 15,243 |
| Sevier | 10,346 | 11,835 |
| Union | 2,170 | 11,047 |

| County | Number of Hospitalizations | Hospitalization Rate (per 100,000) |
|------------------------------|----------------------------|------------------------------------|
| Mid-Cumberland Region | | |
| Cheatham | 4,707 | 12,505 |
| Dickson | 6,860 | 14,314 |
| Houston | 1,429 | 15,438 |
| Humphreys | 2,593 | 12,521 |
| Montgomery | 16,830 | 12,668 |
| Robertson | 9,272 | 14,699 |
| Rutherford | 26,434 | 12,338 |
| Stewart | 2,019 | 13,986 |
| Sumner | 17,279 | 11,472 |
| Trousdale | 1,258 | 14,827 |
| Williamson | 14,245 | 9,958 |
| Wilson | 12,453 | 12,205 |
| Northeast Region | | |
| Carter | 7,278 | 11,258 |
| Greene | 10,976 | 15,086 |
| Hancock | 1,166 | 15,391 |
| Hawkins | 8,518 | 13,847 |
| Johnson | 2,158 | 10,892 |
| Unicoi | 3,535 | 16,864 |
| Washington | 19,192 | 15,536 |
| Northwest Region | | |
| Benton | 2,622 | 13,638 |

* County refers to patient's county of residence; rates are age-adjusted.

Appendix A

| County | Number of Hospitalizations | Hospitalization Rate (per 100,000) |
|-----------------------------|----------------------------|------------------------------------|
| Carroll | 5,352 | 15,974 |
| Crockett | 2,102 | 13,481 |
| Dyer | 7,335 | 18,237 |
| Gibson | 8,010 | 14,678 |
| Henry | 5,046 | 13,715 |
| Lake | 1,507 | 19,892 |
| Obion | 4,859 | 13,855 |
| Weakley | 4,652 | 13,295 |
| South Central Region | | |
| Bedford | 7,485 | 16,837 |
| Coffee | 9,665 | 16,943 |
| Giles | 4,243 | 13,399 |
| Hickman | 3,653 | 14,733 |
| Lawrence | 7,148 | 15,801 |
| Lewis | 1,743 | 14,218 |
| Lincoln | 3,277 | 9,046 |
| Marshall | 4,094 | 13,689 |
| Maury | 12,620 | 15,734 |
| Moore | 378 | 5,465 |
| Perry | 1,705 | 18,852 |
| Wayne | 2,222 | 12,212 |
| Southeast Region | | |
| Bledsoe | 1,302 | 9,856 |
| Bradley | 12,088 | 12,277 |
| Franklin | 6,636 | 14,482 |
| Grundy | 2,733 | 17,241 |
| Marion | 4,209 | 13,965 |
| McMinn | 6,751 | 12,059 |
| Meigs | 1,964 | 16,322 |

| County | Number of Hospitalizations | Hospitalization Rate (per 100,000) |
|--------------------------------|----------------------------|------------------------------------|
| Polk | 2,621 | 14,760 |
| Rhea | 4,808 | 14,449 |
| Sequatchie | 1,541 | 11,205 |
| Southwest Region | | |
| Chester | 1,784 | 10,723 |
| Decatur | 2,183 | 15,950 |
| Fayette | 3,829 | 10,254 |
| Hardeman | 4,063 | 13,783 |
| Hardin | 3,369 | 11,778 |
| Haywood | 3,024 | 14,931 |
| Henderson | 4,195 | 14,573 |
| Lauderdale | 4,240 | 15,275 |
| McNairy | 4,339 | 14,887 |
| Tipton | 7,386 | 13,258 |
| Upper-Cumberland Region | | |
| Cannon | 2,199 | 15,296 |
| Clay | 1,234 | 13,092 |
| Cumberland | 8,221 | 12,514 |
| Dekalb | 3,235 | 16,252 |
| Fentress | 3,867 | 19,824 |
| Jackson | 1,343 | 10,816 |
| Macon | 2,923 | 13,107 |
| Overton | 3,305 | 13,989 |
| Pickett | 769 | 12,813 |
| Putnam | 9,687 | 13,187 |
| Smith | 3,223 | 16,584 |
| Van Buren | 608 | 10,408 |
| Warren | 6,830 | 15,558 |
| White | 4,036 | 14,933 |

Appendix B: Most Common Reasons for Hospitalization by County

The following table summarizes the five most common reasons for hospitalization by county of residence for 2008. Rankings are based on the number of hospitalizations, with '1' indicating the diagnosis with the greatest number of hospitalizations in a given county. In cases of ties (i.e. multiple diagnoses with the same number of hospitalizations), diagnoses were assigned the same ranking.

- Infant birth was among the five most common reasons for hospitalization among all 95 Tennessee counties, and was the most common reason for hospitalization in 83 counties.
- Pneumonia was among the five leading causes of hospitalization in the majority of counties (96%), and was the most common diagnosis in nine counties.
- Chronic obstructive pulmonary disease (COPD) was among the five leading causes of hospitalization in approximately 77% of counties, and was the most common diagnosis in three counties.

Appendix B

| County | Newborn infant | Pneumonia | Congestive heart failure | COPD | Mood disorders | Coronary atherosclerosis | Septicemia | Osteoarthritis | Cardiac dysrhythmias | Acute myocardial Infarction | Urinary infections | Other complications of birth | Skin infections | Rehabilitation care | Chest pain | Other complications of pregnancy | Respiratory failure (adult) | Trauma due to childbirth | Fluid and electrolyte disorders | Diabetes mellitus with complications |
|--------------------------------------|----------------|-----------|--------------------------|------|----------------|--------------------------|------------|----------------|----------------------|-----------------------------|--------------------|------------------------------|-----------------|---------------------|------------|----------------------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------------|
| Metropolitan Regions/Counties | | | | | | | | | | | | | | | | | | | | |
| Davidson | 1 | 3 | 4 | | 2 | | | | | | | 5 | | | | | | | | |
| Hamilton | 1 | | 5 | | 2 | | 4 | 3 | | | | | | | | | | | | |
| Knox | 1 | 4 | | | 2 | | | 5 | | | | | | | | | 3 | | | |
| Madison | 1 | 3 | 2 | 5 | | | | | | | | | | 4 | | | | | | |
| Shelby | 1 | 4 | 2 | | | | | | | | | 5 | | 3 | | | | | | |
| Sullivan | 1 | 5 | | | 2 | | 4 | | | | | | | | 3 | | | | | |
| East Region | | | | | | | | | | | | | | | | | | | | |
| Anderson | 1 | | 5 | 4 | | | 2 | 3 | | | | | | | | | | | | |
| Blount | 1 | 2 | | 4 | 3 | | | 5 | | | | | | | | | | | | |
| Campbell | 1 | 2 | 5 | 4 | | | | | | | | | | | | | 3 | | | |
| Claiborne | 1 | 4 | 2 | | 5 | | 3 | | | | | | | | | | | | | |
| Cocke | 1 | 4 | 5 | 3 | | | 2 | | | | | | | | | | | | | |
| Grainger | 1 | 3 | 4 | 2 | | | 5 | | | 5 | | | | | | | | | | |
| Hamblen | 1 | 3 | 5 | 2 | 4 | 5 | | | | | | | | | | | | | | |
| Jefferson | 1 | 3 | 5 | 4 | | | 2 | | | | | | | | | | | | | |
| Loudon | 1 | 2 | | 4 | | 5 | | 3 | | | | | | | | | | | | |
| Monroe | 1 | 2 | 4 | 3 | 5 | 5 | | | | | | | | | | | | | | |
| Morgan | 1 | 4 | 5 | 2 | | | 3 | | | | | | | | | | | | | |
| Roane | 1 | 2 | | 3 | 4 | 5 | | | | | | | | | | | | | | |
| Scott | 1 | 3 | 5 | 2 | | | 4 | | | | | | | | | | | | | |

Appendix B

| County | Newborn infant | Pneumonia | Congestive heart failure | COPD | Mood disorders | Coronary atherosclerosis | Septicemia | Osteoarthritis | Cardiac dysrhythmias | Acute myocardial Infarction | Urinary infections | Other complications of birth | Skin infections | Rehabilitation care | Chest pain | Other complications of pregnancy | Respiratory failure (adult) | Trauma due to childbirth | Fluid and electrolyte disorders | Diabetes mellitus with complications |
|------------------------------|----------------|-----------|--------------------------|------|----------------|--------------------------|------------|----------------|----------------------|-----------------------------|--------------------|------------------------------|-----------------|---------------------|------------|----------------------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------------|
| Sevier | 1 | 2 | | | 5 | 3 | | 4 | | | | | | | | | | | | |
| Union | 1 | 5 | | | 3 | 4 | 5 | | | | | | | | | | 2 | | | |
| Mid-Cumberland Region | | | | | | | | | | | | | | | | | | | | |
| Cheatham | 1 | 2 | | 5 | 3 | 4 | | | | | | | | | | | | | | |
| Dickson | 1 | 4 | 5 | | 3 | 2 | | | | | | | | | | | | | | |
| Houston | 1 | 3 | 4 | 2 | | | | | | | 5 | | | | | | | | | |
| Humphreys | 1 | 2 | | 3 | 4 | 5 | | | | | | | | | | | | | | |
| Montgomery | 1 | 2 | 5 | | | 3 | | | | | | | | | 4 | | | | | |
| Robertson | 1 | 2 | | 5 | 4 | 3 | | | | | | | | | | | | | | |
| Rutherford | 1 | 2 | | | 3 | | | | | | | 4 | | | | 5 | | | | |
| Stewart | 1 | 2 | 4 | 5 | | 3 | | | | | | | | | | | | | | |
| Sumner | 1 | 2 | | 5 | 3 | 4 | | | | | | | | | | | | | | |
| Trousdale | 2 | 1 | 4 | 3 | | | | | | | | | | | | | | | 5 | |
| Williamson | 1 | 3 | | | 4 | | | 2 | | | | 5 | | | | | | | | |
| Wilson | 1 | 3 | | 4 | 2 | 5 | | | | | | | | | | | | | | |
| Northeast Region | | | | | | | | | | | | | | | | | | | | |
| Carter | 1 | 4 | 5 | | 3 | 2 | | | | | | | | | | | | | | |
| Greene | 1 | 2 | 5 | | 4 | | 3 | | | | | | | | | | | | | |
| Hancock | 3 | 4 | 2 | 1 | | | 5 | | | | | | | | | | | | | |
| Hawkins | 1 | 5 | | | 2 | | 3 | | | 4 | | | | | | | | | | |
| Johnson | 1 | 4 | 3 | | 2 | 5 | | | | | | | | | | | | | | |

Appendix B

| County | Newborn infant | Pneumonia | Congestive heart failure | COPD | Mood disorders | Coronary atherosclerosis | Septicemia | Osteoarthritis | Cardiac dysrhythmias | Acute myocardial Infarction | Urinary infections | Other complications of birth | Skin infections | Rehabilitation care | Chest pain | Other complications of pregnancy | Respiratory failure (adult) | Trauma due to childbirth | Fluid and electrolyte disorders | Diabetes mellitus with complications |
|-----------------------------|----------------|-----------|--------------------------|------|----------------|--------------------------|------------|----------------|----------------------|-----------------------------|--------------------|------------------------------|-----------------|---------------------|------------|----------------------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------------|
| Unicoi | 1 | 4 | | 5 | 5 | 3 | 2 | | | | | | | | | | | | | |
| Washington | 1 | 4 | 5 | | 2 | 3 | | | | | | | | | | | | | | |
| Northwest Region | | | | | | | | | | | | | | | | | | | | |
| Benton | 1 | 2 | | 4 | | 3 | | | | 5 | | | | | | | | | | |
| Carroll | 1 | 2 | 3 | | | 4 | | | | 5 | | | | | | | | | | |
| Crockett | 1 | 5 | 3 | 2 | | 4 | | | | | | | | | | | | | | |
| Dyer | 1 | | 3 | 4 | | | | | | | 5 | | | | 2 | | | | | |
| Gibson | 1 | 3 | 4 | 2 | | 5 | | | | | | | | | | | | | | |
| Henry | 1 | 2 | 5 | 3 | | | | | | 4 | | | | | | | | | | |
| Lake | 4 | 5 | 2 | 1 | | | | | | | | | | | 3 | | | | | |
| Obion | 1 | 3 | | 5 | | 4 | | | | | | | | 2 | | | | | | |
| Weakley | 1 | 2 | 5 | | | 4 | | | | | | | | 3 | | | | | | |
| South Central Region | | | | | | | | | | | | | | | | | | | | |
| Bedford | 1 | 3 | | 2 | | 5 | | | | | | | | | | | | | 4 | |
| Coffee | 1 | 3 | 5 | 2 | 5 | 4 | | | | | | | | | | | | | | |
| Giles | 1 | 2 | | 3 | 5 | 4 | | | | | | | | | | | | | | |
| Hickman | 1 | 4 | | 3 | | 2 | | | | | | | | 5 | | | | | | |
| Lawrence | 1 | 2 | 5 | 3 | | 4 | | | | | | | | | | | | | | |
| Lewis | 1 | 2 | 3 | 5 | | | | | 4 | | | | | | | | | | | |
| Lincoln | 1 | 2 | 4 | 3 | | 5 | | | | | | | | | | | | | | |
| Marshall | 1 | 2 | 5 | 3 | | 4 | | | | | | | | | | | | | | |

Appendix B

| County | Newborn infant | Pneumonia | Congestive heart failure | COPD | Mood disorders | Coronary atherosclerosis | Septicemia | Osteoarthritis | Cardiac dysrhythmias | Acute myocardial Infarction | Urinary infections | Other complications of birth | Skin infections | Rehabilitation care | Chest pain | Other complications of pregnancy | Respiratory failure (adult) | Trauma due to childbirth | Fluid and electrolyte disorders | Diabetes mellitus with complications |
|-------------------------|----------------|-----------|--------------------------|------|----------------|--------------------------|------------|----------------|----------------------|-----------------------------|--------------------|------------------------------|-----------------|---------------------|------------|----------------------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------------|
| Maury | 1 | 2 | | 4 | 5 | | | | | | | 3 | | | | | | | | |
| Moore | 1 | 3 | | 4 | | 2 | | 5 | | | | | | | | | | | | |
| Perry | 3 | 1 | 2 | 4 | 5 | | | | | | | | | | | | | | | |
| Wayne | 3 | 1 | 4 | 2 | | | | | | | | | | | | | | | 5 | |
| Southeast Region | | | | | | | | | | | | | | | | | | | | |
| Bledsoe | 1 | 2 | 5 | 3 | | 4 | | | | | | | | | | | | | 5 | |
| Bradley | 1 | 4 | | 3 | 2 | | | | | | | | | | 5 | | | | | |
| Franklin | 1 | 2 | 5 | 3 | | 4 | | | | | | | | | | | | | | |
| Grundy | 1 | 2 | 4 | 3 | | | 5 | | | | | | | | | | | | | |
| Marion | 1 | 2 | 5 | 4 | | 3 | | | | | | | | | | | | | | |
| McMinn | 1 | 2 | 4 | 5 | 3 | | | | | | | | | | | | | | | |
| Meigs | 1 | 2 | | 5 | 3 | | | 4 | | | | | | | | | | | | |
| Polk | 1 | 3 | 4 | 2 | 5 | | | | | | | | | | | | | | | |
| Rhea | 1 | 2 | 4 | 5 | | 3 | | | | | | | | | | | | | | |
| Sequatchie | 1 | 2 | 4 | 5 | 3 | 5 | | 5 | | | | | | | | | | | | |
| Southwest Region | | | | | | | | | | | | | | | | | | | | |
| Chester | 1 | 4 | 2 | | | 3 | | | | 5 | | | | | | | | | | |
| Decatur | 3 | 1 | 4 | 2 | | 5 | | | | | | | | | | | | | | |
| Fayette | 1 | 2 | 5 | 4 | | 3 | | | | | | | | | | | | | | |
| Hardeman | 1 | 2 | 4 | 3 | | | 5 | | | | | | | | | | | | | |
| Hardin | 1 | 2 | 3 | 5 | | 4 | | | | | | | | | | | | | | |

Appendix B

| County | Newborn infant | Pneumonia | Congestive heart failure | COPD | Mood disorders | Coronary atherosclerosis | Septicemia | Osteoarthritis | Cardiac dysrhythmias | Acute myocardial Infarction | Urinary infections | Other complications of birth | Skin infections | Rehabilitation care | Chest pain | Other complications of pregnancy | Respiratory failure (adult) | Trauma due to childbirth | Fluid and electrolyte disorders | Diabetes mellitus with complications |
|--------------------------------|----------------|-----------|--------------------------|------|----------------|--------------------------|------------|----------------|----------------------|-----------------------------|--------------------|------------------------------|-----------------|---------------------|------------|----------------------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------------|
| Haywood | 1 | | 4 | 5 | | | | | | | | | | | 3 | | | | | 2 |
| Henderson | 1 | 5 | 2 | 3 | | 4 | | | | | | | | | | | | | | |
| Lauderdale | 1 | 3 | 5 | 2 | | 4 | | | | | | | | | | | | | | |
| McNairy | 1 | 3 | 5 | 2 | | 4 | | | | | | | | | | | | | | |
| Tipton | 1 | 2 | 4 | | | 3 | 5 | | | | | | | | | | | | | |
| Upper-Cumberland Region | | | | | | | | | | | | | | | | | | | | |
| Cannon | 2 | 1 | 4 | 3 | 5 | 5 | | | | | | | | | | | | | | |
| Clay | 3 | 1 | 2 | 4 | | | | | | | | | 5 | | | | | | | |
| Cumberland | 1 | 2 | 4 | 3 | | | | 5 | | | | | | | | | | | | |
| Dekalb | 1 | 2 | 4 | 3 | 5 | | | | | | | | | | | | | | | |
| Fentress | 3 | 2 | 4 | 1 | | | | | | | | | | | | | 5 | | | |
| Jackson | 2 | 1 | | 4 | | | 5 | | | | | | | | | | 3 | | | |
| Macon | 1 | 2 | | 3 | | 4 | | | | | | | | | | | | | | 5 |
| Overton | 1 | 2 | 4 | 3 | | | | | | | | | | | | | | | | 5 |
| Pickett | 3 | 1 | | 2 | | | | | | | 4 | | | | | | | | | 5 |
| Putnam | 1 | 2 | 4 | 3 | | | | | | | | | | | | | | 5 | | |
| Smith | 2 | 1 | | 4 | | 3 | | | | | | | | | 5 | | | | | |
| Van Buren | 1 | 2 | 4 | 5 | | | | | | 3 | | | | | | | | | | |
| Warren | 1 | 2 | 4 | | 5 | 3 | | | | | | | | | | | | | | |
| White | 1 | 2 | | 3 | | | | | 4 | 5 | | | | | | | | | | |

Appendix C: 2008 Statistics on Stays in Tennessee Hospitals by Diagnosis

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital* |
|---|----------------------|------------------------------------|-------------------|----------------------------|----------------------|-------------------|
| Infectious and parasitic diseases | 22,689 | 354 | 40,604 | 7.8 | 75.7 | 13.4 |
| Tuberculosis (TB) | 156 | 2.5 | 41,415 | 16.0 | 66.0 | 1.9 |
| Septicemia (blood infection) | 17,549 | 271.8 | 43,556 | 8.2 | 77.3 | 16.3 |
| Bacterial infection | 157 | 2.6 | 28,471 | 6.3 | 57.1 | 1.3 |
| Mycoses (fungal and yeast infections) | 638 | 9.9 | 43,493 | 9.2 | 65.0 | 6.3 |
| AIDS/HIV infection | 1,339 | 22.0 | 47,451 | 9.3 | 80.7 | 7.8 |
| Hepatitis | 879 | 13.6 | 25,067 | 4.8 | 75.1 | 3.0 |
| Viral infection | 1,428 | 23.3 | 13,959 | 3.7 | 65.8 | 0.4 |
| Other infections | 438 | 6.9 | 22,879 | 4.9 | 61.2 | 1.6 |
| Sexually transmitted disease (venereal disease) | 85 | 1.3 | 28,474 | 6.8 | 50.6 | -- |
| Immunizations and screening for infections | 20 | 0.3 | 13,772 | 5.8 | 60.0 | -- |
| Neoplasms (cancer, carcinoma in-situ, benign tumors) | 35,166 | 537 | 38,257 | 6.1 | 28.4 | 5.3 |
| Cancer of head and neck | 641 | 9.4 | 49,376 | 7.3 | 26.9 | 5.8 |
| Cancer of esophagus | 264 | 3.8 | 51,495 | 9.2 | 33.3 | 9.8 |
| Cancer of stomach | 428 | 6.5 | 60,702 | 10.4 | 41.6 | 9.3 |
| Cancer of colon | 2,215 | 33.5 | 44,655 | 8.4 | 29.3 | 4.9 |
| Cancer of rectum and anus | 960 | 14.4 | 50,161 | 9.1 | 24.2 | 3.5 |
| Cancer of liver and bile duct in liver | 356 | 5.3 | 35,554 | 6.4 | 49.7 | 15.2 |
| Cancer of pancreas | 681 | 10.4 | 41,999 | 8.1 | 45.1 | 12.2 |
| Cancer of other gastrointestinal organs and peritoneum (lining of abdominal cavity) | 390 | 5.9 | 54,044 | 9.6 | 33.7 | 5.6 |
| Cancer of bronchial tubes and lung | 4,045 | 60.1 | 42,552 | 7.4 | 42.1 | 12.1 |
| Other respiratory and intrathoracic (chest) tumors | 31 | 0.5 | 50,877 | 7.9 | 38.7 | 3.2 |
| Cancer of bone and connective tissue (ligaments and tendons) | 377 | 6.0 | 49,153 | 6.6 | 21.5 | 3.7 |
| Melanoma of skin (highly malignant skin cancer) | 64 | 1.0 | 21,357 | 3.8 | 20.3 | 10.9 |
| Skin cancer other than melanoma | 104 | 1.6 | 31,281 | 4.0 | 15.4 | 1.0 |
| Breast cancer | 1,572 | 23.8 | 25,543 | 2.6 | 9.5 | 2.5 |

*Diagnoses with no in-hospital deaths are marked with a '--'

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|--|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Cancer of uterus | 570 | 8.4 | 31,388 | 4.5 | 14.4 | 2.8 |
| Cancer of cervix | 401 | 6.4 | 24,102 | 3.7 | 27.2 | 2.5 |
| Cancer of ovary | 499 | 7.5 | 35,081 | 6.4 | 24.0 | 4.6 |
| Other female genital cancer | 181 | 2.8 | 28,110 | 4.7 | 23.2 | 2.2 |
| Prostate cancer | 2,088 | 29.5 | 28,433 | 2.1 | 13.4 | 1.3 |
| Cancer of testicles | 36 | 0.6 | 34,334 | 5.1 | 14.3 | -- |
| Other male genital cancer | 18 | 0.3 | 19,206 | 3.1 | 5.6 | -- |
| Bladder cancer | 638 | 9.8 | 38,903 | 6.0 | 24.3 | 4.4 |
| Kidney cancer | 1,033 | 15.4 | 34,812 | 4.7 | 16.9 | 2.2 |
| Other urinary cancer | 67 | 1.0 | 47,869 | 7.4 | 13.4 | 4.5 |
| Brain cancer and other nervous system cancer | 700 | 10.9 | 49,431 | 6.8 | 43.7 | 3.6 |
| Thyroid cancer | 238 | 3.7 | 23,179 | 2.8 | 5.5 | 2.5 |
| Hodgkin`s disease | 69 | 1.1 | 54,191 | 8.4 | 33.3 | 4.3 |
| Non-Hodgkin`s lymphoma | 793 | 12.1 | 49,545 | 8.6 | 43.0 | 7.4 |
| Leukemia (cancer of blood) | 807 | 12.8 | 90,751 | 14.0 | 39.4 | 13.5 |
| Multiple myeloma (cancer of bone marrow) | 331 | 4.9 | 53,376 | 9.7 | 48.6 | 9.1 |
| Other and unspecified cancer | 151 | 2.4 | 47,847 | 8.0 | 37.7 | 6.0 |
| Metastasis (spread of cancer or secondary cancer) | 4,097 | 61.1 | 39,048 | 7.0 | 48.9 | 9.7 |
| Cancer without specification of site | 153 | 2.3 | 26,901 | 6.3 | 56.2 | 15.8 |
| Tumors of unspecified nature or uncertain behavior | 1,015 | 15.8 | 32,816 | 5.4 | 36.3 | 3.5 |
| Chemotherapy and radiation therapy | 3,005 | 47.0 | 36,246 | 5.8 | 5.9 | 1.1 |
| Benign tumor of the uterus | 3,102 | 52.0 | 18,783 | 2.6 | 20.5 | 0.03 |
| Other and unspecified benign tumor | 3,046 | 46.7 | 35,046 | 4.7 | 20.2 | 0.9 |
| Endocrine, nutritional, and metabolic diseases and immunity disorders | 30,121 | 474 | 18,381 | 4.1 | 62.9 | 1.2 |
| Thyroid disorders | 781 | 12.2 | 21,275 | 3.2 | 33.9 | 0.4 |
| Diabetes mellitus without complication | 579 | 9.4 | 10,353 | 2.5 | 71.0 | 0.3 |
| Diabetes mellitus with complications | 11,470 | 180.1 | 20,118 | 4.7 | 72.5 | 0.6 |
| Other endocrine (hormone) disorders | 1,059 | 16.4 | 21,838 | 5.2 | 61.1 | 1.3 |
| Nutritional deficiencies | 335 | 5.3 | 26,059 | 7.5 | 47.5 | 6.0 |
| Disorders of lipid metabolism (primarily high cholesterol) | 13 | 0.2 | 14,863 | 3.0 | 69.2 | -- |
| Gout | 297 | 4.5 | 14,543 | 4.1 | 73.7 | -- |

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|--|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Fluid and electrolyte disorders (primarily dehydration and fluid overload) | 11,932 | 187.1 | 12,144 | 3.5 | 67.6 | 1.6 |
| Cystic fibrosis | 266 | 4.6 | 36,833 | 8.3 | 28.3 | -- |
| Immunity disorders | 23 | 0.4 | 105,544 | 15.8 | 34.8 | 4.3 |
| Other nutritional, endocrine and metabolic disorders | 3,366 | 53.3 | 31,733 | 3.7 | 23.5 | 1.7 |
| Diseases of blood and blood-forming organs | 9,281 | 147 | 20,596 | 4.3 | 59.7 | 1.4 |
| Iron deficiency and other anemia | 4,558 | 71.0 | 17,413 | 3.6 | 58.8 | 1.0 |
| Posthemorrhagic anemia (acute anemia from bleeding) | 476 | 7.4 | 17,314 | 3.8 | 68.1 | 1.1 |
| Sickle cell anemia | 1,838 | 31.0 | 19,921 | 4.9 | 69.0 | 0.4 |
| Coagulation and bleeding disorders | 882 | 13.9 | 30,097 | 4.7 | 56.7 | 3.4 |
| Diseases of white blood cells | 1,391 | 21.8 | 25,523 | 5.5 | 48.9 | 2.1 |
| Other hematologic (blood) conditions | 136 | 2.0 | 35,895 | 7.8 | 65.2 | 5.9 |
| Mental disorders | 43,118 | 694 | 15,038 | 7.1 | 41.1 | 0.5 |
| Adjustment disorders | 544 | 8.9 | 8,150 | 4.5 | 26.4 | -- |
| Anxiety disorders | 869 | 14.2 | 10,565 | 4.9 | 45.5 | 0.1 |
| Attention-deficit, conduct and disruptive behavior disorders | 280 | 4.8 | 16,505 | 9.4 | 34.4 | -- |
| Delirium, dementia, amnestic and other cognitive disorders | 5,503 | 88.3 | 20,211 | 10.3 | 37.1 | 1.5 |
| Developmental disorders | 49 | 0.8 | 12,899 | 4.7 | 60.4 | 2.0 |
| Pre-adult mental disorders | 69 | 1.2 | 15,715 | 9.0 | 39.1 | -- |
| Impulse control disorders, not elsewhere classified | 81 | 1.4 | 13,415 | 8.5 | 40.5 | -- |
| Mood disorders | 21,288 | 345.1 | 13,152 | 6.9 | 35.8 | 0.03 |
| Personality disorders | 34 | 0.6 | 16,361 | 7.9 | 42.4 | -- |
| Schizophrenia and other psychotic disorders | 5,829 | 92.6 | 17,271 | 9.5 | 40.8 | 0.1 |
| Alcohol abuse disorders | 3,062 | 48.2 | 13,048 | 4.2 | 60.0 | 0.1 |
| Substance abuse disorders | 3,333 | 53.6 | 12,699 | 4.1 | 52.2 | 0.4 |
| Suicide and intentional self-inflicted injury | 7 | 0.1 | 8,666 | 1.9 | 57.1 | -- |
| Screening and history of mental health and substance abuse | 1,358 | 20.6 | 32,198 | 5.8 | 75.5 | 6.4 |
| Other mental conditions | 812 | 13.3 | 10,929 | 3.2 | 39.7 | 0.1 |
| Diseases of the nervous system and sense organs | 18,149 | 288 | 21,483 | 4.3 | 66.7 | 2.0 |
| Meningitis | 888 | 14.8 | 24,740 | 4.9 | 79.5 | 1.7 |
| Encephalitis | 234 | 3.7 | 51,780 | 9.3 | 61.1 | 6.4 |
| Polio and other brain or spinal infections | 202 | 3.2 | 71,333 | 13.3 | 53.5 | 2.5 |

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|---|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Parkinson's disease | 314 | 4.8 | 19,141 | 5.0 | 48.4 | 2.2 |
| Multiple sclerosis | 386 | 6.2 | 19,464 | 4.8 | 60.6 | 1.6 |
| Other hereditary and degenerative nervous system conditions | 941 | 14.8 | 25,082 | 4.7 | 49.9 | 1.7 |
| Paralysis | 193 | 3.1 | 30,502 | 6.2 | 53.1 | -- |
| Epilepsy, convulsions | 5,530 | 89.0 | 18,397 | 3.5 | 72.9 | 0.8 |
| Headache, including migraine | 1,574 | 25.6 | 13,980 | 2.8 | 66.8 | 0.1 |
| Coma, stupor and brain damage | 477 | 7.4 | 28,114 | 5.1 | 73.4 | 21.2 |
| Cataract | 3 | 0.1 | 15,384 | 4.0 | 0.0 | -- |
| Retinal detachments, defects, vascular occlusion, and retinopathy (diseases of back of eye) | 61 | 0.9 | 19,616 | 2.8 | 61.7 | -- |
| Glaucoma | 13 | 0.2 | 19,813 | 5.5 | 61.5 | -- |
| Blindness and vision problems | 114 | 1.8 | 14,606 | 2.7 | 81.6 | -- |
| Infections or inflammation of the eye | 352 | 5.7 | 15,086 | 3.9 | 55.7 | -- |
| Other eye disorders | 125 | 1.9 | 18,663 | 3.7 | 65.6 | -- |
| Otitis media (middle ear infections) and related conditions | 244 | 4.1 | 11,258 | 2.9 | 60.2 | 0.4 |
| Dizziness or vertigo (spinning sensation) | 1,066 | 16.3 | 12,794 | 2.6 | 78.5 | 0.1 |
| Other ear and sense organ disorders | 148 | 2.4 | 14,441 | 3.7 | 54.7 | 1.4 |
| Other nervous system disorders | 5,284 | 82.3 | 24,963 | 5.0 | 62.1 | 2.9 |
| Diseases of the circulatory system | 141,712 | 2,163 | 33,012 | 4.4 | 61.5 | 3.1 |
| Heart valve disorders | 1,649 | 25.3 | 109,451 | 9.2 | 20.3 | 3.3 |
| Peri-/endo-/myocarditis, cardiomyopathy (disorders of heart muscle and surrounding tissue) | 1,442 | 22.4 | 44,569 | 6.7 | 55.0 | 3.3 |
| Hypertension (high blood pressure) | 1,500 | 23.1 | 12,852 | 2.5 | 73.6 | 0.2 |
| High blood pressure with complications | 6,381 | 98.7 | 25,957 | 5.0 | 70.6 | 2.2 |
| Acute myocardial infarction (heart attack) | 14,919 | 225.1 | 47,885 | 5.1 | 66.7 | 6.1 |
| Coronary atherosclerosis (hardening of the heart arteries) | 21,036 | 312.4 | 46,981 | 3.8 | 43.3 | 0.5 |
| Chest pain | 12,975 | 198.8 | 14,944 | 2.1 | 79.5 | 0.1 |
| Pulmonary heart disease (heart disease due to lung disorders) | 3,986 | 61.7 | 27,147 | 5.8 | 73.2 | 4.2 |
| Other and ill-defined heart disease | 144 | 2.1 | 32,907 | 4.5 | 51.0 | 4.2 |
| Disturbance of electrical activity of heart (conduction disorders) | 1,229 | 19.3 | 46,844 | 3.3 | 46.1 | 1.9 |
| Cardiac dysrhythmias (irregular heart beat) | 15,894 | 245.3 | 26,075 | 3.7 | 60.1 | 1.0 |
| Cardiac arrest and ventricular fibrillation (uncoordinated contraction of heart) | 347 | 5.3 | 40,742 | 4.1 | 66.5 | 58.8 |
| Congestive heart failure | 23,164 | 356.8 | 26,205 | 5.0 | 70.4 | 3.7 |

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|--|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Acute cerebrovascular disease (stroke) | 12,686 | 194.4 | 32,894 | 6.1 | 75.9 | 9.8 |
| Stenosis of precerebral arteries (blockage of arteries leading to brain) | 3,199 | 48.6 | 26,048 | 2.4 | 17.5 | 0.2 |
| Other cerebrovascular disease (other blockage of blood supply to brain) | 759 | 11.5 | 42,968 | 4.4 | 32.0 | 0.8 |
| Transient cerebral ischemia (temporary interruption of blood supply to brain, mini-stroke) | 3,830 | 58.8 | 15,538 | 2.7 | 81.5 | 0.2 |
| Late effects of stroke | 343 | 5.2 | 21,333 | 7.4 | 58.1 | 6.1 |
| Peripheral and visceral atherosclerosis (hardening of arteries outside heart) | 4,972 | 75.0 | 38,516 | 4.9 | 34.0 | 2.6 |
| Aneurysm (ballooning or rupture of an artery) | 2,052 | 31.4 | 75,366 | 5.4 | 22.7 | 6.2 |
| Arterial embolism or thrombosis (blood clot) | 787 | 11.8 | 44,142 | 5.7 | 43.1 | 5.3 |
| Other circulatory (blood vessel) disease | 3,451 | 53.5 | 20,142 | 4.0 | 67.7 | 2.1 |
| Phlebitis, thrombophlebitis, thromboembolism (inflammation and blood clots in the veins) | 3,792 | 58.8 | 18,812 | 4.9 | 57.4 | 1.2 |
| Varicose veins of lower extremity (leg) | 48 | 0.8 | 15,688 | 5.0 | 33.3 | -- |
| Hemorrhoids | 564 | 8.7 | 15,437 | 3.4 | 66.3 | 0.7 |
| Other diseases of veins and lymph system | 563 | 8.7 | 25,823 | 6.1 | 47.4 | 2.3 |
| Diseases of the respiratory system | 91,776 | 1,425 | 23,514 | 5.5 | 69.6 | 4.6 |
| Pneumonia | 29,519 | 462.2 | 20,664 | 5.2 | 70.9 | 3.9 |
| Influenza | 1,135 | 18.4 | 11,756 | 3.6 | 64.0 | 1.4 |
| Tonsillitis | 551 | 9.4 | 11,209 | 2.3 | 52.5 | -- |
| Acute bronchitis | 3,966 | 65.5 | 10,290 | 3.2 | 62.3 | 0.1 |
| Other infections of upper respiratory tract (nose, throat, trachea) | 1,412 | 23.2 | 11,093 | 2.7 | 66.4 | 0.1 |
| Chronic obstructive pulmonary disease (COPD) | 21,963 | 330.1 | 16,796 | 4.3 | 69.6 | 1.3 |
| Asthma | 8,167 | 130.5 | 13,256 | 3.5 | 72.4 | 0.3 |
| Aspiration pneumonitis (aspiration of stomach contents into lung) | 4,771 | 74.9 | 29,671 | 7.3 | 78.7 | 13.1 |
| Pleurisy, pneumothorax, collapsed lung | 2,990 | 46.1 | 31,859 | 6.9 | 62.1 | 3.4 |
| Respiratory failure; insufficiency; arrest (adult) | 12,319 | 186.3 | 51,764 | 10.1 | 68.1 | 15.0 |
| Lung disease due to external agents | 180 | 2.8 | 36,614 | 6.7 | 68.9 | 5.6 |
| Other lung disease | 3,865 | 60.4 | 24,013 | 4.3 | 65.6 | 3.2 |
| Other upper respiratory disease (nose, throat, trachea) | 938 | 14.9 | 22,326 | 4.4 | 66.3 | 0.3 |
| Diseases of the digestive system | 72,386 | 1,132 | 23,994 | 4.8 | 67.6 | 1.6 |
| Intestinal infection | 4,729 | 75.3 | 16,539 | 4.7 | 73.0 | 1.6 |
| Disorders of teeth and jaw | 443 | 7.2 | 21,447 | 2.7 | 45.0 | -- |
| Diseases of mouth, excluding dental | 456 | 7.3 | 20,030 | 4.4 | 60.8 | 1.5 |

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|--|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Disorders of esophagus (passage leading to stomach) | 3,055 | 47.8 | 20,340 | 3.9 | 64.7 | 0.5 |
| Gastroduodenal (stomach or peptic) ulcer, without bleeding | 1,087 | 17.0 | 32,695 | 5.9 | 71.3 | 2.7 |
| Inflammation of stomach or duodenum (first part of small intestine) | 2,340 | 36.6 | 16,081 | 3.5 | 72.8 | 0.4 |
| Other disorders of stomach and duodenum (first part of small intestine) | 1,588 | 25.0 | 23,511 | 5.0 | 64.2 | 1.0 |
| Appendicitis | 3,915 | 64.1 | 24,194 | 3.4 | 78.3 | 0.1 |
| Abdominal hernia | 3,671 | 56.2 | 32,513 | 4.6 | 34.2 | 1.0 |
| Regional enteritis and ulcerative colitis | 1,905 | 30.8 | 24,033 | 5.5 | 60.8 | 0.5 |
| Intestinal obstruction without hernia | 7,167 | 110.8 | 26,842 | 6.1 | 76.2 | 2.5 |
| Diverticulosis and diverticulitis | 6,096 | 93.7 | 24,644 | 5.1 | 64.1 | 1.0 |
| Anal and rectal conditions | 1,024 | 16.2 | 20,726 | 4.4 | 54.3 | 0.4 |
| Intestinal abscess and peritonitis (inflammation of abdominal cavity lining) | 647 | 10.0 | 40,311 | 8.6 | 65.6 | 6.6 |
| Gallbladder disease | 8,584 | 134.8 | 27,125 | 4.2 | 62.5 | 0.6 |
| Other liver disease | 2,615 | 39.0 | 29,042 | 5.5 | 70.4 | 6.9 |
| Pancreatic disorders (not diabetes) | 6,719 | 105.0 | 23,899 | 5.3 | 79.7 | 1.1 |
| Gastrointestinal bleeding | 8,288 | 128.1 | 21,648 | 4.3 | 75.7 | 3.1 |
| Inflammation of stomach and intestines (noninfectious gastroenteritis) | 3,610 | 57.4 | 11,783 | 3.0 | 72.3 | 0.4 |
| Other disorders of stomach and intestines | 4,447 | 69.6 | 28,383 | 5.9 | 51.3 | 2.4 |
| Diseases of genitourinary system | 39,799 | 630 | 18,746 | 4.1 | 58.7 | 2.0 |
| Kidney disease other than kidney failure | 148 | 2.4 | 22,169 | 4.9 | 52.1 | 0.7 |
| Acute kidney failure | 10,109 | 156.0 | 24,617 | 5.8 | 74.3 | 5.3 |
| Chronic kidney failure | 481 | 7.5 | 28,198 | 5.2 | 45.0 | 5.0 |
| Urinary infections | 14,087 | 223.7 | 14,072 | 4.1 | 75.3 | 1.3 |
| Urinary tract stones | 2,743 | 43.3 | 17,250 | 2.5 | 57.9 | 0.2 |
| Other diseases of kidney and ureters (passage to bladder from kidney) | 995 | 15.6 | 23,700 | 3.7 | 47.1 | 0.8 |
| Other diseases of bladder and urethra (passage from bladder) | 521 | 8.1 | 26,878 | 5.0 | 38.2 | 1.2 |
| Ill-defined symptom of urinary disease | 598 | 9.3 | 15,566 | 3.6 | 62.9 | 1.2 |
| Hyperplasia (enlargement) of prostate | 1,319 | 20.4 | 14,485 | 2.5 | 11.1 | 0.3 |
| Inflammation of male genitals | 574 | 8.9 | 14,837 | 4.2 | 66.1 | 0.2 |
| Other male genital disorders | 226 | 3.5 | 28,862 | 4.3 | 52.9 | -- |
| Non-cancerous breast conditions | 377 | 6.0 | 17,835 | 3.8 | 46.2 | -- |
| Inflammatory diseases of female pelvic organs | 1,076 | 17.9 | 18,708 | 3.7 | 49.2 | 0.1 |

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|---|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Endometriosis | 738 | 12.7 | 19,141 | 2.6 | 10.5 | -- |
| Prolapse of female genital organs | 1,780 | 27.1 | 21,055 | 1.9 | 4.9 | 0.1 |
| Menstrual disorders | 1,816 | 31.3 | 17,555 | 2.2 | 15.2 | 0.1 |
| Ovarian cyst | 832 | 13.9 | 17,616 | 2.7 | 31.7 | -- |
| Menopausal disorders | 200 | 2.9 | 18,011 | 2.7 | 27.5 | -- |
| Other female genital disorders | 1,179 | 19.2 | 21,353 | 3.0 | 18.1 | 0.3 |
| Complications of pregnancy, childbirth and the puerperium | 89,840 | 1,506 | 9,607 | 2.6 | 19.2 | 0.01 |
| Contraceptive and procreative management (birth control or help with conception) | 11 | 0.2 | 11,132 | 1.5 | 9.1 | -- |
| Spontaneous abortion | 278 | 4.7 | 10,964 | 1.9 | 72.2 | -- |
| Complications following abortion | 39 | 0.7 | 17,533 | 3.6 | 71.8 | -- |
| Ectopic (abdominal or tubal) pregnancy | 367 | 6.2 | 18,389 | 2.2 | 69.5 | -- |
| Other complications of pregnancy | 12,381 | 206.4 | 8,839 | 2.4 | 27.7 | 0.03 |
| Bleeding and placenta disorders during pregnancy | 920 | 15.5 | 13,939 | 4.2 | 25.3 | 0.2 |
| Hypertension (high blood pressure) during pregnancy | 5,381 | 90.4 | 13,235 | 3.6 | 19.5 | 0.02 |
| Early or threatened labor | 4,662 | 77.9 | 9,944 | 3.3 | 29.9 | -- |
| Prolonged pregnancy | 3,450 | 57.6 | 8,724 | 2.3 | 22.0 | -- |
| Diabetes or high blood glucose during pregnancy | 1,794 | 30.2 | 9,228 | 2.7 | 14.2 | -- |
| Malposition, malpresentation (breech and other disorders of baby's position during birth) | 2,990 | 50.3 | 11,407 | 3.0 | 11.2 | -- |
| Obstructed labor or fetopelvic disproportion | 2,451 | 41.0 | 11,987 | 2.9 | 12.4 | -- |
| Previous cesarean section (C-section) | 10,453 | 176.5 | 10,465 | 2.6 | 10.8 | -- |
| Fetal distress and abnormal forces of labor | 4,040 | 67.4 | 10,577 | 2.8 | 17.8 | -- |
| Polyhydramnios (excess amniotic fluid) and other problems of amniotic cavity | 3,330 | 55.9 | 11,710 | 3.6 | 30.7 | -- |
| Umbilical cord complication | 4,013 | 67.0 | 7,526 | 2.1 | 15.7 | -- |
| Trauma to vulva and perineum (area between anus and vulva) due to childbirth | 12,210 | 203.8 | 7,015 | 2.0 | 14.3 | -- |
| Forceps delivery | 1,011 | 16.8 | 7,192 | 2.2 | 12.1 | -- |
| Other complications of birth and puerperium (period after childbirth) | 14,064 | 238.5 | 10,348 | 2.7 | 18.7 | 0.02 |
| Normal pregnancy and/or delivery | 5,995 | 99.3 | 7,132 | 2.0 | 16.7 | -- |
| Diseases of skin and subcutaneous tissue | 15,976 | 254 | 16,761 | 4.9 | 59.3 | 0.6 |
| Skin and subcutaneous tissue infections | 13,772 | 219.6 | 14,360 | 4.3 | 61.8 | 0.3 |
| Other inflammations of skin | 256 | 4.1 | 25,869 | 5.5 | 59.0 | 1.6 |
| Chronic ulcer of skin | 1,669 | 25.9 | 34,477 | 10.6 | 42.6 | 2.8 |

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|--|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Other skin disorders | 279 | 4.4 | 20,976 | 3.6 | 35.1 | 0.4 |
| Diseases of musculoskeletal system and connective tissue | 39,532 | 598 | 43,381 | 3.8 | 18.4 | 0.3 |
| Infective arthritis and osteomyelitis (bone infection) | 1,764 | 27.4 | 38,363 | 8.9 | 42.1 | 0.9 |
| Rheumatoid arthritis | 365 | 5.6 | 31,752 | 4.2 | 38.6 | 0.3 |
| Osteoarthritis (degenerative joint disease) | 17,151 | 251.8 | 43,327 | 3.4 | 5.4 | 0.1 |
| Other non-traumatic joint disorders | 944 | 14.8 | 24,505 | 3.4 | 48.2 | 1.0 |
| Spondylosis, intervertebral disc disorders (back problems) | 11,580 | 177.3 | 49,196 | 3.0 | 16.3 | 0.2 |
| Osteoporosis (loss of bone due to insufficient calcium) | 4 | 0.1 | 23,187 | 6.3 | 50.0 | -- |
| Pathological fracture (fracture of bone weakened by disease) | 1,462 | 23.0 | 35,918 | 5.1 | 48.6 | 1.1 |
| Acquired foot deformities | 83 | 1.3 | 26,714 | 2.7 | 4.8 | 0.0 |
| Other acquired deformities | 946 | 14.4 | 74,785 | 3.8 | 10.7 | 0.2 |
| Systemic lupus erythematosus (chronic rheumatic disease) and connective tissue disorders | 356 | 5.7 | 33,087 | 6.7 | 59.2 | 2.0 |
| Other connective tissue disease | 2,653 | 41.6 | 21,613 | 4.6 | 59.4 | 0.8 |
| Other bone disease and musculoskeletal deformities | 2,224 | 34.9 | 47,237 | 3.6 | 22.4 | 0.1 |
| Congenital anomalies | 2,946 | 49 | 63,846 | 6.0 | 27.1 | 1.0 |
| Cardiac and circulatory birth defects | 784 | 13.0 | 105,536 | 8.7 | 25.5 | 2.2 |
| Digestive birth defects | 565 | 9.6 | 31,982 | 5.5 | 60.9 | 0.2 |
| Genitourinary birth defects | 172 | 2.9 | 33,018 | 4.6 | 42.4 | 0.6 |
| Nervous system birth defects | 162 | 2.7 | 44,977 | 6.7 | 30.5 | 1.9 |
| Other birth defects | 1,263 | 20.4 | 58,841 | 4.6 | 10.5 | 0.6 |
| Newborns and perinatal (around the time of birth) conditions | 85,037 | 1,460 | 7,671 | 3.5 | 1.3 | 0.4 |
| Newborn infant | 81,763 | 1,404.0 | 6,005 | 3.2 | -- | 0.3 |
| Premature birth and low birthweight | 596 | 10.2 | 94,260 | 25.3 | 2.2 | 4.2 |
| Intrauterine hypoxia and birth asphyxia (lack of oxygen to baby in uterus during birth) | 25 | 0.4 | 56,845 | 9.0 | 12.0 | 32.0 |
| Infant respiratory distress syndrome | 298 | 5.1 | 97,442 | 21.9 | 2.4 | 3.4 |
| Hemolytic jaundice and perinatal jaundice (infant jaundice following birth) | 536 | 9.2 | 6,945 | 2.5 | 31.0 | 0.2 |
| Birth trauma | 14 | 0.2 | 40,649 | 7.3 | 14.3 | -- |
| Other conditions occurring around the time of birth | 1,805 | 31.0 | 39,030 | 8.0 | 49.2 | 1.9 |
| Injury and poisoning | 62,743 | 987 | 37,010 | 5.3 | 65.8 | 2.2 |
| Joint disorders and dislocations due to trauma | 650 | 10.2 | 34,020 | 3.3 | 32.9 | 0.9 |
| Hip fracture | 7,225 | 113.9 | 36,927 | 6.0 | 77.6 | 3.0 |

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|---|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Spinal cord injury | 275 | 4.4 | 119,779 | 13.0 | 77.1 | 8.0 |
| Skull and face fractures | 975 | 16.0 | 39,146 | 3.6 | 84.5 | 1.0 |
| Fracture of arm | 2,898 | 46.0 | 31,050 | 3.6 | 72.9 | 0.4 |
| Fracture of leg | 5,752 | 90.6 | 37,662 | 4.5 | 75.5 | 0.6 |
| Other fractures | 4,781 | 75.5 | 35,896 | 5.1 | 75.2 | 1.4 |
| Sprains and strains | 616 | 9.6 | 20,367 | 3.0 | 47.8 | 0.2 |
| Brain injury | 3,367 | 53.9 | 56,381 | 6.7 | 81.0 | 10.0 |
| Crushing or internal injury | 2,572 | 41.7 | 62,544 | 6.7 | 89.5 | 4.7 |
| Open wounds of head, neck and trunk | 652 | 10.6 | 28,061 | 3.1 | 87.3 | 0.9 |
| Open wounds of arms and legs | 867 | 14.1 | 27,533 | 3.8 | 75.8 | 0.3 |
| Complication of medical device, implant or graft | 12,774 | 196.0 | 43,128 | 5.9 | 43.5 | 1.8 |
| Complications of surgical procedures or medical care | 9,554 | 147.8 | 29,556 | 6.3 | 47.7 | 1.4 |
| Superficial injury, bruise | 801 | 12.7 | 14,016 | 3.4 | 75.9 | 0.1 |
| Burns | 914 | 14.9 | 58,519 | 6.6 | 42.3 | 3.6 |
| Poisoning by psychiatric agents | 2,071 | 33.5 | 13,255 | 2.3 | 87.7 | 0.6 |
| Poisoning by other medications and drugs | 3,166 | 50.8 | 16,354 | 3.0 | 84.0 | 1.5 |
| Poisoning by substances other than medicine | 435 | 7.0 | 21,731 | 3.4 | 78.9 | 2.3 |
| Other injuries | 2,398 | 38.2 | 38,276 | 4.8 | 78.6 | 3.8 |
| Symptoms, signs and ill-defined conditions and factors influencing health status | 28,481 | 447 | 23,210 | 8.4 | 38.2 | 0.6 |
| Syncope (fainting) | 4,324 | 67.3 | 15,758 | 2.7 | 82.3 | 0.2 |
| Fever of unknown origin | 2,022 | 33.1 | 15,251 | 3.3 | 71.8 | 0.6 |
| Lymphadenitis (inflamed lymph nodes) | 372 | 6.2 | 15,334 | 3.3 | 60.8 | 0.3 |
| Gangrene | 784 | 11.7 | 52,794 | 10.3 | 38.5 | 5.4 |
| Shock | 81 | 1.2 | 49,787 | 6.2 | 84.0 | 25.9 |
| Nausea and vomiting | 1,640 | 25.9 | 15,345 | 3.5 | 73.2 | 0.7 |
| Abdominal pain | 3,935 | 63.0 | 15,697 | 3.1 | 72.6 | 0.7 |
| Malaise (physical discomfort) and fatigue | 857 | 13.4 | 20,771 | 4.1 | 81.3 | 1.2 |
| Allergic reactions | 479 | 7.6 | 10,664 | 2.9 | 71.6 | 0.2 |
| Rehabilitation care; fitting of prostheses; and adjustment of devices | 13,326 | 206.7 | 29,246 | 13.9 | 0.9 | 0.2 |
| Administrative/social admission | 21 | 0.3 | 12,458 | 6.7 | 28.6 | 4.8 |
| Medical examination/evaluation | 358 | 5.8 | 2,976 | 2.6 | 4.5 | 0.8 |

Appendix C

| Principal Diagnosis | Number of Discharges | Hospitalization Rate (per 100,000) | Mean Charges (\$) | Mean Length of Stay (days) | Admitted from ED (%) | Died in Hospital (%) |
|------------------------------|----------------------|------------------------------------|-------------------|----------------------------|----------------------|----------------------|
| Other aftercare | 246 | 3.8 | 39,329 | 12.4 | 4.9 | 4.1 |
| Other screening | 36 | 0.6 | 9,970 | 2.3 | 47.1 | -- |
| Residual codes, unclassified | 2,750 | 42.8 | 16,492 | 3.4 | 60.1 | 1.1 |
| All Diagnoses* | 831,595 | 13,189 | 24,151 | 4.7 | 47.4 | 2.3 |

* Includes all hospitalizations, including those with missing primary diagnosis

Technical Notes

Data Sources

Joint Annual Report of Hospitals (JAR-H): Data on the number, location, controlling authority and service category of hospitals included in this report were obtained from the 2008 JAR-H and were provided by the Tennessee Department of Health's Division of Health Statistics. Detailed JAR-H data on individual hospitals may be found at the following website: <http://health.state.tn.us/PublicJARS/Default.aspx>.

Hospital Discharge Data System (HDDS): The HDDS is an annual state-based compilation of data on patients discharged from all hospitals licensed by the Tennessee Department of Health. The HDDS does not include federal facilities (i.e. VA hospitals, etc.) or facilities licensed by the Tennessee Department of Mental Health and Developmental Disabilities. The analysis was limited to the records of Tennessee residents. The unit of analysis was inpatient stay rather than patient – if an individual was admitted to the hospital multiple times, he/she can account for more than one hospital stay. Hospitalizations with lengths of stay longer than 365 days or total charges greater than \$1 million were excluded from analyses. The terms 'black' and 'white' refer to persons of any ethnicity. Data on race were missing for 7.7% of hospitalizations, while for each of the other variables examined in this report less than 1% of data were missing. Hospital discharge data were provided by the Tennessee Department of Health's Division of Health Statistics.

Diagnoses and Clinical Classification Software

Diagnoses are recorded within the HDDS using the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). There are over 14,000 individual ICD-9-CM codes. These codes were grouped into 263 clinically meaningful diagnostic categories using the Clinical Classification Software (CCS) developed by the U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality (AHRQ).⁵ In 2008 there were no admissions for three of these 263 categories (alcohol-related liver disease, female infertility and induced abortion). Therefore, this report examines a total of 260 diagnostic categories (referred to as 'diagnoses' or 'conditions'). ICD-9-CM codes were also grouped into major diagnostic categories (e.g. circulatory system, pregnancy/childbirth, and mental disorders) using the same software. Frequencies and rankings of diagnoses are based on principal (i.e. first-listed) diagnosis, which is defined as the main reason for the hospital stay.

Explanation of Terms²

Admission Status: Admission status refers to how a patient presents to the hospital.

Routine admission – Patient was not admitted from the emergency department or any other healthcare facility. This admission source includes admissions from home, via physician or clinic referral, or birth.

Emergency department (ED) admission – Patient was admitted through the ED.

Admission from another hospital – Patient was transferred from another short-term, acute-care hospital. This type of admission usually signifies that the patient required more specialized services than the original hospital could provide.

Admission from long-term care facility – Patient was transferred from a long-term care facility, such as a nursing home.

Hospital Charges: Hospital charges are the amount the hospital billed for the entire inpatient stay. These billed charges are not necessarily the same as reimbursements or costs, and do not include most professional (physician) fees.

Technical Notes

Length of Stay: Length of stay is the number of nights the patient spent in the hospital. A patient admitted and discharged on the same day has a length of stay equal to zero.

Payers: The HDDS allows up to three payers to be listed. Data on all payers were combined hierarchically in order to assign each hospitalization to a single payer category.

TennCare – If TennCare, CoverTN, CoverKids, or AccessTN, was listed as any payer, payer for that hospitalization was assigned as TennCare.

Medicare – For non-TennCare stays, if any payer was listed as Medicare, payer was assigned as Medicare.

Private insurance – For non-TennCare/Medicare stays, if any payer was listed as another insurance source (e.g. Blue Cross, private HMO/PPO), payer was assigned as private insurance.

Uninsured – For non-TennCare/Medicare/private insurance stays, if any payer was listed as self-pay or free care, payer was assigned as uninsured.

Discharge Status: Discharge status refers to the disposition of the patient at discharge from the hospital.

Routine discharge – Patient returned home after completion of hospital treatment.

Discharge with home healthcare – Patient returned home but with additional in-home healthcare needs.

Discharge to another short-term care hospital – Patient was transferred to another short-term, acute-care hospital. This type of discharge usually signifies that the patient required more specialized services than the original hospital could provide.

Discharge to long-term care or other facility – Patient was transferred to a long-term care or other facility, such as a nursing home, hospice or long-term care hospital. This type of discharge usually signifies that a patient's functional status was compromised.

In-hospital death – Patient died while hospitalized.

Against medical advice – Patient checked him/herself out of the hospital against the advice of his/her doctor.

Data Analysis

Data were analyzed using SAS 9.2. Hospitalization rates were age-adjusted to the 2000 standard United States population with a 10-year age interval (i.e. 11 age groups) using the direct method of standardization. Both age-specific and age-adjusted hospitalization rates were calculated using the 2008 Revision of the 2003 Population Estimates and Projections from the Tennessee Department of Health's Division of Health Statistics. Hospital charges prior to 2008 were adjusted to 2008 dollars to account for inflation. Time trends were analyzed using linear regression and were statistically significant (p -value < 0.05) unless otherwise indicated in the text.

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