

Utah Hospital Comparison

Heart Surgeries and Conditions for Years 2002 - 2004

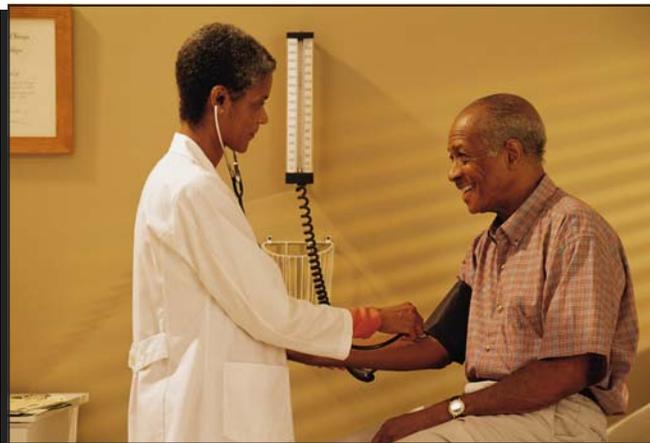


Patient Safety

Quality



Charges





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<http://health.utah.gov/myhealthcare/reports/heart2006.pdf>

For more information, please visit: <http://health.utah.gov/myhealthcare>

Key Findings

How did Utah compare with the nation in 2002 through 2004?

For in-hospital deaths, Utah hospitals overall did better than other U.S. hospitals with similar patients for heart failure. In other words, a lower percentage of heart failure patients died in Utah hospitals compared to similar heart failure patients in other U.S. hospitals. Utah did about as well as the nation for heart bypass surgery, balloon angioplasty and heart attack. All Utah hospitals had about the same percentage of in-hospital deaths as expected for heart bypass surgery and balloon angioplasty for their patient case mix (patient age, gender and how ill the patients were). Most hospitals did as well as expected for heart attacks and heart failure for their patient case mix.

How much did hospital charges differ among Utah hospitals?

Average hospital charges for the heart procedures and conditions in this report differed widely in 2004. For patients at the minor/moderate illness level, average hospital charges ranged from:

- \$7,042 to \$14,325 among 15 Utah hospitals that reported charges for heart catheterization patients with ischemic disease.
- \$40,278 to \$63,558 among eight Utah hospitals that reported charges for heart bypass surgery patients requiring heart catheterization.
- \$53,854 to \$73,953 among seven Utah hospitals that reported charges for heart valve patients requiring heart catheterization.

As expected, average hospital charges for patients treated at the major/extreme illness level were higher. Note that many factors will affect hospital charges - please see page iii.

Centers for Medicare and Medicaid Services treatment process measures

The Centers for Medicare and Medicaid Services (CMS) have created a website. This site shows consumers how often hospitals throughout the nation use accepted treatment for heart patients and other kinds of patients. Readers can go to the websites provided in this report to learn more about these treatment process measures.

“The Department is committed to publishing reports that will enable patients and families to become more actively involved in their health care.”

David N. Sundwall, M.D.
Executive Director
Utah Department of Health

“We encourage you to use this information to ask questions of your provider, hospital or insurance representative. Let them know that you plan to take an active role in your health care decisions.”

Clark B. Hinckley
Chair of Utah Health Data Committee



About the Report...

Why is this report important to me?

If you or someone you know has heart problems, you will find this report helpful when considering where to receive treatment. Hospitals can vary, sometimes quite a bit, in terms of what they charge and their quality and safety for patients.

What is the purpose of the Utah Health Data Committee?

The Utah Health Data Committee was established by the Utah Legislature in 1990 to collect, analyze and distribute state health care data.

Why are you producing this report?

The 2005 Utah Legislature passed a bill called Senate Bill 132 (see below) requiring the Committee to publish annual reports that compare hospitals based on charges, quality and patient safety for consumers.

After the bill passed, the Committee appointed 20 members to serve on the SB 132 Task Force to guide development of the consumer reports. The Task Force includes voices from consumers, hospitals, health professionals and public health agencies. The primary role of the Task Force is to be a technical advisory group that provides consultation to the Utah Health Data Committee and its staff members in the Office of Health Care Statistics on measures, methods and priorities for developing Health Care Consumer Reports and a related web reporting system.

Who else helped to shape this report?

A focus group was held in Salt Lake County. Nine Utah citizens provided useful feedback to make this report consumer-friendly. Seven cardiologists and heart surgeons as well as an emergency room doctor and health educators reviewed the report's medical information. Five bio-statisticians assisted in selecting the appropriate statistical method for comparing hospital performance.

Key excerpts from Senate Bill 132:

Requires the Health Data Authority to publish reports at least annually that compare and identify health care facilities;

Requires the reports comparing health care facilities to be based on at least the following factors:

nationally recognized quality standards; charges; and nationally recognized patient safety standards.

The comparative analysis shall be available free of charge and easily accessible to the public.

Senate sponsor: Senator Allen M. Christensen

House sponsor: Representative Kerry W. Gibson

About the Data.....

Where does the data come from?

Most of the data in this report comes from hospital claim records. Utah hospitals are required by law to submit a standard set of information about each patient who spends at least one night 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.

Have the data been verified by others?

Yes, Utah hospitals have reviewed the report for accuracy.

Why use these indicators/measures?

AHRQ developed the Inpatient Quality Indicators (IQIs) for in-hospital deaths used in this report. The IQIs allow comparison among Utah hospitals and other U.S. hospitals that treated similar patients. The report shows indicators for two common in-hospital heart treatments (heart bypass surgery and balloon angioplasty) and two common heart conditions (heart attack and heart failure). Measures for average charges are All Patient Refined Diagnosis Related Groups (APR-DRGs) for similar, though not identical, heart procedures and conditions.

What are limitations of quality comparisons in the report?

Many factors affect a hospital's performance on quality and safety measures. Such factors include the hospital's size, whether it has a heart program, the number of heart procedures performed, available heart specialists, teaching status and especially how ill the hospital's 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 patients near the end of their life may have higher percentages of deaths. Hospitals may report patient diagnosis codes differently. This could impact the accuracy of quality measurement among hospitals. The quality indicators adjust for how ill each hospital's patients are, but the adjustment may not be adequate. 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 patient illness may not be accurate.

What are limitations of the charge comparisons reported here?

The charges shown in this report differ from "costs," "reimbursement," "price" and "payment." Different payers have different arrangements with each hospital for payment. Many factors will affect the cost for 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 from the calculation of average charges (see Glossary). Also, some expensive heart devices used in non-outlier cases could impact a hospital's average charge. For example, in 2004, 10 patients with the heart conditions and procedures shown in this report used a transportable heart device (ICD-9-CM procedure code 37.66) or similar devices (37.62, 37.63 or 37.65). Hospital charges for these 10 cases ranged from \$86,899 to \$333,074. However, the difference between hospital average charges including vs. excluding these 10 cases either was not statistically significant or was not significantly higher than the Utah overall average charges by APR-DRG (see Glossary). This report includes these 10 cases in the hospital average charge tables.



Utah Hospitals in 2006

County Name	Hospital Name	Location City	Phone Number	Open Heart Surgery	Cardiac Catheterization
Beaver	Beaver Valley Hospital	Beaver	(435) 438-7100		
Beaver	Milford Valley Memorial Hospital	Milford	(435) 387-2411		
Box Elder	Bear River Valley Hospital	Tremonton	(435) 257-7441		
Box Elder	Brigham City Community Hospital	Brigham City	(435) 734-9471		
Cache	Cache Valley Specialty Hospital	North Logan	(435) 713-9700		
Cache	Logan Regional Hospital	Logan	(435) 752-2050		✓
Carbon	Castleview Hospital	Price	(435) 637-4800		
Davis	Davis Hospital & Medical Center	Layton	(801) 774-7001		✓
Davis	Lakeview Hospital	Bountiful	(801) 299-2132		✓
Duchesne	Uintah Basin Medical Center	Roosevelt	(435) 722-4691		
Garfield	Garfield Memorial Hospital	Panguitch	(435) 676-8811		
Grand	Allen Memorial Hospital	Moab	(435) 259-7191		
Iron	Valley View Medical Center	Cedar City	(435) 868-5000		
Juab	Central Valley Medical Center	Nephi	(435) 623-3000		
Kane	Kane County Hospital	Kanab	(435) 644-5811		
Millard	Delta Community Medical Center	Delta	(435) 864-5591		
Millard	Fillmore Community Medical Center	Fillmore	(435) 743-5591		
Salt Lake	Alta View Hospital	Sandy	(801) 501-2600		
Salt Lake	Cottonwood Hospital	Murray	(801) 314-5300		✓
Salt Lake	Jordan Valley Hospital *	West Jordan	(801) 561-8888		✓
Salt Lake	LDS Hospital	Salt Lake City	(801) 408-1100	✓	✓
Salt Lake	Orthopedic Specialty Hospital	Salt Lake City	(801) 314-4100		
Salt Lake	Pioneer Valley Hospital	West Valley City	(801) 964-3100		✓
Salt Lake	Primary Children's Medical Center	Salt Lake City	(801) 588-2000	✓	✓

✓ = Hospital performs these procedures

* = Services began in 2006

Utah Hospitals in 2006 (continued)

County Name	Hospital Name	Location City	Phone Number	Open Heart Surgery	Cardiac Catheterization
Salt Lake	Salt Lake Regional	Salt Lake City	(801) 350-4007	✓	✓
Salt Lake	St. Mark's Hospital	Salt Lake City	(801) 268-7700	✓	✓
Salt Lake	University of Utah Hospital	Salt Lake City	(801) 581-2121	✓	✓
Salt Lake	Veteran's Medical Center	Salt Lake City	(801) 582-1565	✓	✓
San Juan	San Juan Hospital	Monticello	(435) 587-2116		
Sanpete	Gunnison Valley Hospital	Gunnison	(435) 528-7246		
Sanpete	Sanpete Valley Hospital	Mount Pleasant	(435) 462-2441		
Sevier	Sevier Valley Hospital	Richfield	(435) 896-8271		
Tooele	Mountain West Medical Center	Tooele	(435) 843-3600		
Uintah	Ashley Valley Medical Center	Vernal	(435) 789-3342		
Utah	American Fork Hospital	American Fork	(801) 763-3300		
Utah	Mountain View Hospital	Payson	(801) 465-7100		✓
Utah	Orem Community Hospital	Orem	(801) 224-4080		
Utah	Timpanogos Regional Hospital	Orem	(801) 714-6000	✓	✓
Utah	Utah Valley Regional	Provo	(801) 373-7850	✓	✓
Wasatch	Heber Valley Medical Center	Heber City	(435) 654-2500		
Washington	Dixie Regional Medical Center	St. George	(435) 688-4000	✓	✓
Weber	McKay-Dee Hospital Center	Ogden	(801) 627-2800	✓	✓
Weber	Ogden Regional Medical Center	Ogden	(801) 479-2111	✓	✓

Sources of Financial Assistance

Most hospitals provide financial assistance for patients who are unable to pay their hospital bills. Contact the billing office at the hospital you are considering and ask if you qualify.

You may also contact:

Utah Medicaid Program at 1-800-662-9651 to determine if you are eligible.



Become An Informed Health Care Consumer

Take Responsibility for Your Health

Be proactive in your family's health care. Don't wait until you have a medical emergency to learn about your health plan coverage.

Plan Ahead

Select a health plan that meets your needs before you become ill or need medical services. Select doctors and hospitals you trust. Check that they will work with your insurance company and are reasonably priced.

Be Knowledgeable

Know your personal and family medical history. Know your rights and responsibilities as a patient. Know the rules of your insurance plan before you use medical services.

Be Informed

Learn about your own and your family's illnesses. Find out about the latest treatments and alternatives to surgery. Consider yourself a partner in your care and treatment.

Speak Up

No one knows more about you than you do! Tell your doctor about your symptoms and what you think may be causing them. Ask what types of treatments are available and why your health care professionals are suggesting one treatment rather than another.

Take Care of Your Heart

- **Develop and maintain a healthy diet** that is high in fruits, vegetables, whole grains, lean meats and low in saturated fats.
- **Learn how your heart works and what it needs to stay healthy.** The more you know, the more likely you are to prevent problems and know when to see your doctor.
- **Monitor regularly.** Monitor things you can control like blood pressure and cholesterol by getting them checked periodically.
- **Follow medication directions.** If you are prescribed medications, take them exactly as directed. Maintain open discussion with your doctor about medications that might be beneficial to you if you discover arising problems.
- **Don't avoid the doctor.** Keep your doctor informed of your personal and family medical history and keep your physical exams up to date, especially if you have risk factors.
- **Stay active.** Inactivity may lead to excess weight. Excess weight leads to strain on your heart, increase in blood pressure and cholesterol, and risk of diabetes. Discuss with your doctor what level and type of activity would be best for you.
- **Learn to manage your stress.** When not dealt with, stress can cause great physical problems such as increased heart rate, blood pressure, and cholesterol, and can eventually lead to depression.

Note: The Heart Disease and Stroke Prevention Program, Utah Department of Health, approved the above content.

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More Resources to Compare Hospital Quality

Hospital Compare is a web site that allows consumers to learn how often their local hospitals deliver specific treatment to patients. Medical research has shown that these treatments produce the best chance of surviving and recovering from heart attacks, heart failure and other serious conditions. The Center for Medicare and Medicaid Services (CMS), a federal agency, measures these patient care processes that predict good outcomes rather than directly measuring the most serious poor patient outcomes, such as the death rates shown in this report.

See the bottom of this page for a list of heart measures currently reported at Hospital Compare.

You can access these measures at: www.hospitalcompare.hhs.gov/



HealthInsight, the Quality Improvement Organization (QIO) for Utah and Nevada, is a private, non-profit organization dedicated to improving the health care system. **HealthInsight** provides technical assistance to hospitals, nursing homes, home health agencies and physicians around quality improvement.

HealthInsight has computed hospital rankings using data from the 10 CMS measures that every hospital is required to report. Easy-to-read composite measures, including those specifically for heart attack, heart failure and pneumonia, are available to the consumer to compare the performance of Utah hospitals in these areas.

You can access the National Hospital Rankings at: www.healthinsight.org/

Heart Attack (Acute Myocardial Infarction or AMI) Measures

- Administration of aspirin at arrival*
- Prescription or instructions for ongoing aspirin use at discharge *
- ACE Inhibitor or ARB (drugs) given for Left Ventricular Systolic Dysfunction (LVSD) *
- Administration of a Beta Blocker drug at arrival *
- Prescription for a Beta Blocker drug at discharge *
- Thrombolytic (clot dissolving) agent received within 30 minutes of hospital arrival
- Percutaneous Coronary Intervention (PCI) procedure received within 120 minutes of hospital arrival
- Smoking cessation advice/counseling given during hospitalization

Heart Failure Measures

- Assessment of Left Ventricular Function*
- ACE Inhibitor or ARB (drugs) given for Left Ventricular Systolic Dysfunction (LVSD)*
- Discharge instructions given to patient
- Smoking cessation advice/counseling given during hospitalization

* = measure currently used in **HealthInsight's** rankings of hospitals for these heart conditions

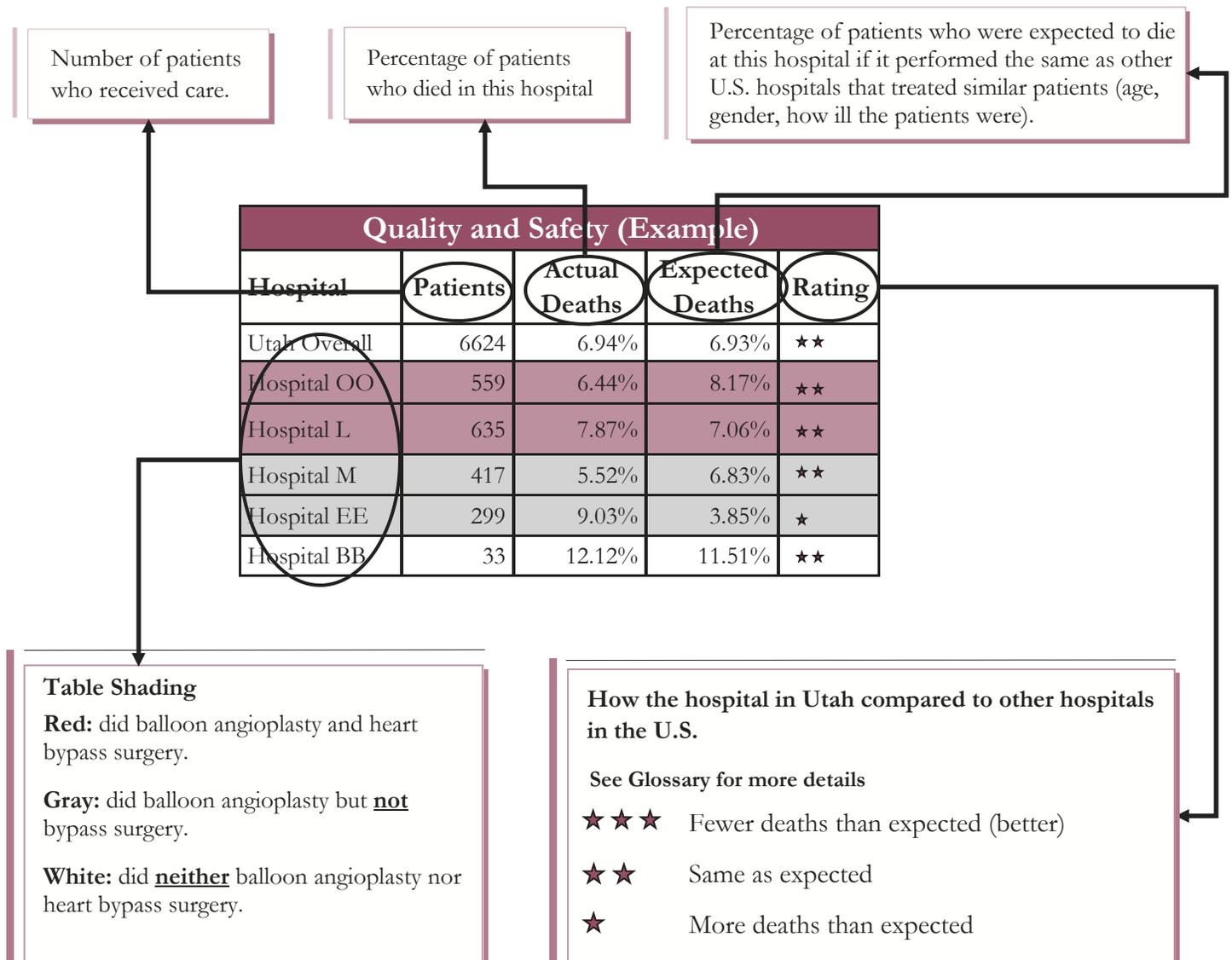
Part 1

Quality and Safety of Hospital Care

Understanding the Tables

Introduction:

The tables in this section show number of patients and percentage of deaths in Utah hospitals for common heart procedures and conditions. Risk of death depends on how ill patients are. Very ill patients are more likely to die than less ill patients.





Heart Bypass Surgery Deaths in Utah Hospitals, 2002-2004



What is heart bypass surgery?

This surgery makes new routes around narrowed or blocked heart arteries.

How common is it?

Heart bypass surgery is the most common major operation. Over a half million are performed in the U.S. each year.

How is this surgery done?

The patient receives anesthesia and is unconscious (pain free and asleep). Usually the patient is put on a heart-lung machine during the operation. The heart surgeon cuts the middle of the chest and separates the sternum (breastbone).

The surgeon uses a vein or artery from another part of the patient's body to bypass the heart artery blockage.

The surgeon sews together the breastbone with wire and closes the cuts in the chest and where the bypass vein or artery was removed.

The entire surgery can take 4-6 hours. Then the patient is taken to the Intensive Care Unit (ICU) and monitored for a few days. Often, patients are on a ventilator (breathing machine) for a day or two after surgery.

Heart bypass surgery can be done several ways. Ask your doctor which way is right for you.

Some risks of heart bypass surgery

- Heart attack (about 5%)
- Stroke (about 5%)
- Surgery wound infection (about 1%-4%)
- Chest pain and fever (about 30%) which can be treated with medication
- Blood clots
- Death (see table on next page)

Many factors contribute to the risks and long-term results.

Heart failure, diabetes, obesity, lung disease, hardening of the aorta, old age and kidney failure all increase the risk of the procedure.

Questions to ask your doctor before having this surgery

- Will I live longer and have better quality of life if I have this surgery?
- What are alternatives to this surgery for my condition?
- What is the chance of a stroke after the surgery?
- How many patients receive blood transfusions during this surgery?
- What can I do to improve my recovery?
- How many heart bypass surgeries does the hospital do a year?
- May I have a diagram of which arteries you bypassed and a copy of my last ECG to go home with?

Heart Bypass Surgery in Utah Hospitals

This table shows the percentage of deaths for patients who had a coronary artery bypass graft. (IQI 12)



Rating System

- ★ ★ ★ Fewer deaths than expected (better)
- ★ ★ Same as expected
- ★ More deaths than expected

Heart Bypass Surgery Deaths, 2002-2004

Hospital	Patients	Actual Deaths	Expected Deaths	Rating
Utah Overall	5,561	3.34%	3.56%	★★
Dixie Regional	263	2.66%	2.86%	★★
LDS Hospital	1,819	4.34%	4.97%	★★
McKay-Dee Hospital	732	1.91%	2.75%	★★
Ogden Regional	197	3.05%	3.01%	★★
Salt Lake Regional	211	2.37%	1.57%	★★
St. Mark's Hospital	960	2.60%	2.97%	★★
University of Utah	434	4.61%	3.71%	★★
Utah Valley Regional	677	3.25%	2.92%	★★
Veterans Administration	268	2.99%	2.40%	★★

All Utah hospitals in this table did as well as expected compared to similar hospitals in the U.S.

Table Description

This table includes only hospitals that did heart bypass surgery in 2002 through 2004.

Actual deaths are the percentage of patients who received care for this procedure or condition and died in this hospital.

Expected deaths are the percentage of patients who died at this hospital if it performed the same as other U.S. hospitals that treated similar patients (age, gender, how ill the patients were).

See Glossary for more details.



Balloon Angioplasty Deaths in Utah Hospitals, 2002-2004

What is balloon angioplasty?

The doctor uses a small balloon near the end of a catheter (thin flexible tube) to open narrowed or blocked blood vessels in the heart. It is also called a Percutaneous Coronary Intervention (PCI) or Percutaneous Transluminal Coronary Angioplasty (PTCA).

How common is it?

Balloon angioplasty is performed on more than one million people in the U.S. each year.

How is balloon angioplasty done?

While lying on a table, the patient receives local anesthetic (numbing medicine) and remains conscious (awake). The patient receives anesthetic as needed throughout the procedure. Some patients also receive medication which helps them relax.

The doctor inserts a catheter in an artery, usually near the groin (upper thigh). The doctor guides the catheter through this artery to the heart. The doctor injects dye through the catheter and uses X-rays to find the blockage in the heart artery.

The doctor inflates and deflates a small balloon near the tip of the catheter to widen the blocked heart artery. Often the doctor puts a stent (small mesh tube) into the widened artery to keep it open. The stent remains after the doctor removes the balloon catheter.

Balloon angioplasty can be done several ways. Ask your doctor which way is right for you.

Some risks of balloon angioplasty

- Complete blockage of a heart artery (less than 1%)
- Damage to a heart valve or blood vessel which may require emergency heart surgery
- Stroke (higher risk for patients 70 years of age)
- Arrhythmia (irregular heart beat)
- Allergic reaction to the X-ray dye
- Wound infection
- Blood clot in the groin which may keep growing or may affect a nearby vein. Both of these may require surgery to fix.
- Kidney failure due to the X-ray dye. This is most common in diabetics who already have kidney problems.
- Death (see table on next page)

Questions to ask your doctor before having balloon angioplasty

- How can balloon angioplasty help me?
- What are other treatments for my condition?
- What can I do to avoid another balloon angioplasty?
- How long do I have to take new medications?
- What should I do for pain and swelling in my groin where the catheter was put in?
- Do I need any special treatment to prevent kidney failure?
- What do I do if I get chest pain or shortness of breath in the next 6 weeks?
- May I have a copy of my catheterization report and ECG to take home?

Better processes of care may reduce deaths which represents better quality care.

Balloon Angioplasty Deaths in Utah Hospitals

This table shows the percentage of deaths for patients who had a percutaneous transluminal coronary angioplasty procedure. (IQI 30)

Balloon Angioplasty Deaths, 2002-2004				
Hospital	Patients	Actual Deaths	Expected Deaths	Rating
Utah Overall	13,644	1.50%	1.56%	★★
Dixie Regional	982	0.92%	1.49%	★★
LDS Hospital	3,381	1.01%	1.33%	★★
McKay-Dee	1,041	1.63%	1.99%	★★
Ogden Regional	465	0.86%	1.96%	★★
Salt Lake Regional	360	3.06%	2.04%	★★
St. Mark's Hospital	1,723	1.74%	1.52%	★★
University of Utah	586	1.54%	1.75%	★★
Utah Valley Regional	2,824	1.63%	1.49%	★★
Veterans Administration	499	1.60%	1.24%	★★
Cottonwood Hospital	324	2.78%	2.34%	★★
Davis Hospital	380	2.37%	1.69%	★★
Lakeview Hospital	222	2.70%	1.50%	★★
Mountain View Hospital	329	1.52%	1.19%	★★
Pioneer Valley Hospital	243	1.65%	2.15%	★★
Timpanogos Regional	285	1.05%	1.56%	★★

Table Description

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but **not** heart bypass surgery.

Actual deaths are the percentage of patients who received care for this procedure or condition and died in this hospital.

Expected deaths are the percentage of patients who died at this hospital if it performed the same as other U.S. hospitals that treated similar patients (age, gender, how ill the patients were). See **Glossary** for more details.

Rating System

- ★★★ Fewer deaths than expected (better)
- ★★ Same as expected
- ★ More deaths than expected

All Utah hospitals in this table did as well as expected compared to similar hospitals in the U.S.



Heart Attack Deaths in Utah Hospitals, 2002-2004

What is a heart attack?

A heart attack occurs when something blocks blood flow to the heart muscle. This causes damage or death of the heart tissue.

How common is it?

About one million people visit a hospital due to a heart attack in the U.S. each year. Some people die from heart attacks before they get to the hospital. Others have “silent” heart attacks that are discovered later. Heart attacks are the most common cause of sudden death for both women and men in the U.S.

What causes heart attacks?

Many heart attacks start with a blood clot. Often a clot forms in a heart artery narrowed by fatty deposits. The part of the heart fed by the blocked artery is damaged or dies. The damaged or dead heart muscle cannot pump, so the rest of the heart works harder. If too much heart muscle dies, the patient dies. The area of dying muscle spreads quickly, so treatment must start as soon as possible.

Who is at risk for heart attacks?

- Men have heart attacks about 10 years earlier in life than women.
- People who smoke, are overweight, have diabetes, high blood pressure or high “bad” cholesterol. You and your doctor can lower these risks.
- Older people and people with a family history of heart disease have higher risk.

Warning signs for heart attacks

- The most common sign for both men and women is chest discomfort such as: pain, tightness, squeezing or pressure for more than 15 minutes.
- Women are more likely than men to have:
 - Pain in the shoulder, one or both arms, neck, upper back, teeth or jaw.
 - Trouble breathing, dizziness or fainting.
 - Pain that feels like acid reflux, indigestion or gas pain.
 - Nausea, vomiting or sweating.



Emergency

If you think you are having a heart attack, it is an emergency!

Do not call your own doctor, call 9-1-1. Get to an Emergency Department immediately. Prompt, proper care can save your life and lessen damage to your heart. Many patients require hospitalization for a short period of time for treatment or observation.

Some questions to ask your doctor about your heart attack

- Do I need an emergency cardiac catheterization?
- What can I do to get better? How can I prevent another heart attack?
- How long will I be in critical care?
- How long is cardiac rehabilitation?
- Do I need an echocardiogram before I go home?
- What side effects of the medications should I expect?
- What should I do if I have shortness of breath or ankle/leg swelling?
- May I have a copy of my catheterization report, echocardiogram and ECG to take home?



Heart Attack Deaths in Utah Hospitals

This table shows the percentage of deaths for patients with acute myocardial infarction.

(IQI 32)

Rating System

★ ★ ★	Fewer deaths than expected (better)
★ ★	Same as expected
★	More deaths than expected

Table Description

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but not heart bypass surgery.

White: did neither balloon angioplasty nor heart bypass surgery.

Actual deaths are the percentage of patients who received care for this procedure or condition and died in this hospital.

Expected deaths are the percentage of patients who died at this hospital if it performed the same as other U.S. hospitals that treated similar patients (age, gender, how ill the patients were). See Glossary for more details.

Heart Attack Deaths, 2002-2004

Hospital	Patients	Actual Deaths	Expected Deaths	Rating
Utah Overall	6,624	6.94%	6.93%	★★
Dixie Regional	559	6.44%	8.17%	★★
LDS Hospital	1,268	5.91%	7.12%	★★
McKay-Dee Hospital	688	4.94%	6.35%	★★
Ogden Regional	279	5.73%	7.01%	★★
Salt Lake Regional	291	5.50%	4.96%	★★
St. Mark's Hospital	635	7.87%	7.06%	★★
University of Utah	593	6.24%	6.07%	★★
Utah Valley Regional	554	7.22%	5.89%	★★
Cottonwood Hospital	448	6.25%	7.17%	★★
Davis Hospital	310	6.77%	4.17%	★
Lakeview Hospital	223	5.38%	4.77%	★★
Mountain View Hospital	118	7.63%	7.32%	★★
Pioneer Valley Hospital	223	7.17%	7.14%	★★
Timpanogos Regional	104	8.65%	6.47%	★★
Jordan Valley Hospital	33	12.12%	11.51%	★★
Logan Regional	74	16.22%	13.43%	★★
Mountain West Hospital	33	3.03%	10.24%	★★
Valley View Hospital	30	16.67%	17.28%	★★

The following hospitals treated at least one patient but less than 30 patients:

Alta View, American Fork, Ashley Valley, Bear River Valley, Beaver Valley, Brigham City, Castleview, Central Valley, Garfield Memorial, Heber Valley, San Juan, Sevier Valley, and Uintah Basin

Most Utah hospitals in this table did as well as expected compared to similar hospitals in the U.S.



Heart Failure Deaths in Utah Hospitals, 2002-2004



What is heart failure?

Also called congestive heart failure (CHF), the heart cannot pump enough blood to meet the body's needs. This causes fluid to build up in the legs, arms, digestive tract, lungs (pulmonary edema) and liver. Organs don't receive enough oxygen and nutrients, so they cannot function properly.

How common is it?

About 5 million people in the U. S. have heart failure. Each year, another half million people are diagnosed for the first time. Heart failure contributes to or causes about 300,000 deaths each year.

What causes heart failure?

The most common causes of heart failure are damage from heart attack, high blood pressure and problems with the valves in the heart.

Other causes: Lung disease, inherited heart problems, heart tumors, viral infections, alcohol and drug abuse, exposure to some poisons. Heart failure can also happen during or after pregnancy.

Who is at risk for heart failure?

- People 65 years of age and older
- People who smoke, are overweight, have diabetes, high blood pressure or high "bad" cholesterol. You and your doctor can lower these risks.
- People who have had a heart attack
- People with a family history of heart disease
- People who have viral infections of their hearts

Warning signs for heart failure

- Feet, ankles and belly swell; weight gain
- Feel winded even when walking where it is flat, need to get up at night for fresh air
- Feel weak, tired, faint, dizzy, less alert or have trouble concentrating
- Rapid or irregular heart beat
- Loss of appetite, indigestion, nausea and vomiting
- Make less urine or need to urinate at night

Some questions to ask your doctor about heart failure

- What treatment do I need now?
- What can I do to best manage my heart failure?
- Will cardiac rehabilitation help me?
- Can I resume my usual activities? When?
- How often should I check my weight?
- What should I do if my weight increases or my ankles swell?
- Should I get a pneumonia vaccination?
- How much sodium (salt) can I have a day?

The following hospitals treated at least one heart failure patient but less than 30 patients:

Bear River, Brigham City, Cache Valley, Delta Community, Healthsouth Rehabilitation, Heber Valley, Milford Valley, Orem Community, Primary Children's, Salt Lake Specialty, South Davis Community, and University of Utah Huntsman Cancer Institute

Heart Failure Deaths in Utah Hospitals

This table shows the percentage of deaths for patients with congestive heart failure. (IQI 16)

Rating System

- ★ ★ ★ Fewer deaths than expected (better)
- ★ ★ Same as expected
- ★ More deaths than expected

Table Description

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but **not** heart bypass surgery.

White: did **neither** balloon angioplasty nor heart bypass surgery.

Actual deaths: are the percentage of patients who received care for this procedure or condition and died in this hospital.

Expected deaths: are the percentage of patients who died at this hospital if it performed the same as other U.S. hospitals that treated similar patients (age, gender, how ill the patients were). See **Glossary** for more details.

Heart Failure Deaths, 2002-2004

Hospital	Patients	Actual Deaths	Expected Deaths	Rating
Utah Overall	10,152	4.57%	5.03%	★ ★ ★
Dixie Regional	626	4.47%	5.63%	★ ★
LDS Hospital	1,192	4.61%	5.81%	★ ★
McKay-Dee Hospital	756	4.50%	5.22%	★ ★
Ogden Regional	325	2.46%	5.36%	★ ★ ★
Salt Lake Regional	299	4.01%	4.94%	★ ★
St. Mark's Hospital	1,082	4.34%	5.11%	★ ★
University of Utah	638	4.70%	4.54%	★ ★
Utah Valley Regional	880	5.34%	4.85%	★ ★
Veterans Administration	568	4.23%	4.93%	★ ★
Cottonwood Hospital	417	5.52%	6.83%	★ ★
Davis Hospital	299	9.03%	3.85%	★
Lakeview Hospital	271	4.43%	4.73%	★ ★
Mountain View Hospital	115	5.22%	4.44%	★ ★
Pioneer Valley Hospital	293	3.41%	4.91%	★ ★
Timpanogos Regional	176	5.68%	4.41%	★ ★
Allen Memorial Hospital	36	0.00%	2.43%	★ ★
Alta View Hospital	208	4.33%	8.61%	★ ★ ★
American Fork Hospital	231	5.63%	4.30%	★ ★
Ashley Valley Hospital	106	2.83%	3.77%	★ ★
Beaver Valley Hospital	75	0.00%	3.61%	★ ★
Castleview Hospital	151	5.96%	4.84%	★ ★
Central Valley Hospital	59	6.78%	4.76%	★ ★
Fillmore Hospital	40	15.00%	3.42%	★
Garfield Memorial	51	0.00%	3.32%	★ ★
Gunnison Valley Hospital	45	2.22%	1.81%	★ ★
Jordan Valley Hospital	163	7.36%	4.50%	★ ★
Kane County Hospital	41	2.44%	1.71%	★ ★
Logan Regional	283	2.83%	4.04%	★ ★
Mountain West Hospital	167	2.99%	5.41%	★ ★
San Juan Hospital	42	0.00%	2.35%	★ ★
Sanpete Valley Hospital	51	0.00%	5.52%	★ ★
Sevier Valley Hospital	133	5.26%	4.61%	★ ★
Uintah Basin Hospital	67	5.97%	1.82%	★ ★
Valley View Hospital	106	1.89%	4.10%	★ ★

Utah overall did better than expected compared to similar hospitals in the U.S.



Part 2

Hospital Charges

Understanding the Tables

Introduction:

The tables in this section show average hospital charges for different kinds of heart conditions and procedures at Utah hospitals. Your charges may be higher or lower than the average charges. For example, you may have additional services that add to your charges, such as a longer hospital stay or medical care from a specialist. Charge is not the same as the total cost or total payment to the hospital.

Number of patients (<5 means 1-4 patients)

Caution: Small numbers may give misleading average charges

A widely used means of grouping patients (APR-DRG) uses four levels of illness. This report combines minor with moderate illness and major with extreme illness. Compared to patients with minor/moderate level of illness, patients with major/extreme level of illness are likely to have more serious heart problems and other serious diseases that require more complex treatment.

Average Hospital Charges				
Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	41,254	\$2,453	1,984	\$5,543
Hospital A	55	2,789	10	3,215
Hospital B	2,342	1,657	26	2,895
Hospital C	1,151	4,312	49	5,621
Hospital D	<5	2,894	6	3,989

Table Shading

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but not bypass surgery.

White: did neither balloon angioplasty nor heart bypass surgery.

The average dollars for the hospital services for which patients were billed at a particular hospital. Unusually high (outlier) charges were excluded from each hospital's average charges. * The Veterans Administration reports number of patients (cases) but is not included when computing overall cases for Utah hospitals. Many factors will affect hospital charges (see page iii).

Heart Bypass Surgery (CABG)

These tables show the average charges, by hospital, for all coronary bypass graft surgeries performed in Utah with and without cardiac catheterization.

(APR-DRG 165 and 166)

Table Legend

< 5 1 to 4 cases

Table Definitions

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 heart problems and other serious diseases that require more complex treatment.

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. **See Glossary for more details.**

Coronary Bypass With Cardiac Catheterization Average Hospital Charges, 2004

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	386	\$47,699	290	\$72,079
Dixie Regional	74	\$40,278	44	\$64,582
LDS Hospital	91	\$45,294	88	\$82,554
McKay-Dee Hospital	65	\$42,608	49	\$61,386
Ogden Regional	5	\$63,558	7	\$71,967
Salt Lake Regional	18	\$61,653	13	\$76,803
St. Mark's Hospital	47	\$60,107	29	\$74,877
University of Utah	14	\$57,114	13	\$88,994
Utah Valley Regional	72	\$48,440	47	\$62,938
Veterans Administration	16	Not Available	13	Not Available

State average hospital length of stay: Minor/Moderate is 7.4 days, Major/Extreme is 11.5 days

Coronary Bypass Without Cardiac Catheterization Average Hospital Charges, 2004

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	493	\$39,286	251	\$65,417
Dixie Regional	55	\$31,190	12	\$48,251
LDS Hospital	129	\$36,829	83	\$82,992
McKay-Dee Hospital	75	\$33,877	46	\$54,150
Ogden Regional	11	\$46,097	<5	\$77,815
Salt Lake Regional	13	\$52,983	11	\$61,155
St. Mark's Hospital	134	\$46,097	48	\$56,333
University of Utah	28	\$39,181	25	\$58,254
Utah Valley Regional	48	\$39,392	22	\$59,872
Veterans Administration	26	Not Available	9	Not Available

State average hospital length of stay: Minor/Moderate is 5.3 days, Major/Extreme is 9.9 days



Balloon Angioplasty With Heart Attack

This table shows the average charges, by hospital, for all percutaneous cardiovascular procedures with heart attack performed in Utah. (APR-DRG 174)

Did you know?

Percutaneous cardiovascular procedures are heart and blood vessel tests and treatments done through catheters (thin flexible tubes). The doctor puts a catheter into an artery or vein in the neck, arm or leg. Then the catheter is guided into a heart artery or the chambers of the heart.

Table Definitions

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but not heart bypass surgery.

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 heart problems and other serious diseases that require more complex treatment.

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. **See Glossary for more details.**

Average Hospital Charges, 2004

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	1,176	\$31,116	413	\$48,725
Dixie Regional	140	\$30,953	45	\$53,814
LDS Hospital	229	\$28,844	60	\$47,684
McKay-Dee Hospital	138	\$30,051	38	\$43,802
Ogden Regional	34	\$37,572	21	\$49,101
Salt Lake Regional	25	\$34,347	13	\$54,116
St. Mark's Hospital	76	\$41,172	33	\$67,873
University of Utah	77	\$30,934	23	\$46,605
Utah Valley Regional	176	\$27,786	79	\$44,761
Veterans Administration	38	Not Available	21	Not Available
Cottonwood Hospital	77	\$25,513	27	\$34,943
Davis Hospital	59	\$39,092	24	\$50,565
Lakeview Hospital	44	\$24,264	9	\$33,989
Mountain View Hospital	21	\$31,568	12	\$47,131
Pioneer Valley Hospital	62	\$39,930	23	\$57,564
Timpanogos Regional	18	\$27,375	6	\$40,243

State average hospital length of stay:

Minor/Moderate is 2.6 days

Major/Extreme is 6.0 days

Balloon Angioplasty Without Heart Attack

This table shows the average charges, by hospital, for all percutaneous cardiovascular procedures without heart attack performed in Utah. (APR-DRG 175)

See Glossary to learn more about terms used in this report.

Table Definitions

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but **not** heart bypass surgery.

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 heart problems and other serious diseases that require more complex treatment.

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. See Glossary for more details.

Average Hospital Charges, 2004				
	Level of Illness			
	Minor/Moderate		Major/Extreme	
Hospital	Cases	Average Charge	Cases	Average Charge
Utah Overall	2,850	\$26,996	377	\$35,068
Dixie Regional	407	\$27,120	63	\$37,426
LDS Hospital	688	\$23,062	71	\$27,857
McKay-Dee Hospital	234	\$26,743	30	\$33,345
Ogden Regional	67	\$33,552	15	\$43,095
Primary Children's	15	\$20,626	5	\$42,332
Salt Lake Regional	53	\$32,590	11	\$39,682
St. Mark's Hospital	377	\$33,779	29	\$45,552
University of Utah	84	\$28,052	17	\$28,553
Utah Valley Regional	595	\$24,988	85	\$32,633
Veterans Administration	161	Not Available	30	Not Available
Cottonwood Hospital	35	\$23,575	6	\$27,855
Davis Hospital	39	\$36,460	11	\$43,917
Lakeview Hospital	23	\$23,987	6	\$30,910
Mountain View Hospital	88	\$25,748	7	\$36,626
Pioneer Valley Hospital	64	\$37,761	11	\$44,226
Timpanogos Regional	81	\$25,306	10	\$43,124

State average hospital length of stay:

Minor/Moderate is 1.6 days

Major/Extreme is 3.9 days



Heart Catheterization (for ischemic disease)

This table shows average hospital charges for heart catheterization for patients with ischemic heart disease in Utah hospitals. (APR-DRG 192)

Did you know?

Ischemic heart disease happens when the heart does not get enough oxygen which can damage the heart.

Table Legend

< 5 1 to 4 cases

Table Definitions

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but **not** heart bypass surgery.

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 heart problems and other serious diseases that require more complex treatment.

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. **See Glossary for more details.**

Average Hospital Charges, 2004

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	1,676	\$10,795	144	\$14,788
Dixie Regional	305	\$9,883	21	\$14,123
LDS Hospital	213	\$9,877	26	\$14,845
McKay-Dee Hospital	114	\$10,554	10	\$13,128
Ogden Regional	75	\$13,277	7	\$14,932
Salt Lake Regional	51	\$13,150	<5	\$18,319
St. Mark's Hospital	197	\$13,635	13	\$16,353
University of Utah	86	\$10,741	<5	\$21,478
Utah Valley Regional	170	\$8,362	14	\$14,576
Veterans Administration	93	Not Available	22	Not Available
American Fork Hospital	No Cases Treated		<5	\$3,580
Cottonwood Hospital	104	\$7,042	19	\$12,781
Davis Hospital	28	\$13,708	<5	\$17,066
Lakeview Hospital	11	\$12,234	<5	\$12,723
Logan Regional	93	\$8,194	7	\$9,532
Mountain View Hospital	53	\$12,562	<5	\$17,842
Pioneer Valley Hospital	140	\$14,325	6	\$16,287
Timpanogos Regional	36	\$10,795	<5	\$25,726

State average hospital length of stay:

Minor/Moderate is 1.7 days

Major/Extreme is 3.1 day.

Heart Catheterization (with circulatory disorder except ischemic heart disease)

This table shows average hospital charges for heart catheterization for patients with blood disorders EXCEPT ischemic heart disease in Utah hospitals. (APR-DRG 191)

Did you know?

Cardiac catheterization can be used to measure blood pressure within the heart, how much oxygen is in the blood and how well the heart can pump.

Table Legend

< 5 1 to 4 cases

Table Definitions

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but **not** heart bypass surgery.

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 heart problems and other serious diseases that require more complex treatment.

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. **See Glossary for more details.**

Average Hospital Charges, 2004

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	327	\$12,662	434	\$22,176
Dixie Regional	44	\$12,027	44	\$21,073
LDS Hospital	51	\$11,146	103	\$21,718
McKay-Dee Hospital	28	\$12,421	42	\$23,526
Ogden Regional	20	\$12,983	14	\$26,182
Primary Children's	5	\$9,449	9	\$21,545
Salt Lake Regional	14	\$15,215	17	\$24,194
St. Mark's Hospital	48	\$15,116	33	\$23,668
University of Utah	14	\$16,297	36	\$20,847
Utah Valley Regional	34	\$10,992	28	\$16,436
Veterans Administration	19	Not Available	39	Not Available
Cottonwood Hospital	10	\$6,057	20	\$21,719
Davis Hospital	11	\$15,181	17	\$31,864
Lakeview Hospital	<5	\$13,018	7	\$18,929
Logan Regional	16	\$8,963	16	\$14,778
Mountain View Hospital	8	\$14,326	6	\$16,720
Pioneer Valley Hospital	11	\$19,477	30	\$27,282
Timpanogos Regional	10	\$10,876	12	\$20,391

State average hospital length of stay:

Minor/Moderate is 2.3 days

Major/Extreme is 5.2 days.



Heart Valve (Cardiac Valve) Procedures

These tables show the average charges for cardiac valve procedures with and without heart catheterization performed in Utah hospitals.

(APR-DRG 162, 163)

Did you know?

Heart valve disease occurs when the valve cannot open or close completely.

Your heart has to work harder to pump blood or blood may back up in the lungs or other parts of your body.

Table Legend

< 5 1 to 4 cases

State average hospital length of stay:

Top table: Minor/Moderate is 7.6 days, Major/Extreme is 14.7 days.

Bottom table: Minor/Moderate is 5.2 days, Major/Extreme is 11.4 days.

Table Definitions

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 heart problems and other serious diseases that require more complex treatment.

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. See **Glossary for more details.**

Cardiac Valve Procedures with Cardiac Catheterization

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	73	\$59,398	156	\$102,390
Dixie Regional	14	\$53,854	22	\$74,081
LDS Hospital	30	\$54,390	63	\$115,522
McKay-Dee Hospital	9	\$62,778	14	\$91,510
Ogden Regional	No Cases Treated		<5	\$103,397
Primary Children's			6	\$86,022
Salt Lake Regional			<5	\$91,621
St. Mark's Hospital	8	\$70,665	14	\$92,194
University of Utah	5	\$73,953	15	\$125,999
Utah Valley Regional	7	\$64,336	17	\$95,136
Veterans Administration	No Cases Treated		9	Not Available

Cardiac Valve Procedures without Cardiac Catheterization

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	300	\$49,337	274	\$88,149
Dixie Regional	50	\$40,754	30	\$56,779
LDS Hospital	69	\$50,904	76	\$84,502
McKay-Dee Hospital	22	\$51,523	34	\$81,576
Ogden Regional	<5	\$59,557	6	\$138,287
Primary Children's	26	\$35,012	32	\$66,676
Salt Lake Regional	<5	\$64,709	<5	\$155,418
St. Mark's Hospital	70	\$55,216	30	\$95,815
University of Utah	41	\$50,904	36	\$113,273
Utah Valley Regional	14	\$54,130	27	\$106,359
Veterans Administration	6	Not Available	21	Not Available

Heart Failure

This table shows the average charges for treating heart failure in Utah hospitals.

(APR-DRG 194)

Table Legend

< 5 1 to 4 cases

Table Definitions

Red: did balloon angioplasty and heart bypass surgery.

Gray: did balloon angioplasty but **not** heart bypass surgery.

White: did **neither** balloon angioplasty nor heart bypass surgery.

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 heart problems and other serious diseases that require more complex treatment.

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. **See Glossary for more details.**

Average Hospital Charges, 2004				
Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	1,553	\$8,054	1,090	\$13,624
LDS Hospital	93	\$9,024	113	\$13,846
McKay-Dee Hospital	120	\$8,485	77	\$12,460
Ogden Regional	61	\$8,137	41	\$12,711
Primary Children's	<5	\$6,079	12	\$12,894
Salt Lake Regional	39	\$8,882	45	\$15,293
St. Mark's Hospital	202	\$8,697	102	\$17,848
University of Utah	58	\$8,013	75	\$13,907
Utah Valley Regional	125	\$8,475	78	\$16,610
Veterans Administration	68	Not Available	85	Not Available
Cottonwood Hospital	58	\$7,998	82	\$12,977
Davis Hospital	44	\$10,132	27	\$13,204
Lakeview Hospital	62	\$7,982	30	\$12,822
Pioneer Valley Hospital	45	\$10,675	39	\$15,467
Timpanogos Regional	41	\$9,117	15	\$15,459
Allen Memorial Hospital	14	\$3,965	<5	\$5,693
Alta View Hospital	40	\$5,987	44	\$9,993
American Fork Hospital	57	\$7,513	28	\$10,685
Ashley Valley Hospital	28	\$6,061	15	\$9,864
Bear River Valley Hospital	6	\$3,803	<5	\$4,336
Beaver Valley Hospital	18	\$3,729	10	\$4,610
Brigham City Community	6	\$5,218	<5	\$5,715

TABLE CONTINUED ON NEXT PAGE 

State average hospital length of stay:

Minor/Moderate is 3.1 days

Major/Extreme is 4.9 days



Heart Failure

continued from previous page. (APR-DRG 194)



Table Legend

< 5 1 to 4 cases

Table Definitions

White: did neither balloon angioplasty nor heart bypass surgery.

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 heart problems and other serious diseases that require more complex treatment.

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.

See Glossary for more details.

Average Hospital Charges, 2004

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Cases	Average Charge	Cases	Average Charge
Utah Overall	1,553	\$8,054	1,090	\$13,624
Cache Valley Specialty	<5	\$1,480	No Cases Treated	
Castleview Hospital	37	\$7,765	12	\$9,399
Central Valley Hospital	18	\$5,998	9	\$9,921
Delta Community	5	\$3,927	<5	\$5,471
Dixie Regional	81	\$7,826	62	\$12,763
Fillmore Community	5	\$7,677	6	\$4,355
Garfield Memorial	6	\$8,686	<5	\$7,659
Gunnison Valley Hospital	17	\$3,752	No Cases Treated	
HealthSouth Rehabilitation	<5	\$6,046	<5	\$22,713
Heber Valley Hospital	6	\$5,493	<5	\$3,333
Jordan Valley Hospital	42	\$9,580	26	\$15,639
Kane County Hospital	24	\$4,367	<5	\$7,766
Logan Regional	55	\$7,079	29	\$9,273
Mountain View Hospital	27	\$8,292	16	\$13,911
Mountain West Hospital	34	\$11,858	30	\$21,187
Salt Lake Specialty	<5	\$13,314	5	\$31,527
San Juan Hospital	6	\$3,708	<5	\$7,751
Sanpete Valley Hospital	<5	\$4,822	6	\$6,279
Sevier Valley Hospital	24	\$6,166	12	\$8,110
Uintah Basin Hospital	15	\$6,002	8	\$10,206
Valley View Hospital	24	\$7,359	13	\$8,376

State average hospital length of stay:

Minor/Moderate is 3.1 days

Major/Extreme is 4.9 days

Additional Resources



Helpful Web Sites:

- American College of Cardiology has information on diabetes and heart disease: www.acc.org/ (800) 253-4336, ext. 694
- National Heart, Lung and Blood Institute of the National Institutes of Health: www.nhlbi.nih.gov/ (310) 592-8573
- Society of Thoracic Surgeons: www.sts.org/, (312) 202-5800
- American Heart Association: www.americanheart.org/, (800) 242-8721
- MedlinePlus: www.nlm.nih.gov/medlineplus/, (888)-346-3656
- Healthfinder: www.healthfinder.gov/library/, P.O. Box 1133, Washington, DC 20013-1133
- Women's Health Foundation: www.womensheart.org, 609.771.9600



Glossary

Actual death percentage: the actual number of deaths per 100 patients with a certain heart condition or procedure. For example, a hospital's actual heart bypass surgery death percentage is the number of deaths per 100 heart bypass surgery patients in that hospital. Actual death percentage does not adjust for the hospital's case mix. Other name: observed death rate per 100 cases.

Acute myocardial infarction (AMI), Acute MI: see Heart Attack.

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 body reactions that can be life threatening.

Angioplasty: see balloon angioplasty.

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 severity levels. This report uses APR-DRG version 20.0 for expected deaths, because AHRQ uses this version for risk adjustment in the Inpatient Quality Indicators. The report uses APR-DRG version 15.0 for average charges, because other Utah Department of Health reports that include average charges also use this version. For details on APR-DRG go to: www.3m.com/us/healthcare/his/products/coding/refined_drg.jhtml

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. For example the average charge for heart attack patients with major/extreme level of illness at Hospital A would be the sum of the charges for this hospital's major/extreme heart attack patients divided by the sum of Hospital A's major/extreme heart attack patients. 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 levels of patient severity per APR-DRG.

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 artery angioplasty; cardiac angioplasty; percutaneous coronary intervention (PCI); percutaneous transluminal coronary angioplasty (PTCA); heart artery dilation

Cardiac catheterization: a doctor guides a catheter (thin flexible tube) through an artery or vein in the neck, arm or thigh into the heart arteries or inside the heart.

Cardiac valve procedure: repairs or replaces diseased or damaged heart valves.

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

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

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.

Expected death percentage: the number of deaths expected per 100 patients with a certain heart condition or procedure if the hospital performed the same as other hospitals in the nation with similar patients. Expected death percentage adjusts for the hospital's case mix (patients' age, gender and how ill the patients are). For example, a hospital's heart bypass surgery expected death percentage is the number of expected patient deaths per 100 heart bypass surgery patients in that hospital if it performed like similar hospitals in the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases for 2003. For more information on the indicators this report uses, their procedure codes included and other inclusions and exclusions, see www.qualityindicators.ahrq.gov/downloads/iqi/iqi_guide_v30.pdf, pp. 32, 44, 50, 53.

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.

Heart bypass surgery: moves blood vessels from other parts of your body onto your heart to get blood to the heart muscle "downstream" from blockage. Other names: coronary artery bypass graft (CABG). In this report, in-hospital deaths include patients that had CABG only and patients that had CABG and heart valve procedures.

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). Sometimes this happens suddenly after a heart attack. Other names: congestive heart failure, ischemic heart disease, ischemic cardiomyopathy.

Inpatient Quality Indicators (IQI): were developed by the Agency for Healthcare Research and Quality (AHRQ), a federal agency, based on inpatient hospital discharge data. AHRQ IQI definitions and methods were used to calculate the actual and expected deaths rates for the heart 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. The AHRQ IQIs and APR-DRGs in this report are similar but not identical. For more detailed information, see www.qualityindicators.ahrq.gov/downloads/iqi/iqi_guide_v30.pdf, pages 32, 44, 50, 53.

Level of illness: this report uses 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 www.3m.com/us/healthcare/his/products/coding/refined_drg.jhtml

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.

Percutaneous Cardiovascular Procedures: catheters guided through arteries to the heart to look for and treat heart problems.

Percutaneous Transluminal Coronary Angioplasty (PTCA): see balloon angioplasty.

Star rating system: this report uses star rating based on a test of statistical significance, the exact 95% confidence interval. 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.



State Inpatient Databases (SID) 2003: a national sample that represents about 90% of all inpatients from 38 participating states in 2003. 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 2003. For more information, see www.hcup-us.ahrq.gov/sidoverview.jsp#What.

Statistically significant difference: the star ratings in the AHRQ IQI tables use exact 95% confidence intervals to show whether differences are statistically significant ($p < 0.05$).

Utah overall: for each specified condition or procedure and illness level, all cases treated at all Utah hospitals except the Veterans Administration. Utah overall average charge is the sum of all reported hospital charges billed to all patients treated at Utah hospitals divided by the number of Utah overall cases. In Part 1 the AHRQ IQI tables include only Utah residents. In Part 2 the APR-DRGs tables include Utah resident and non-resident patients.

Note: Medical terms are based on Healthfinder, www.healthfinder.gov/library/ and MedlinePlus, www.nlm.nih.gov/medlineplus/encyclopedia.html

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

National Indicators Used in This Report

All Patient Refined Diagnosis Related Group (APR-DRG)

165	Coronary Bypass Graph Surgery with Cardiac Catheterization
166	Coronary Bypass Graph Surgery <u>without</u> Cardiac Catheterization
174	Percutaneous Cardiovascular Procedures with Acute Myocardial Infarction
175	Percutaneous Cardiovascular Procedures <u>without</u> Acute Myocardial Infarction
191	Cardiac Catheterization (with circulatory disorder <u>except</u> ischemic heart disease)
192	Cardiac Catheterization (for ischemic heart disease)
162	Cardiac Valve Procedures with Cardiac Catheterization
163	Cardiac Valve Procedures <u>without</u> Cardiac Catheterization
194	Heart Failure

** Developed by 3M Health Information Systems.

For details on APR-DRG categories: www.3m.com/us/healthcare/his/products/coding/refined_drg.jhtml

Inpatient Hospital Indicator (IQI)

IQI 12	Coronary Artery Bypass Graft (CABG) Mortality Rate
IQI 30	Percutaneous Transluminal Coronary Angioplasty (PTCA) Mortality Rate
IQI 32	Acute Myocardial Infarction (AMI) Mortality Rate
IQI 16	Congestive Heart Failure (CHF) Mortality Rate

** Developed by the Agency for Healthcare Research and Quality (AHRQ). All exclude transfers to another hospital. IQI 32 also excludes transfers from another hospital.

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