Heart and Stroke Care in Utah Hospitals Quality and Charges, 2006-2008

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Introduction

The main purpose of this report is to help patients compare Utah hospitals in heart and stroke care based on in-hospital deaths and charges. If you or someone you know is at risk for heart or stroke problems, you may find this report helpful when considering where to receive treatment. Health care facilities can vary, sometimes quite a bit, in terms of quality of care and patient charges.

To learn important information about heart and stroke care, see "Heart and Stroke Resources" later in this report.

Did you know?

- -- Heart disease is the leading cause of death in Utah and the U.S.
- -- 'Silent' strokes have no symptoms but your doctor can detect them
- -- Healthy diet and exercise are key to preventing heart and stroke problems

For information on preventing and living with heart disease or stroke, please visit the <u>Heart Disease</u> and Stroke Prevention Program and the <u>American Heart Association</u>.

Hospital Quality

See the tables in this report for information comparing Utah's hospitals on the following quality indicators:

- ✓ Heart Bypass Surgery Deaths
- ✓ Balloon Angioplasty Deaths
- ✓ Heart Attack Deaths
- ✓ Heart Failure Deaths
- ✓ Stroke Deaths in Utah Hospitals

These measures show the percentage of in-hospital deaths among adult heart and stroke patients. A particular hospital's percentage of deaths depends on its patients' medical history and how ill its patients are. You should consult your health care professional for help in understanding the best treatment options for you.

Many factors affect a hospital's performance on quality measures. Read the online report for more information.

Read more about methods and measures used for the hospital utilization section in this report in Methods and Measures.

More information about quality indicators can be found at the Agency for Healthcare Research and Quality (AHRQ) web site (http://www.ahcpr.gov).

Hospital Charges

See the tables in this report for information on comparing Utah's hospitals for the following charge indicators:

- ✓ Heart Failure
- ✓ Heart Attack
- ✓ Coronary (Heart) Bypass (CABG) With Cardiac Catheterization
- ✓ Coronary (Heart) Bypass (CABG) Without Cardiac Catheterization
- ✓ Balloon Angioplasty With Heart Attack
- ✓ Balloon Angioplasty Without Heart Attack
- ✓ Heart Catheterization <u>for</u> Ischemic Disease
- ✓ Heart Catheterization Except Ischemic Disease
- ✓ Heart Valve Procedures With Heart Catheterization
- ✓ Heart Valve Procedures Without Heart Catheterization
- ✓ Stroke

Your charges may be higher or lower than the average charges shown in the above tables. It is important to remember that "charge" is not the same as "total cost" or "total payment" to the hospital.

<u>Note</u>: Many factors will affect the cost of your hospital stay. Read more in the "About the Report" section later in this report. You can also find more information about these factors at the Utah PricePoint web site (http://www.utpricepoint.org).

Read more about methods and measures used for the hospital utilization section in this report in Methods and Measures.

Please be aware that information in this report is neither intended nor implied to be a substitute for professional medical advice. Always ask questions and seek the advice of your physician or other qualified health provider prior to starting any new treatment.

Key Findings

How did Utah's quality of heart and stroke care in hospitals compare with the nation from 2006 through 2008?

For in-hospital adult deaths, Utah overall had a lower rate of deaths among heart bypass surgery, heart attack, heart failure and stroke patients than expected compared to similar patients nationwide. Utah overall had about the same rate of deaths as expected for balloon angioplasty compared to similar patients nationwide. Utah overall means all Utah hospitals combined. Rates and measures used are in parentheses. For more details, see the Technical Document.

Measures used are in square brackets. For more details, see the <u>Technical Document</u>.

In Utah hospitals that treated patients with this procedure or condition:

- 132 (2.9%) of 4,541 heart bypass surgery patients died (AHRQ IQI 12).
- 251 (1.8%) of 14,049 balloon angioplasty patients died (AHRQ IQI 30).
- 338 (5.4%) of 6,291 heart attack patients died (AHRQ IQI 32)
- 316 (3.2%) of 9,747 heart failure patients died (AHRQ IQI 16).
- 618 (9.2%) of 6,754 stroke patients died (AHRQ IQI 17)

When the patients at each Utah hospital are compared to similar patients nationwide (based on a statistical test, the Exact 95% Confidence Interval):

- Utah overall had a lower rate of in-hospital deaths among <u>heart bypass surgery</u> patients than expected. Of the 11 hospitals that treated at least 30 heart bypass surgery patients, three hospitals had a lower rate of deaths than expected. The remaining hospitals had about the same rate of deaths as expected.
- Utah overall had about the same rate of in-hospital deaths for <u>balloon angioplasty</u> patients as expected. Each of the 17 hospitals that treated at least 30 balloon angioplasty patients had about the same rate of deaths as expected.
- Utah overall had a lower rate of in-hospital deaths for <u>heart attack</u> patients than expected. Of the 16 hospitals that treated at least 30 heart attack patients, three had a lower rate of deaths than expected, whereas the remaining hospitals had about the same rate of deaths as expected.
- Utah overall had a lower rate of in-hospital deaths among <u>heart failure</u> patients than expected. Of the 30 hospitals that treated at least 30 heart failure patients, ten hospitals had a lower rate of deaths than expected and one hospital had a higher rate of deaths than expected. The remaining hospitals had about the same rate of deaths as expected.
- Utah overall had a lower rate of in-hospital deaths for <u>stroke</u> patients than expected. Of the 24 hospitals that treated at least 30 stroke patients, eight hospitals had a lower rate of deaths than expected. The remaining hospitals had about the same rate of deaths as expected.

There are several kinds of heart disease and strokes as well as several causes and risk factors. This report includes hospital tables for some of the more common kinds of heart disease and stroke among adults. Read more in the Heart and Stroke Technical Document.

Note that many factors can affect in-hospital heart and stroke deaths at a particular hospital. The measures in this report **include** heart and stroke patients with do not resuscitate orders. Read more in <u>About the Report</u>.

How did hospital charge differ among Utah hospitals in 2008?

Average hospital charge among adult inpatients for the heart procedures and conditions in this report differed widely in 2008. For more details, see the Technical Document. For patients at the **minor/moderate illness level,** average hospital charge ranged from:

Average hospital charge among adult inpatients for the heart procedures and conditions in this report differed widely in 2008. For more details, see the Technical Document. For hospitals that treated at least five patients at the <u>minor/moderate severity of illness level</u>, average hospital charge ranged from:

- \$2,802 to \$21,431 among 29 Utah hospitals that reported charges for <u>heart attack</u> patients (APR-DRG 190).
- \$2,934 to \$14,827 among 38 Utah hospitals that reported charges for <u>heart failure</u> patients (APR-DRG 194).
- \$11,013 to \$23,892 among 16 Utah hospitals that reported charges for <u>heart catheterization for</u> ischemic disease (APR-DRG 192).
- \$2,911 to \$19,807 among 38 Utah hospitals that reported charges for <u>stroke</u> (APR-DRG 045, Cerebrovascular Accident and Precerebral Occlusion With Infarction, Age 18 Years and Over).

As expected, average hospital charge for patients treated at the major/extreme severity of illness level tend to be higher than for minor/moderate severity of illness level.

Note that many factors will affect hospital charge. Read more in About the Report.

About the Report

Please note this report is not intended to be anyone's sole source of information about hospital quality or charges in Utah. Rather, it is designed to provide helpful information that can play an important role in choosing a hospital, along with other sources including doctor recommendations.

Why are you producing this report?

- Senate Bill 132 (2005) requires the <u>Health Data Committee</u> (HDC) and its staff to publish readerfriendly reports comparing Utah's hospitals based on nationally-recognized measures for quality, charges and patient safety.
- The HDC and <u>Utah Department of Health</u> are committed to providing useful health care information for all people in Utah. Providers can use these reports to improve the quality of care they give to their patients.

Why is this report important to me?

Hospitals can vary, sometimes quite a bit, in terms of quality of care and patient charges. Consumers are encouraged to use the information in this report to ask questions of their doctor or health care professional, hospital or insurance representative. Let them know you plan to take an active role in your health care decisions.

Who else helped shape this report?

- <u>Utah citizens</u> continually review our consumer reports to make sure they are understandable and easy to read. Since 2005, several focus groups have been held in both rural and urban locations.
 Public input helps us create user-friendly reports for people who are not medical experts yet need useful health care information.
- <u>Utah Transparency Advisory Panel</u> (formerly called "SB 132 Task Force) is an HDC advisory group represented by consumers, payers, hospitals, quality organizations and public health. Panel members have advised staff about methods and measures to use in the reports as well as reporting priorities.
- <u>Health care facilities</u> reviewed their data and overall report content before public release. For more information, see the "About the Data" section in this report.
- <u>Statistical experts</u> assisted in selecting the appropriate method for comparing hospital performance.
- <u>Leading physicians and health educators</u> reviewed medical information in the report where applicable.

What are consumers saying about these reports?

Feedback has been received from a variety of sources including our MyHealthCare website, consumer focus groups and newspaper articles. Below are some examples:

- "We have needed these reports for a long time"
- "Now we are more empowered and have tools to compare."
- "This will help us to ask questions when we see our doctor."
- "The consumer reports help people make better choices about their health care. People can use them as a basis for questions to ask their doctors."
- "They [the reports] are not definitive—the end all in choosing one physician or hospital over another—but rather a valuable point of departure for people anticipating specific health care encounters."
- "The more a person knows about the cost and quality of care, the more likely they are to receive the care they need and deserve."

What is Telestroke in Utah?

Telestroke is a system where patients with stroke symptoms living in rural areas can be evaluated by a University of Utah Health Sciences Center stroke neurologist. Stroke patients throughout Utah are

given the opportunity to be prescribed clot busting medication (an effective treatment for stroke), which rural areas are usually unable to administer.

The Stroke Center at University of Utah Hospital employs a 24/7 stroke response team, including neurologists trained in stroke treatment and other specialists. For more information about telestroke and which hospitals have telestroke capability, call the Heart Disease and Stroke Prevention Program at 1-866-88-STROKE.

{Text endorsed by the Heart Disease and Stroke Prevention Program, Utah Department of Health}

What is a certified stroke center?

A certified stroke facility (hospital) provides stroke-related care and services that meet the unique, specialized needs of stroke patients. For example, certified stroke centers are required to have health care experts (i.e. doctors, nurses) on hand who provide 24-hour rapid response for stroke care.

As of September 2008, there were four primary stroke centers in Utah: Intermountain Medical Center/LDS Hospital, McKay-Dee Medical Center, University Health Care, and Utah Valley Regional Medical Center. Primary stroke facilities are reviewed every two years by the Joint Commission (JCAHO). For an updated list of certified facilities in Utah, see the JCAHO website.

{Text endorsed by the Heart Disease and Stroke Prevention Program, Utah Department of Health}

About the Data

Where do the data come from?

Most of the data in this report come from health care hospital claim records. Utah hospitals are required by law to submit a standard set of information about each inpatient who spends at least 24 hours in the hospital to the Office of Health Care Statistics, Utah Department of Health, for the Utah Hospital Discharge Database. The Agency for Healthcare Research and Quality (AHRQ), a federal agency in charge of quality of care, provided national information. For further information visit the AHRQ website http://www.ahrq.gov/

Have the data been verified by others?

Yes. Utah hospitals review the data for accuracy during a review period of at least 30 days while the report is being developed. They also review the completed report before it is released. Hospitals may submit comments to be posted online as part of the report.

Why use these indicators/measures?

SB 132 mandates that the comparison reports use nationally recognized quality standards. A federal agency charged with overseeing health care quality, the Agency for Healthcare Research and Quality (AHRQ), developed the <u>Inpatient Quality Indicators (IQIs</u>). The IQIs allow comparison among Utah

hospitals with similar patients nationwide. This report shows four IQIs for heart conditions and procedures and one IQI for stroke. For more information on the AHRQ IQIs, see http://www.qualityindicators.ahrq.gov/iqi_overview.htm>.

The measure for average charge is an All Patient Refined Diagnosis Related Group (APR-DRG) for similar, though not identical, conditions and procedures among inpatients. For this reason, the number of patients for the APR-DRG and the IQI is not the same. Also, keep in mind that for death rates, three years of data are used, while a single year is used for charge. Read more about APR-DRGs at http://solutions.3m.com/wps/portal/3M/en_US/3M_Health_Information_Systems/HIS/Products/APRDRG Software/

What are the limitations of quality comparisons in the report?

Many factors affect a hospital's performance on quality measures. Such factors include the hospital's size, the number of heart and stroke patients treated, available specialists, teaching status and especially the medical history of the hospital's patients and how ill those patients are. Hospitals that treat high-risk (very ill) patients may have higher percentages of deaths than hospitals that transfer these patients. Hospitals that treat high-risk (very ill) patients and patients with do-not-resuscitate (DNR) orders may have higher percentages of deaths than hospitals that transfer these patients. To partially address these issues, patients with a palliative care code (ICD9 V66.7) are excluded from the IQIs starting with 2006-2008 data. Hospitals may also report patient diagnosis codes differently, which could impact the comparison of utilization measurement among hospitals. Quality indicators adjust for how ill each hospital's patients are, but the adjustment may not capture the full complexity of the patient's condition. The Utah Hospital Discharge Database includes up to nine diagnoses and up to six procedures for each patient. Some patients have additional diagnoses and procedures that are not included in this database. As a result, the measures of inpatient illness may not be complete. See Glossary and Technical Document.

What are the limitations of the charge comparisons in the report?

The average charge shown in this report differs from "costs," "reimbursement," "price" and "payment." Different payers have different arrangements with each hospital for payment. Many factors will affect the cost of your hospital stay, including whether you have health insurance, the type of insurance and the billing procedures at the hospital. This report excludes outlier (unusually high) charge cases and length of stay cases from the calculation of average charge for inpatients (see Glossary and Technical Document). While APR-DRGs do consider levels for each inpatient's severity of illness, these levels may not completely reflect the complexity of the inpatient's condition. The indicators used in this report do not exclude patients with do-not-resuscitate (DNR) orders.

Hospitals in Utah

County Name	Hospital Name	Location City, State, Zip	Phone Number
Beaver	Beaver Valley Hospital	Beaver, UT 84713	(435) 438-7100
Beaver	Milford Valley Memorial Hospital	Milford, UT 84751	(435) 387-2411
Box Elder	Bear River Valley Hospital	Tremonton, UT 84337	(435) 257-7441
Box Elder	Brigham City Community Hospital	Brigham City, UT 84302	(435) 734-9471
Cache	Cache Valley Specialty Hospital	North Logan, UT 84341	(435) 713-9700
Cache	Logan Regional Hospital	Logan, UT 84341	(435) 716-1000
Carbon	Castleview Hospital	Price, UT 84501	(435) 637-4800
Davis	Davis Hospital & Medical Center	Layton, UT 84041	(801) 807-1000
Davis	Lakeview Hospital	Bountiful, UT 84010	(801) 299-2200
Duchesne	Uintah Basin Medical Center	Roosevelt, UT 84066	(435) 722-4691
Garfield	Garfield Memorial Hospital	Panguitch, UT 84759	(435) 676-8811
Grand	Allen Memorial Hospital	Moab, UT 84532	(435) 259-7191
Iron	Valley View Medical Center	Cedar City, UT 84720	(435) 868-5000
Juab	Central Valley Medical Center	Nephi, UT 84648	(435) 623-3000
Kane	Kane County Hospital	Kanab, UT 84741	(435) 644-5811
Millard	Delta Community Medical Center	Delta, UT 84624	(435) 864-5591
Millard	Fillmore Community Medical Center	Fillmore, UT 84631	(435) 743-5591
Salt Lake	Alta View Hospital	Sandy, UT 84094	(801) 501-2600
Salt Lake	Intermountain Medical Center	Murray, UT 84157	(801)-507-7000
Salt Lake	Jordan Valley Medical Center	West Jordan, UT 84088	(801) 561-8888
Salt Lake	LDS Hospital	Salt Lake City, UT 84143	(801) 408-1100

Hospitals in Utah (continued)

County Name	Hospital Name	Location City, State, Zip	Phone Number
Salt Lake	The Orthopedic Specialty Hospital	Salt Lake City, UT 84107	(801) 314-4100
Salt Lake	Pioneer Valley Hospital	West Valley City, UT 84120	(801) 964-3100
Salt Lake	Primary Children's Medical Center	Salt Lake City, UT 84113	(801) 662-1000
Salt Lake	Salt Lake Regional Medical Center	Salt Lake City, UT 84102	(801) 350-4111
Salt Lake	St. Mark's Hospital	Salt Lake City, UT 84124	(801) 268-7111
Salt Lake	University Health Care/University Hospital	Salt Lake City, UT 84132	(801) 581-2121
Salt Lake	Veteran's Administration Medical Center	Salt Lake City, UT 84148	(801) 582-1565
San Juan	San Juan Hospital	Monticello, UT 84535	(435) 587-2116
Sanpete	Gunnison Valley Hospital	Gunnison, UT 84634	(435) 528-7246
Sanpete	Sanpete Valley Hospital	Mount Pleasant, UT 84647	(435) 462-2441
Sevier	Sevier Valley Medical Center	Richfield, UT 84701	(435) 893-4100
Tooele	Mountain West Medical Center	Tooele, UT 84074	(435) 843-3600
Uintah	Ashley Regional Medical Center	Vernal, UT 84078	(435) 789-3342
Utah	American Fork Hospital	American Fork, UT 84003	(801) 855-3300
Utah	Mountain View Hospital	Payson, UT 84651	(801) 465-7000
Utah	Orem Community Hospital	Orem, UT 84057	(801) 224-4080
Utah	Timpanogos Regional Hospital	Orem, UT 84057	(801) 714-6000
Utah	Utah Valley Regional Medical Center	Provo, UT 84603	(801) 357-7850
Wasatch	Heber Valley Medical Center	Heber City, UT 84032	(435) 654-2500
Washington	Dixie Regional Medical Center	St. George, UT 84790	(435) 251-1000
Weber	McKay-Dee Hospital	Ogden, UT 84403	(801) 387-2800
Weber	Ogden Regional Medical Center	Ogden, UT 84405	(801) 479-2111

Become an Informed Health Care Consumer

Choosing a hospital that is right for you or a family member might be one of the most important decisions you'll ever make. You can improve your care and the care of your loved ones by taking an active role in your treatment. Remember to ask questions and always consider yourself a partner in your care and treatment.

The following websites contain materials that will help patients choose wisely when making medical decisions:

<u>Questions are the Answer: Get More Involved in Your Health Care</u> <u>http://www.ahrq.gov/questionsaretheanswer/index.html</u>

<u>Guide to Health Quality: How to Know It When You See It http://www.ahrq.gov/consumer/guidetoq/</u>

Be an Active Health Care Consumer http://www.ahrq.gov/path/beactive.htm

Navigating the Health Care System http://www.ahrq.gov/consumer/cc.htm

Why use these indicators/measures?

AHRQ Inpatient Quality Indicators

The <u>Agency for Healthcare Research and Quality</u> (AHRQ), a federal agency charged with overseeing quality of care, developed the <u>Inpatient Quality Indicators (IQIs)</u>. The IQIs allow comparison among Utah inpatients and similar inpatients nationwide based on the State Inpatient Databases for the most recently available database through the expected rate. These databases represent about 90% of all inpatients in the U.S. from participating states in 2006. The Healthcare Cost and Utilization Project (HCUP) collects these data every year.

The AHRQ IQIs are nationally recognized indicators and are used in this report in compliance with the mandates of <u>Senate Bill 132</u>, the Health Care Consumer's Report Bill, which was passed in 2005.

APR-DRGs

Measures for average hospital charge are All Patient Refined Diagnosis Related Groups (APR-DRGs) for similar, though not identical, kinds of heart and stroke care in this report's quality of care section. APR-DRG software, widely used in health care research, organizes about 20,000 clinical diagnoses and procedures into about 300 groups. Read this report's <u>Technical Document</u> to learn more.

Each APR-DRG has four levels for severity of illness. This report shows average hospital charge for minor and moderate severity of illness levels combined and average hospital charge for major and extreme severity of illness levels combined. This report uses APR-DRG version 20.0, because the Agency for Healthcare Research and Quality (AHRQ) uses it for expected rate in the Inpatient Quality Indicators (IQIs).

Please note that other Utah Department of Health reports that include average charge information use APR-DRG Version 15.0 for data from 2004 and earlier.

Also be aware that the number of patients in each IQI may not be the same as the number of patients for a similarly named APR-DRG. First, the APR-DRGs are hierarchical, mutually exclusive groups of conditions and procedures. A patient's APR-DRG reflects that patient's most resource-intensive condition and/or procedure. Second, each IQI has patient exclusion and inclusion criteria that may not be the same as those for a similar APR-DRG. Third, most IQIs are based on three years of data because the annual number of deaths per indicator is often small. For more information, see this report's Technical Document.

Heart and Stroke Resources for Consumers

If you would like to learn more about heart disease and stroke care, below is a list of reputable state and national websites that you may find helpful. Call the Utah Department of Health Stroke Hotline at 1-866-88-STROKE for more information.

<u>American Heart Association</u> <a href="http://www.americanheart.org/presenter.jhtml?identifier=3053/<">http://www.americanheart.org/presenter.jhtml?identifier=3053/< — contains a brief summary of heart and stroke warning signs and what to do if you or someone near you has heart trouble or a stroke.

<u>American Lung Association</u> <a href="http://www.lungusa.org/ - fights lung disease in all its forms, with special emphasis on asthma, tobacco control and environmental health. Research indicates that certain lung conditions can affect the heart too.

<u>Heart Disease and Stroke Prevention Program</u> <a href="http://www.hearthighway.org/stroke.html/</">http://www.hearthighway.org/stroke.html/</offers important stroke information such as risk factors, treatment and rehabilitation. The image to the right has been used in a prior stroke awareness campaign ("Think of Stroke as a Time Bomb") for Utahns. Sponsored by the Utah Department of Health.

<u>MedlinePlus</u> <a href="http://www.nlm.nih.gov/medlineplus/stroke.html/<--">http://www.nlm.nih.gov/medlineplus/stroke.html/<-- promotes numerous links to trusted resources about stroke including government agencies and health-related organizations. Sponsored by the Library of Medicine.

<u>National Heart Lung and Blood Institute</u> – informational web site designed as part of a campaign to increase awareness of the need to act fast when someone may be having a heart attack.

National Institute of Neurological Disorders and Stroke

<a href="http://www.ninds.nih.gov/disorders/stroke/knowstroke.htm/<-">http://www.ninds.nih.gov/disorders/stroke/knowstroke.htm/<- features a wealth of consumer-friendly stroke material supporting one theme: know stroke, know the signs, act in time.

<u>National Stroke Association</u> <a href="http://www.stroke.org/site/PageNavigator/HOME/<-">http://www.stroke.org/site/PageNavigator/HOME/<- focuses 100% of its efforts on stroke. The website presents detailed information for patients, caregivers, health care providers and the general public about stroke prevention and stroke recovery.

General Terms Used in This Report

Actual death percentage: the actual number of deaths per 100 patients with a certain condition or procedure. Actual death percentage does <u>not</u> adjust for the hospital's case mix. Other name: observed death rate per 100 patients. Some measures exclude transfer patients.

Actual Rate: The actual rate is the number of events that occurred for every 100 patients for some indicators and for every 1,000 patients for other indicators. Some measures exclude transfer patients. This rate is not risk-adjusted.

Agency for Healthcare Research and Quality (AHRQ): a federal agency that develops indicators of patient safety and quality of care and engages in other related activities.

Allergic reaction: swollen glands, trouble breathing and other body reactions that can be life threatening.

APR-DRG: stands for All Patient Refined Diagnosis Related Group, software widely used in health services research. The APR-DRG software organizes about 20,000 clinical diagnoses and procedures into about 300 groups. Each APR-DRG has four levels for severity of illness. This report combines the Minor and Moderate levels and combines the Major and Extreme levels for the average hospital charge tables. This report uses APR-DRG version 20.0. Read more at http://solutions.3m.com/wps/portal/3M/en_US/3MHIS/HealthInformationSystems/products-services/product-list/apr-drg-classification.

Average charge: the average dollars for hospital services for which patients were billed at a particular hospital. The charge does not include physicians' professional fees or patient personal costs. The charge may differ from actual payment that the hospital receives. For this report high outlier charges were excluded from each hospital's average charge. A high outlier (unusually high) charge is over 2.5 standard deviations higher than the state mean for each of four subclasses of severity of illness per APR-DRG.

CAH or "Critical Access Hospital": a nonprofit, profit or public hospital that is enrolled as a Medicaid provider and qualifies as a Critical Access Hospital under 42 CFR, Section 485, Subpart F. For more information, see http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title42/42cfr485 main 02.tpl

Expected death percentage: the number of deaths expected per 100 patients with a certain condition or procedure based on similar patients nationwide in the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases for 2006. Expected death percentage adjusts for the hospital's case mix (patients' age, gender and how ill the patients are). Some measures exclude transfer patients. Read more at www.qualityindicators.ahrq.gov/downloads/iqi/iqi_guide_v31.pdf.

Expected Rate: the number of patients expected for every 100 patients for some indicators and for every 1,000 patients for other indicators with a certain condition or procedure based on similar patients nationwide in the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases for 2006. Expected rate adjusts for the hospital's case mix (patients' age, gender and how ill the patients are). Some measures exclude transfer patients. Read more at www.qualityindicators.ahrq.gov/downloads/iqi/iqi_guide_v31.pdf.

Facility or facilities: hospitals that treat outpatients and inpatients and hospitals and ambulatory surgery centers that treat outpatients.

Inpatient: spends at least 24 hours in the hospital.

Inpatient Quality Indicators (IQI): were developed by the Agency for Healthcare Research and Quality (AHRQ), a federal agency, to be used on inpatient hospital discharge data. AHRQ IQI definitions and methods were used to calculate the actual and expected deaths rates conditions and procedures in this report. AHRQ IQI limitations include possible differences in hospital coding practices and possible inadequacy of the risk adjustment method for expected death percentage. In some reports AHRQ IQIs and APR-DRGs in Utah Hospital Comparison reports are similar but not identical, so the number of patients may not be the same. See the report specific Technical Document. Read more at

www.qualityindicators.ahrq.gov/downloads/iqi/iqi_guide_v31.pdf.

Outlier charge: a charge by a specified hospital that is more than 2.5 standard deviations higher than the state average by APR-DRG and severity of illness level. This report excludes outlier charge cases. For more information see the report specific Technical Document.

Outpatient: usually spends less than 24 hours in the facility (hospital or freestanding ambulatory surgery center). Many outpatients have surgery and leave the facility the same day. Others have surgery and leave the next day. A few others may stay longer for observation. Some hospitals consider these patients to be outpatients.

Patient Safety Indicators (PSIs): Patient safety is quality improvement of health care to reduce medical injuries (e.g., injuries to patients in a health care setting such as a hospital). The Agency for Healthcare Research and Quality (AHRQ), a federal agency, has developed a set of indicators of patient safety based on the inpatient hospital discharge data. Although hospital discharge data do have some limitations, research shows that PSIs may serve as proxies for patient safety-related performance. Read more at www.qualityindicators.ahrq.gov/.

Severity of illness: Utah Hospital Comparison reports use two levels of illness based on the APR-DRG's four subclasses for severity of illness (SOI): Minor/Moderate and Major/Severe. For more information see the report specific Technical Document.

Star rating system: Utah Hospital Comparison reports use star rating based on a test of statistical significance, the exact 95% confidence interval. For the Heart Surgeries and Conditions Report and the Hip and Knee Surgeries and Conditions Report, this test shows whether the difference between a hospital's actual death percentage and expected death percentage is real (statistically significant, p < 0.05) or just due to chance. We calculated the upper and lower exact 95% confidence interval limits for

each hospital's actual death rate for each indicator. If the expected death percentage is between the lower and higher limits for the actual death percentage, then we are 95% confident that the actual death rate and the expected death rate are essentially the same. If the higher limit for the actual death percentage is lower than the expected death percentage, then we are 95% confident that the actual death percentage is really lower than the expected death rate. If the lower limit for the actual death percentage is higher than the expected death percentage, then we are 95% confident that the actual death rate is really higher than the expected death rate. For more information see the report specific Technical Document.

State Inpatient Databases (SID): a national sample that represents about 90% of all inpatients from 37 participating states in 2006. The Healthcare Cost and Utilization Project (HCUP) collects these data every year. For this report, the percentage of expected deaths for the quality indicators is adjusted using the SID 2006. Read more at www.hcup.ahrq.gov.

Statistically significant difference: the star ratings in the AHRQ IQI tables use exact 95% confidence intervals to show whether differences are statistically significant (p < 0.05). For more information see the report specific Technical Document.

Utah overall: for each specified condition or procedure and (if applicable) severity of illness group (Minor/Moderate or Major/Extreme), all adult cases treated at all Utah hospitals, except some specialty hospitals such as Primary Children's Medical Center. <u>Utah overall average charge</u> is the sum of all reported hospital charges billed to all patients treated at Utah hospitals divided by the number of Utah overall cases <u>except</u> the Veterans Administration. The AHRQ IQI tables include only Utah residents. The APR-DRGs tables include Utah resident and non-resident patients.

Indicator terms, such as expected rate, are based on Agency for Healthcare Research and Quality technical specifications documents.

Heart and Stroke Terms Used in This Report

Acute myocardial infarction, acute MI, AMI, myocardial infarction or MI: see heart attack.

Angioplasty: see balloon angioplasty.

Balloon angioplasty: a balloon catheter is used to open narrowed or blocked blood vessels of the heart. The balloon catheter is a thin flexible tube with a tiny balloon near its end. The balloon is filled and emptied to open the artery so blood can flow through it. Other names: angioplasty; coronary angioplasty; coronary angioplasty; cardiac angioplasty; percutaneous coronary intervention (PCI); percutaneous transluminal coronary angioplasty (PTCA); heart artery dilation, heart angioplasty, heart artery angioplasty. For the definition of the indicators used, see the Technical Document for this heart report.

Cardiac catheterization, heart catheterization: a doctor threads a catheter (thin flexible tube) from an artery or vein in the neck, arm or thigh into the heart arteries or inside the heart. For the definition of the indicators used, see the Technical Document for this heart report.

Cardiac valve procedure, heart valve procedure: repair or replacement of diseased or damaged heart valves. For the definition of the indicators used, see the Technical Document for this heart report.

Cerebral: of or related to the brain or cerebrum.

Cholesterol: a waxy fatty material that can build up in arteries and cause heart disease.

Clot: lump of coagulated blood.

Coronary angioplasty, coronary artery angioplasty: see balloon angioplasty.

Coronary artery bypass graft (CABG) surgery, coronary bypass surgery: see heart bypass surgery.

Cranial: of or related to the skull or cranium.

Diabetes: a long-term disease marked by high levels of sugar in the blood. It can cause permanent damage throughout the body and result in death if not treated properly. People with diabetes are at higher risk for heart disease than people without diabetes.

Heart artery dilation: see balloon angioplasty.

Heart attack: blood clots, plaques (fat deposits) or artery spasms block a heart artery. This causes tissue damage or death to the heart muscle. Other names: myocardial infarction; MI; acute MI. For the definition of the indicators used, see the Technical Document for this heart report.

Heart bypass: creates new routes around narrowed or blocked heart arteries. The doctor moves blood vessels from other parts of your body onto your heart. Other names: Other names: Heart artery bypass surgery, coronary artery bypass graft (CABG). For the definition of the indicators used, see the Technical Document for this heart report.

Heart failure: the heart cannot pump enough blood. This causes fluid to build up in your legs, arms, digestive tract, lungs and liver. Heart failure is usually a chronic condition (develops over time). Other names: congestive heart failure, ischemic heart disease, ischemic cardiomyopathy. For the definition of the indicators used, see the Technical Document for this heart report.

Hemorrhage: bleeding.

High blood pressure: usually 140 systolic over 90 diastolic blood pressure or higher. Systolic is the pressure when the heart beats (squeezes blood into the body). Diastolic is the pressure between heart beats. Other name: hypertension.

Infarct: an area of necrotic (dead) tissue caused by insufficient blood supply (not enough blood).

Infarction: the process of forming an infarct.

Intracranial: within the skull.

Ischemic: the heart muscle does not get enough blood and oxygen.

Ischemic stroke: stroke caused by blockage of a blood vessel carrying blood to the brain. A blood clot that stays in place in the brain is called a cerebral thrombus. A clot that forms some place other than the brain and which breaks loose and moves through the bloodstream to the brain is called a cerebral embolism.

Occlusion: blockage.

Percutaneous cardiovascular procedure: catheters threaded through arteries to the heart to look for and treat heart problems.

Percutaneous transluminal coronary angioplasty (PTCA): see balloon angioplasty.

Precerebral: before the brain, in front of the brain.

Stroke (brain attack, cerebral vascular disease, cerebrovascular disease, CVA, cerebral hemorrhage, ischemic stroke): an interruption of the blood supply to any part of the brain. A stroke can happen when a blood vessel carrying blood to the brain is blocked by a blood clot. A stroke can also happen when a blood vessel in the brain breaks. Interruption of the brain's blood supply can cause a sudden lessening or loss of consciousness, feeling or voluntary movement. Interruption of the brain's blood supply, even for a short time, can result in brain damage, permanent disabilities and death.

Read more at http://www.nlm.nih.gov/medlineplus/ency/article/000726.htm#Definition. Medical terms for stroke are based on the National Stroke Association, http://www.stroke.org.

Note:

Medical terms for the heart surgeries and conditions are based on Healthfinder, http://www.healthfinder.gov/library/ and MedlinePlus, http://www.nlm.nih.gov/medlineplus/encyclopedia.html

Heart Bypass Surgery Deaths in Utah Hospitals

(IQI 12)

Adults 18 Years and Over: 2006-2008

	Patients Actu		Expected	<u>Statistical</u>
Hospital	(Denominator)	Rate	Rate	Rating
Utah Overall	4,541	2.9%	4.1%	* * *
Dixie Regional	824	2.3%	3.7%	***
Intermountain Medical Center	305	5.2%	5.7%	* *
LDS Hospital	540	3.3%	5.5%	***
McKay-Dee Hospital	614	1.8%	3.7%	***
Ogden Regional	309	2.3%	3.2%	* *
Salt Lake Regional	126	4.8%	3.0%	* *
St. Mark's Hospital	604	3.0%	4.2%	* *
Timpanogos Regional	160	1.3%	3.9%	* *
University Health Care	289	3.8%	3.4%	* *
Utah Valley Regional	613	3.8%	4.1%	**
Veterans Administration Medical Center	157	0.6%	2.5%	* *

Most Utah hospitals (8 of 11) in this table had about the same rate of deaths as expected (**) compared to similar patients nationwide. Three Utah hospitals had a lower rate than expected (***). No hospital had a higher rate than expected (*).

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>

<u>View Data Limitations.</u>

Rating: based on the Exact 95% Confidence Interval test of statistical significance.

* * * Lower % deaths than expected, * * same % deaths as expected, * higher % deaths than expected.

Balloon Angioplasty Deaths in Utah Hospitals

(IQI 30)

Adults 18 Years and Over: 2006-2008

Hospital	Patients (Denominator)	Actual Rate	Expected Rate	Statistical Rating
Utah Overall	14,049	1.8%	1.8%	* *
Cottonwood Hospital	356	0.6%	1.7%	* *
Davis Hospital	368	1.4%	1.0%	* *
Dixie Regional	1,921	1.4%	1.8%	* *
Intermountain Medical Center	1,039	2.1%	2.8%	* *
Jordan Valley Medical Center	365	2.5%	1.6%	* *
Lakeview Hospital	196	2.0%	1.5%	* *
LDS Hospital	1,995	1.8%	1.7%	* *
McKay-Dee Hospital	1,532	1.1%	1.7%	* *
Mountain View Hospital	250	2.8%	2.3%	* *
Ogden Regional	394	1.5%	1.8%	* *
Pioneer Valley Hospital	511	3.3%	2.3%	* *
Salt Lake Regional	198	1.5%	1.9%	* *
St. Mark's Hospital	1,172	1.8%	1.8%	* *
Timpanogos Regional	538	0.7%	0.9%	* *
University Health Care	726	2.1%	2.1%	* *
Utah Valley Regional	2,042	2.4%	2.0%	* *
Veterans Administration Medical Center	446	1.3%	1.8%	* *

All 17 Utah hospitals in this table had about same rate of deaths as expected (**) compared to similar patients nationwide.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
<u>View Data Limitations.</u>

Rating: based on the Exact 95% Confidence Interval test of statistical significance.

* * * Lower % deaths than expected, * * same % deaths as expected, * higher % deaths than expected.

Heart Attack Deaths in Utah Hospitals

(IQI 32, without transfers)

Adults 18 Years and Over: 2006-2008

Hospital	Patients Actual (Denominator) Rate		Expected Rate	Statistical Rating
Utah Overall	6,291	5.4%	6.3%	* * *
Cottonwood Hospital	254	3.5%	6.7%	* * *
Davis Hospital	306	3.3%	2.3%	* *
Dixie Regional	792	5.3%	6.4%	* *
Intermountain Medical Center	349	4.6%	6.8%	* *
Jordan Valley Medical Center	193	4.1%	4.7%	* *
Lakeview Hospital	203	6.4%	5.4%	* *
LDS Hospital	704	4.4%	6.6%	* * *
McKay-Dee Hospital	769	3.8%	7.2%	* * *
Mountain View Hospital	95	10.5%	8.5%	* *
Ogden Regional	294	3.4%	5.2%	* *
Pioneer Valley Hospital	291	6.5%	5.0%	* *
Salt Lake Regional	122	5.7%	4.5%	* *
St. Mark's Hospital	462	7.8%	8.3%	* *
Timpanogos Regional	113	3.5%	6.3%	* *
University Health Care	486	5.3%	6.1%	**
Utah Valley Regional	721	6.0%	5.1%	* *

Most Utah hospitals (13 of 16) in this table had about the same rate of deaths as expected (**) compared to similar patients nationwide. Three Utah hospitals had a lower rate than expected (***). No hospital had a higher rate than expected (*).

See additional hospitals that treated at least one patient but less than 30 patients.

Learn about Primary Stroke Centers and Telestroke Facilities.

View Data Limitations.

Rating: based on the Exact 95% Confidence Interval test of statistical significance.

*** Lower % deaths than expected, ** same % deaths as expected, * higher % deaths than expected.

Heart Failure Deaths in Utah Hospitals

(IQI 16)

Adults 18 Years and Over: 2006-2008

Hospital	Patients (Denominator)	Actual Rate	Expected Rate	Statistical Rating
Utah Overall	9,747	3.2%	5.0%	* * *
Allen Memorial Hospital	51	7.8%	2.6%	**
Alta View Hospital	176	4.0%	5.5%	**
American Fork Hospital	236	1.7%	4.8%	***
Ashley Regional Medical Center	82	3.7%	2.6%	* *
Beaver Valley Hospital	38	2.6%	2.1%	**
Castleview Hospital	100	6.0%	4.6%	* *
Central Valley Hospital	67	1.5%	2.7%	* *
Cottonwood Hospital	244	2.9%	6.2%	* * *
Davis Hospital	237	7.2%	3.8%	*
Dixie Regional	703	3.3%	5.0%	* * *
Gunnison Valley Hospital	44	6.8%	2.3%	* *
Intermountain Medical Center	649	2.3%	5.2%	* * *
Jordan Valley Medical Center	282	4.3%	4.0%	**
Lakeview Hospital	177	4.0%	4.7%	**

Continued on Next Page

Most Utah hospitals (19 of 30) in this table had about the same rate of deaths as expected compared to similar patients nationwide. Ten Utah hospitals had a lower rate than expected (***). One hospital had a higher rate than expected (*).

See additional hospitals that treated at least one patient but less than 30 patients.

Learn about Primary Stroke Centers and Telestroke Facilities.

View Data Limitations.

Rating: based on the Exact 95% Confidence Interval test of statistical significance.

*** Lower % deaths than expected, ** same % deaths as expected, * higher % deaths than expected.

Heart Failure Deaths in Utah Hospitals

(IQI 16)

- CONTINUED -

Hospital	Patients (Denominator)	Actual Rate	Expected Rate	Statistical Rating
Utah Overall	9,747	3.2%	5.0%	* * *
LDS Hospital	930	2.4%	4.8%	* * *
Logan Regional	185	3.8%	4.5%	* *
McKay-Dee Hospital	817	2.9%	5.9%	* * *
Mountain View Hospital	147	3.4%	4.8%	* *
Mountain West Hospital	146	2.7%	4.4%	* *
Ogden Regional	324	2.8%	5.8%	* * *
Pioneer Valley Hospital	247	3.6%	4.6%	* *
Salt Lake Regional	248	2.4%	5.8%	* * *
Sevier Valley Hospital	71	7.0%	4.2%	* *
St. Mark's Hospital	727	2.2%	5.9%	* * *
Timpanogos Regional	172	4.7%	4.8%	* *
University Health Care	670	3.7%	4.7%	* *
Uintah Basin Hospital	77	3.9%	2.7%	* *

Continued on Next Page

Most Utah hospitals (19 of 30) in this table had about the same rate of deaths as expected compared to similar patients nationwide. Ten Utah hospitals had a lower rate than expected (***). One hospital had a higher rate than expected (*).

See additional hospitals that treated at least one patient but less than 30 patients.

Learn about Primary Stroke Centers and Telestroke Facilities.

View Data Limitations.

Rating: based on the Exact 95% Confidence Interval test of statistical significance.

* * * Lower % deaths than expected, * * same % deaths as expected, * higher % deaths than expected.

Heart Failure Deaths in Utah Hospitals

(IQI 16)

- CONTINUED -

	Patients	Actual	Expected	<u>Statistical</u>
Hospital	(Denominator)	Rate	Rate	<u>Rating</u>
Utah Overall	9,747	3.2%	5.0%	* * *
Utah Valley Regional	883	4.1%	5.5%	* *
Valley View Hospital	88	6.8%	4.3%	**
Veterans Administration Medical Center	744	1.5%	5.0%	* * *

Most Utah hospitals (19 of 30) in this table had about the same rate of deaths as expected compared to similar patients nationwide. Ten Utah hospitals had a lower rate than expected (***). One hospital had a higher rate than expected (*).

See additional hospitals that treated at least one patient but less than 30 patients.

Learn about Primary Stroke Centers and Telestroke Facilities.

View Data Limitations.

Rating: based on the Exact 95% Confidence Interval test of statistical significance.

* * * Lower % deaths than expected, * * same % deaths as expected, * higher % deaths than expected.

Stroke Deaths in Utah Hospitals

(IQI 17)

Adults 18 Years and Over: 2006-2008

Hospital	Patients (Denominator)			Statistical Rating
Utah Overall	6,754	9.2%	11.5%	* * *
Alta View Hospital	100	9.0%	7.8%	* *
American Fork Hospital	102	8.8%	10.0%	* *
Brigham City Community	30	10.0%	7.3%	* *
Castleview Hospital	58	17.2%	11.6%	* *
Cottonwood Hospital	97	4.1%	6.3%	* *
Davis Hospital	106	2.8%	5.6%	* *
Dixie Regional	507	5.1%	7.8%	* * *
Intermountain Medical Center	526	11.0%	15.4%	* * *
Jordan Valley Medical Center	68	13.2%	9.2%	* *
Lakeview Hospital	131	7.6%	11.5%	* *
LDS Hospital	559	8.6%	14.4%	* * *
Logan Regional	119	7.6%	8.8%	* *
McKay-Dee Hospital	751	7.5%	10.9%	* * *
Mountain View Hospital	88	6.8%	7.3%	* *
Ogden Regional	192	9.9%	11.7%	* *
Pioneer Valley Hospital	30	23.3%	14.9%	* *
Salt Lake Regional	58	5.2%	7.0%	* *

Continued on Next Page

Most Utah hospitals (16 of 24) in this table had about the same rate of deaths as expected (**) compared to similar patients nationwide. Eight hospitals had a lower rate (***). No hospital had a higher rate (*).

See additional hospitals that treated at least one patient but less than 30 patients.

Learn about Primary Stroke Centers and Telestroke Facilities.

View Data Limitations.

Rating: based on the Exact 95% Confidence Interval test of statistical significance.

* * * Lower % deaths than expected, * * same % deaths as expected, * higher % deaths than expected.

Stroke Deaths in Utah Hospitals

(IQI 17)

- CONTINUED -

TT 2-1	Patients Actual		Expected	<u>Statistical</u>
Hospital	(Denominator)	Rate	Rate	Rating ***
Utah Overall	6,754	9.2%	11.5%	* * *
Sevier Valley Hospital	42	9.5%	6.1%	* *
St. Mark's Hospital	398	4.8%	9.2%	* * *
Timpanogos Regional	70	2.9%	10.1%	* * *
University Health Care	1,544	11.7%	13.7%	* * *
Utah Valley Regional	695	11.9%	12.6%	* *
Valley View Hospital	107	3.7%	6.2%	**
Veterans Administration Medical Center	156	5.1%	10.7%	* * *

Most Utah hospitals (16 of 24) in this table had about the same rate of deaths as expected (**) compared to similar patients nationwide. Eight hospitals had a lower rate (***). No hospital had a higher rate (*).

See additional hospitals that treated at least one patient but less than 30 patients.

Learn about Primary Stroke Centers and Telestroke Facilities.

View Data Limitations.

Rating: based on the Exact 95% Confidence Interval test of statistical significance.

*** Lower % deaths than expected, ** same % deaths as expected, * higher % deaths than expected.

Heart Bypass Surgery With Cardiac Catheterization (APR-DRG 165)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness					
	Minor	/Moderate	Majo	r/Extreme		
Hospital	Average Patients Charge I		Patients	Average Charge		
Utah Overall	352	\$62,125	230	\$94,600		
Dixie Regional Medical Center	97	\$53,682	67	\$76,598		
Intermountain Medical Center	43	\$59,952	46	\$110,694		
McKay-Dee Hospital	74	\$62,534	35	\$90,223		
Ogden Regional Medical Center	15	\$102,823	12	\$137,487		
Salt Lake Regional Medical Center	7	\$105,854	< 5	\$171,800		
St. Mark's Hospital	18	\$81,639	12	\$130,050		
Timpanogos Regional Hospital	11	\$66,734	9	\$111,348		
University Health Care	<5	\$60,190	7	\$119,825		
Utah Valley Regional Medical Center	79	\$56,701	37	\$74,992		
Veterans Administration Medical Center	< 5	Not Available	< 5	Not Available		

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 7 days Major/Extreme is 11.2 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>

<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Bypass Surgery Without Cardiac Catheterization (APR-DRG 166)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

		Level of Illness			
	Minor	/Moderate	Major/Extreme		
Hospital	Patients	Average Charge	Patients	Average Charge	
Utah Overall	396	\$56,395	166	\$88,771	
Dixie Regional Medical Center	62	\$43,056	14	\$68,744	
Intermountain Medical Center	70	\$53,465	49	\$93,394	
McKay-Dee Hospital	36	\$49,527	14	\$84,077	
Ogden Regional Medical Center	28	\$89,804	11	\$125,285	
Salt Lake Regional Medical Center	11	\$85,560	5	\$112,297	
St. Mark's Hospital	87	\$60,020	35	\$87,325	
Timpanogos Regional Hospital	19	\$52,626	9	\$85,699	
University Health Care	13	\$57,921	7	\$67,428	
Utah Valley Regional Medical Center	44	\$50,931	15	\$77,298	
Veterans Administration Medical Center	26	Not Available	7	Not Available	

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 5.3 days Major/Extreme is 9.6 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>

View Data Limitations.

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Balloon Angioplasty With Heart Attack

(APR-DRG 174)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness			
	Minor	/Moderate	Major/Extreme	
Hospital	Patients	Average Charge	Patients	Average Charge
Utah Overall	1,230	\$37,224	408	\$56,319
Davis Hospital & Medical Center	76	\$43,997	10	\$70,571
Dixie Regional Medical Center	106	\$35,091	50	\$50,017
Intermountain Medical Center	283	\$32,144	112	\$51,660
Jordan Valley Medical Center	43	\$46,397	11	\$75,288
Lakeview Hospital	44	\$42,533	6	\$57,541
McKay-Dee Hospital	146	\$36,667	30	\$49,989
Mountain View Hospital	9	\$46,621	5	\$76,846
Ogden Regional Medical Center	44	\$50,804	14	\$69,885
Pioneer Valley Hospital	48	\$47,886	25	\$67,850
Salt Lake Regional Medical Center	22	\$39,864	<5	\$53,150
St. Mark's Hospital	68	\$51,358	21	\$76,648
Timpanogos Regional Hospital	21	\$36,266	<5	\$34,828
University Health Care	106	\$33,714	39	\$47,515
Utah Valley Regional Medical Center	186	\$30,674	63	\$57,606
Veterans Administration Medical Center	28	Not Available	15	Not Available

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 2.4 days Major/Extreme is 5.2 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Balloon Angioplasty Without Heart Attack

(APR-DRG 175)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness			
	Minor	/Moderate	Major	·/Extreme
TT '. 1	D di	Average	n d	A C1
Hospital	Patients	Charge	Patients	Average Charge
Utah Overall	2,631	\$31,681	530	\$45,206
Davis Hospital & Medical Center	34	\$41,697	11	\$50,812
Dixie Regional Medical Center	306	\$30,690	81	\$38,841
Intermountain Medical Center	595	\$29,770	127	\$40,794
Jordan Valley Medical Center	69	\$38,411	12	\$44,424
Lakeview Hospital	12	\$44,639	5	\$34,488
LDS Hospital	164	\$32,774	21	\$43,182
McKay-Dee Hospital	148	\$32,832	38	\$43,455
Mountain View Hospital	51	\$35,305	11	\$43,453
Ogden Regional Medical Center	46	\$49,075	6	\$67,253
Pioneer Valley Hospital	40	\$42,456	20	\$61,025
Salt Lake Regional Medical Center	18	\$38,012	12	\$67,343
St. Mark's Hospital	115	\$44,474	15	\$63,578
Timpanogos Regional Hospital	26	\$34,118	8	\$50,717
University Health Care	294	\$38,425	59	\$48,243
Utah Valley Regional Medical Center	576	\$23,146	62	\$45,079
Veterans Administration Medical Center	137	Not Available	42	Not Available

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 1.5 days Major/Extreme is 3.9 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Catheterization For Ischemic Disease

(APR-DRG 192)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness			
	Minor	/Moderate	Majo	r/Extreme
		Average		
Hospital	Patients	Charge	Patients	Average Charge
Utah Overall	948	\$14,546	142	\$20,095
Davis Hospital & Medical Center	32	\$20,299	< 5	\$21,555
Dixie Regional Medical Center	168	\$11,013	24	\$17,069
Intermountain Medical Center	176	\$12,442	19	\$20,109
Jordan Valley Medical Center	37	\$20,711	9	\$32,448
Lakeview Hospital	14	\$17,205	<5	\$21,521
Logan Regional Hospital	20	\$14,364	< 5	\$13,066
McKay-Dee Hospital	113	\$13,706	10	\$16,767
Mountain View Hospital	34	\$18,935	6	\$23,525
Mountain West Medical Center	< 5	\$21,295	0	\$0
Ogden Regional Medical Center	37	\$18,662	8	\$23,498
Pioneer Valley Hospital	48	\$23,892	8	\$29,932
Salt Lake Regional Medical Center	7	\$14,860	<5	\$28,354
St. Mark's Hospital	41	\$17,681	< 5	\$24,171
Timpanogos Regional Hospital	11	\$14,104	<5	\$22,504
University Health Care	49	\$13,538	12	\$16,596
Utah Valley Regional Medical Center	88	\$11,811	24	\$15,577
Veterans Administration Medical Center	69	Not Available	9	Not Available

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 1.6 days Major/Extreme is 3.1 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Catheterization Except For Ischemic Disease

(APR-DRG 191)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness			
	Minor	/Moderate	Major/Extreme	
		Average		<u>Average</u>
Hospital	Patients	Charge	Patients	<u>Charge</u>
Utah Overall	294	\$16,328	492	\$28,772
Davis Hospital & Medical Center	12	\$20,438	23	\$35,676
Dixie Regional Medical Center	34	\$12,954	31	\$26,908
Intermountain Medical Center	74	\$14,273	138	\$27,324
Jordan Valley Medical Center	9	\$22,989	21	\$37,842
Lakeview Hospital	<5	\$19,784	5	\$19,669
LDS Hospital	<5	\$30,672	<5	\$43,830
Logan Regional Hospital	<5	\$11,036	5	\$17,858
McKay-Dee Hospital	25	\$17,398	35	\$25,345
Mountain View Hospital	8	\$18,798	8	\$26,819
Mountain West Medical Center	<5	\$27,704	5	\$26,679
Ogden Regional Medical Center	9	\$18,796	14	\$34,791
Pioneer Valley Hospital	10	\$25,548	19	\$29,435
Salt Lake Regional Medical Center	7	\$21,163	11	\$32,740
St. Mark's Hospital	15	\$20,746	16	\$36,780
Timpanogos Regional Hospital	8	\$15,702	8	\$24,559
University Health Care	18	\$16,457	53	\$30,706
Utah Valley Regional Medical Center	36	\$12,798	57	\$25,297
Veterans Administration Medical Center	19	Not Available	42	Not Available

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 2.1 days Major/Extreme is 5.6 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Attack (APR-DRG 190)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness			
	Minor	/Moderate	Major/Extreme	
Hospital	Patients	Average Charge	Patients	Average Charge
Utah Overall	417	\$14,752	294	\$24,397
Allen Memorial Hospital	<5	\$8,336	0	\$0
Alta View Hospital	<5	\$5,847	< 5	\$31,272
American Fork Hospital	<5	\$6,583	7	\$13,149
Ashley Regional Medical Center	< 5	\$8,849	0	\$0
Beaver Valley Hospital	<5	\$6,312	< 5	\$968
Castleview Hospital	7	\$5,796	< 5	\$14,437
Davis Hospital & Medical Center	13	\$21,024	7	\$22,756
Delta Community Medical Center-CAH	<5	\$2,802	0	\$0
Dixie Regional Medical Center	35	\$13,461	41	\$19,048
Heber Valley Medical Center-CAH	< 5	\$6,386	0	\$0
Intermountain Medical Center	67	\$14,779	31	\$29,757
Jordan Valley Medical Center	23	\$19,998	9	\$28,692
Lakeview Hospital	16	\$17,018	10	\$15,650
LDS Hospital	5	\$6,412	6	\$22,738
Logan Regional Hospital	9	\$15,499	6	\$17,116

Continued on Next Page

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 2.2 days Major/Extreme is 4.2 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
View Data Limitations.

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Attack (APR-DRG 190)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

- CONTINUED -

		Level of Illness			
	Minor	/Moderate	Major/Extreme		
Hospital	Patients	Average Charge	Patients	<u>Average</u> <u>Charge</u>	
Utah Overall	417	\$14,752	294	\$24,397	
McKay-Dee Hospital	47	\$15,741	43	\$22,358	
Mountain View Hospital	<5	\$20,112	<5	\$17,902	
Mountain West Medical Center	14	\$19,704	5	\$22,553	
Ogden Regional Medical Center	11	\$15,665	12	\$26,726	
Pioneer Valley Hospital	10	\$16,280	8	\$35,885	
Salt Lake Regional Medical Center	6	\$20,320	< 5	\$23,702	
Sanpete Valley Hospital-CAH	<5	\$10,882	0	\$0	
Sevier Valley Medical Center	<5	\$4,330	< 5	\$4,917	
St. Mark's Hospital	15	\$19,443	22	\$30,581	
Timpanogos Regional Hospital	<5	\$21,431	< 5	\$17,586	
University Health Care	25	\$16,417	33	\$28,291	
Uintah Basin Medical Center	<5	\$5,974	0	\$0	
Utah Valley Regional Medical Center	42	\$13,981	19	\$27,713	
Valley View Medical Center	21	\$5,331	< 5	\$17,574	
Veterans Administration Medical Center	22	Not Available	19	Not Available	

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 2.2 days Major/Extreme is 4.2 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Failure (APR-DRG 194)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness			
	Minor	/Moderate	Major/Extreme	
Hospital	Patients	Average Charge	Patients	Average Charge
Utah Overall	1,510		995	
Allen Memorial Hospital	13	\$5,304	6	\$7,315
Alta View Hospital	27	\$8,662	24	\$15,460
American Fork Hospital	52	\$10,081	24	\$13,569
Ashley Regional Medical Center	20	\$8,099	8	\$16,474
Bear River Valley Hospital	6	\$8,115	0	\$0
Beaver Valley Hospital	9	\$4, 087	< 5	\$6,817
Brigham City Community Hospital	6	\$8,088	< 5	\$7,661
Cache Valley Specialty Hospital	< 5	\$2,934	0	\$0
Castleview Hospital	19	\$12,872	10	\$10,475
Central Valley Medical Center-CAH	18	\$8,981	5	\$11,123
Davis Hospital & Medical Center	42	\$11,639	18	\$18,628
Delta Community Medical Center-CAH	< 5	\$5,146	< 5	\$6,075
Dixie Regional Medical Center	84	\$9,147	48	\$16,955
Fillmore Community Medical Center-CAH	< 5	\$7,770	< 5	\$8,809

Continued on Next Page

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 3.0 days Major/Extreme is 4.9 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
View Data Limitations.

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Failure (APR-DRG 194)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

- CONTINUED -

		Level of Illness			
	Minor	/Moderate	Major/Extreme		
Hospital	Patients	Average Charge	Patients	Average Charge	
Utah Overall	1,510	\$11,247	995	\$19,501	
Garfield Memorial Hospital	8	\$8,911	< 5	\$18,138	
Gunnison Valley Hospital-CAH	15	\$6,459	0	\$0	
Heber Valley Medical Center-CAH	< 5	\$11,580	< 5	\$8,565	
Intermountain Medical Center	170	\$12,151	178	\$23,554	
Jordan Valley Medical Center	76	\$14,161	30	\$23,821	
Kane County Hospital	< 5	\$6,372	<5	\$13,500	
Lakeview Hospital	41	\$13,112	22	\$20,362	
LDS Hospital	46	\$12,951	29	\$21,794	
Logan Regional Hospital	33	\$9,922	34	\$14,613	
McKay-Dee Hospital	115	\$11,346	87	\$16,112	
Mountain View Hospital	32	\$10,868	12	\$19,953	
Mountain West Medical Center	33	\$14,827	22	\$26,471	
Ogden Regional Medical Center	50	\$13,231	31	\$20,877	
Pioneer Valley Hospital	37	\$12,640	33	\$21,232	

Continued on Next Page

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 3.0 days Major/Extreme is 4.9 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Failure (APR-DRG 194)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

- CONTINUED -

	Level of Illness			
	Minor	/Moderate	Major/Extreme	
		Average		
Hospital	Patients	Charge	Patients	Average Charge
Utah Overall	1,510	\$11,247	995	\$19,501
Salt Lake Regional Medical Center	38	\$14,282	27	\$26,419
San Juan Hospital	6	\$5,913	< 5	\$10,735
Sanpete Valley Hospital-CAH	<5	\$6,669	<5	\$5,942
Sevier Valley Medical Center	16	\$7,841	< 5	\$11,792
St. Mark's Hospital	114	\$12,759	83	\$20,973
Timpanogos Regional Hospital	21	\$14,628	17	\$19,911
University Health Care	89	\$9,576	81	\$16,766
Uintah Basin Medical Center	23	\$5,035	< 5	\$7,834
Utah Valley Regional Medical Center	98	\$11,742	69	\$21,964
Valley View Medical Center	22	\$8,025	13	\$12,612
Veterans Administration Medical Center	113	Not Available	53	Not Available

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 3.0 days Major/Extreme is 4.9 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>

<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Valve Procedures With Cardiac Catheterization (APR-DRG 162)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

		Level of Illness			
	Minor	/Moderate	Major/Extreme		
Hospital	Patients	Average Charge	Patients	<u>Average</u> <u>Charge</u>	
Utah Overall	47	\$73,467	135	\$139,322	
Dixie Regional Medical Center	18	\$61,833	18	\$107,091	
Intermountain Medical Center	12	\$78,327	48	\$142,241	
McKay-Dee Hospital	6	\$76,946	17	\$147,974	
Ogden Regional Medical Center	0	\$0	< 5	\$246,714	
Salt Lake Regional Medical Center	0	\$0	< 5	\$337,786	
St. Mark's Hospital	<5	\$109,644	8	\$147,840	
Timpanogos Regional Hospital	<5	\$97,466	< 5	\$115,111	
University Health Care	0	\$0	12	\$136,983	
Utah Valley Regional Medical Center	7	\$74,875	22	\$126,675	
Veterans Administration Medical Center	0	Not Available	<5	Not Available	

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 7.6 days Major/Extreme is 14.3 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
View Data Limitations.

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Heart Valve Procedures Without Cardiac Catheterization (APR-DRG 163)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness			
	Minor	/Moderate	Major/Extreme	
Hospital	Patients	Average Charge	Patients	Average Charge
Utah Overall	251	\$68,051	265	\$119,188
Dixie Regional Medical Center	37	\$51,184	34	\$93,126
Intermountain Medical Center	53	\$69,403	79	\$131,120
McKay-Dee Hospital	39	\$64,799	28	\$84,622
Ogden Regional Medical Center	7	\$101,485	13	\$152,085
Salt Lake Regional Medical Center	6	\$104,707	<5	\$147,918
St. Mark's Hospital	60	\$74,545	31	\$125,779
Timpanogos Regional Hospital	8	\$61,140	5	\$125,231
University Health Care	12	\$61,909	29	\$114,996
Utah Valley Regional Medical Center	21	\$66,370	33	\$127,810
Veterans Administration Medical Center	8	Not Available	10	Not Available

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 5.3 days Major/Extreme is 10.7 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>

<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more

Stroke

(APR-DRG 045, CVA and Precerebral Occlusion With Infarction, Age 18 Years and Over)

Average Hospital Charges for Adults 18 Years and Older, Utah, 2008

	Level of Illness			
	Minor/Moderate		Major/Extreme	
		Average		
Hospital	Patients	Charge	Patients	Average Charge
Utah Overall	1,092	\$13,932	571	\$22,146
Allen Memorial Hospital	< 5	\$9,221	0	\$0
Alta View Hospital	13	\$12,945	<5	\$15,561
American Fork Hospital	19	\$8,697	6	\$12,428
Ashley Regional Medical Center	< 5	\$10,107	< 5	\$15,759
Bear River Valley Hospital	< 5	\$7,391	0	\$0
Beaver Valley Hospital	< 5	\$2,911	< 5	\$10,442
Brigham City Community Hospital	6	\$7,432	< 5	\$4,926
Cache Valley Specialty Hospital	< 5	\$3,155	< 5	\$5,890
Castleview Hospital	11	\$9,878	6	\$13,369
Central Valley Medical Center-CAH	7	\$9,934	0	\$0
Davis Hospital & Medical Center	35	\$14,991	9	\$28,857
Delta Community Medical Center-CAH	< 5	\$3,084	0	\$0
Dixie Regional Medical Center	117	\$12,678	51	\$16,717
Fillmore Community Medical Center-CAI	< 5	\$5,611	0	\$0
Garfield Memorial Hospital	5	\$8,431	0	\$0
Gunnison Valley Hospital-CAH	<5	\$6,907	< 5	\$7,470
Heber Valley Medical Center-CAH	< 5	\$7,343	<5	\$15,467

Continued on Next Page

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 2.8 days Major/Extreme is 4.5 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
<u>View Data Limitations.</u>

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.

Stroke

(APR-DRG 045, CVA and Precerebral Occlusion With Infarction, Age 18 Years and Over)

- CONTINUED -

	Level of Illness			
	Minor/Moderate		Major/Extreme	
Hospital	Patients	Average Charge	Patients	Average Charge
Utah Overall	1,092	\$13,932	571	\$22,146
Intermountain Medical Center	161	\$15,621	95	\$26,347
Jordan Valley Medical Center	16	\$15,183	9	\$22,850
Kane County Hospital	< 5	\$8,038	0	\$0
Lakeview Hospital	26	\$14,394	17	\$18,579
LDS Hospital	12	\$15,592	6	\$18,584
Logan Regional Hospital	19	\$10,057	15	\$9,257
McKay-Dee Hospital	119	\$12,616	89	\$21,436
Mountain View Hospital	20	\$13,033	6	\$11,271
Mountain West Medical Center	9	\$14,633	5	\$24,116
Ogden Regional Medical Center	33	\$16,198	14	\$29,814
Pioneer Valley Hospital	< 5	\$19,807	5	\$59,077
Salt Lake Regional Medical Center	12	\$17,297	<5	\$20,509
San Juan Hospital	< 5	\$7,038	<5	\$12,548
Sanpete Valley Hospital-CAH	< 5	\$11,237	0	\$0
Sevier Valley Medical Center	10	\$7,205	<5	\$7,245

Continued on Next Page

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 2.8 days Major/Extreme is 4.5 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
View Data Limitations.

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex

Stroke

(APR-DRG 045, CVA and Precerebral Occlusion With Infarction, Age 18 Years and Over)

- CONTINUED -

	Level of Illness			
	Minor/Moderate		Major/Extreme	
		Average		
Hospital	Patients	Charge	Patients	Average Charge
Utah Overall	1,092	\$13,932	571	\$22,146
St. Mark's Hospital	78	\$17,153	23	\$24,203
Timpanogos Regional Hospital	12	\$14,385	10	\$26,327
University Health Care	173	\$16,099	106	\$24,464
Uintah Basin Medical Center	5	\$6,123	<5	\$7,450
Utah Valley Regional Medical Center	79	\$13,659	60	\$21,769
Valley View Medical Center	30	\$7,932	7	\$9,595
Veterans Administration Medical Center	34	Not Available	10	Not Available

Table Legend

< 5 = 1 to 4 patients

State average hospital length of stay

Minor/Moderate is 2.8 days Major/Extreme is 4.5 days.

<u>Learn about Primary Stroke Centers and Telestroke Facilities.</u>
View Data Limitations.

Level of Illness: Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious conditions that require more complex treatment.