

# Gallbladder Removal in Utah Health Care Facilities: Quality and Charges, 2006

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## **Introduction**

**The main purpose of this report** is to help patients compare Utah health care facilities in gallbladder removal based on utilization and charges. If you or someone you know has gallbladder problems, you may find this report helpful when considering where to receive treatment. Health care facilities include hospitals and ambulatory surgery centers.

To learn important information about gallbladder removal, see “Gallbladder Resources” later in this report.

### **Did you know?**

- Most people with gallstones do not have symptoms
- The gallbladder is a pear-shaped organ near your liver
- About 150 Utahns have their gallbladder removed every week

Patient education is the key ingredient in receiving the care you want and need. An excellent brochure explaining gallbladder removal has been produced by the American College of Surgeons. It can be accessed at [http://www.facs.org/public\\_info/operation/cholesys.pdf](http://www.facs.org/public_info/operation/cholesys.pdf).

Note: “Facilities” include hospitals and ambulatory surgery centers for outpatient treatment and hospitals for inpatient treatment. When reading the tables, please be aware that inpatients usually spend at least 24 hours in the facility; outpatients usually spend less than 24 hours in the facility.

### **Facility Utilization**

This measure is not intended to be an indicator of quality of care. Whether a facility performs a lower percentage of gallbladder removal by laparoscopic surgery often depends on its patients’ medical history and how ill they are. You should consult your health care professional for help in understanding the best treatment options for you.

See the tables in this report for information comparing Utah’s facilities on the following utilization indicator :

- ✓ Inpatient Laparoscopic Gallbladder Removals in Utah Hospitals (IQI 23)

This measure shows the percentage of inpatient gallbladder removals performed using laparoscopy. It is not intended to be an indicator of quality of care. Whether a facility performs a lower percentage of gallbladder removal by laparoscopic surgery often 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 facility’s performance on quality measures. Read the online report for more information.

Read more about methods and measures used for the facility 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.ahrq.gov>).

## Facility Charges

See the tables in this report for information on comparing Utah’s facilities for the following surgeries:

- ✓ Outpatient Laparoscopic Gallbladder Removal
- ✓ Inpatient Laparoscopic Gallbladder Removal
- ✓ Inpatient Open Gallbladder Removal

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 facility.

**Note:** Many factors will affect the cost of your facility stay. Read more in the “About the Data” 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 facility utilization section in this report in Methods and Measures.

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**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.**

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## Key Findings

In general, laparoscopic gallbladder removal requires smaller incisions and results in quicker recovery for patients than open gallbladder removal. However, the doctor may start a laparoscopic surgery, find unanticipated problems and need to change to an open surgery. Other patients with known complex medical problems or history may require planned open surgery. In these cases, open surgery is not necessarily an indication of lower quality of care.

### **How did Utah’s rate of laparoscopic gallbladder removal compare with the nation in 2006?**

For laparoscopic gallbladder removal, Utah overall had a higher rate (83.5%) than similar adult inpatients nationwide (75.9%). Utah overall means all Utah health care facilities combined. Facilities include hospitals that treat inpatients and hospitals and ambulatory surgery centers that treat outpatients.

Measures used are in square brackets. For more details, see the [Technical Document](#).

Among the 22 Utah facilities that treated 30 or more adult gallbladder removal inpatients in 2006

- 1,808 (83.5%) of 2,164 inpatient gallbladder removals were laparoscopic [AHRQ IQI 23].
- 5,923 additional outpatient laparoscopic gallbladder removals were performed [ICD-9-CM procedure code 51.23].
- 95.6% (7,731 out of 8,087) of gallbladder removals among inpatients plus outpatients were laparoscopic.

When each Utah facility that performed at least 30 gallbladder removals is compared to similar inpatients nationwide in 2006:

- 17 facilities had a higher percentage of inpatient laparoscopic gallbladder removals.
- 5 additional facilities had a lower percentage. These facilities tend to treat inpatients with more complex gallbladder problems and medical history.

**Note that many factors can affect treatment for gallbladder problems at a particular facility.** Read more in [About the Data](#)".

### **How did facility charge differ among Utah facilities in 2006?**

Average facility charge among adults for the gallbladder removal procedures in this report differed widely in 2006 for inpatients and outpatients. Measures used are in square brackets. For more details, see the [Technical Document](#).

- \$2,841 to \$11,976 among 36 Utah facilities that reported charge for laparoscopic outpatients [ICD-9-CM procedure code 51.23].
- \$7,017 to \$19,090 among 33 Utah facilities that reported charge for laparoscopic inpatients [APR-DRG 263] at the minor/moderate level of illness.

As expected, average facility charge for inpatients treated at the major/extreme level of illness was higher. In this report, outpatients are not grouped into two levels of illness.

Note that usually inpatients spend at least 24 hours in the facility. Outpatients usually spend less than 24 hours in the facility.

**Note:** Many factors will affect facility charge. Read more in [About the Data](#).



## **About the Report**

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

### **Why are you producing this report?**

- Senate Bill 132 (2005) requires the Health Data Committee (HDC) and its staff to publish reader-friendly reports comparing Utah's health care facilities based on nationally-recognized measures for quality, charges and patient safety.
- The HDC and Utah Department of Health 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.
- "Gallbladder Removal in Utah Health Care Facilities: Quality and Charges, 2006" is one of a series of health care consumer reports that enable patients and families to become more actively involved in their health care. All reports can be accessed at <http://health.utah.gov/myhealthcare>.

### **Why is this report important to me?**

- Gallbladder removal is a common surgery in the United States and is performed primarily on an outpatient basis. About 150 Utahns have their gallbladder removed every week. If you or someone you know has gallbladder 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. Consumers are encouraged to use the information in this report to ask questions of their doctor or health care professional, facility or insurance representative. Let them know you plan to take an active role in your health care decisions.

### **Who else helped shape this report?**

- Utah citizens 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.
- SB 132 Task Force is an HDC advisory group represented by consumers, hospitals, quality organizations and public health. Task force members have advised staff about methods and measures to use in the reports.
- Health care facilities reviewed their data and overall report content before public release. For more information, see the "About the Data" section in this report.

- Statistical experts assisted in selecting the appropriate method for comparing hospital performance.
- Leading physicians and health educators reviewed medical information in the report where applicable. In 2007, seven Utah physicians, as part of the Cholecystectomy Task Force, provided advice and direction on the measures used in this report.

## **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.”

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## **About the Data**

### **Where do the data come from?**

Most of the data in this report come from health care facility claim records. Health care facilities (facilities for short) in this report include Utah hospital and freestanding ambulatory surgery centers. Utah facilities are required by law to submit a standard set of information about each inpatient who spends at least 24 hours in the facility and about each outpatient who spends up to 24 hours in the facility 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 facilities 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. Facilities 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 Inpatient Quality Indicators (IQIs). The IQIs allow comparison among Utah facilities with similar patients nationwide. This report shows one IQI for inpatient laparoscopic gallbladder removal. For more information on the AHRQ IQIs, see < [http://www.qualityindicators.ahrq.gov/iqi\\_overview.htm](http://www.qualityindicators.ahrq.gov/iqi_overview.htm)>.

The IQIs are designed to be used for inpatients, so outpatients are not included in the report's IQI table. Based on research in the 1990s, AHRQ includes rate of laparoscopic gallbladder removal among its quality indicators, as higher rates indicate adoption of a new procedure that is usually less expensive and less traumatic to patients than open gallbladder removal. However, many experts now suggest that 100% laparoscopic gallbladder removal should not be a goal for optimal health care. For some patients, laparoscopic gallbladder removal is not possible or is too risky. Such patients require more extensive procedures, such as open gallbladder removal. This report includes one IQI for laparoscopic gallbladder removal as a utilization measure.

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. For outpatients, the measure is the ICD-9-CM procedure code 51.23, as outpatients do not have APR-DRGs.

## **What are the limitations of utilization comparisons in the report?**

Many factors affect a facility's performance on utilization measures. Such factors include the facility's size, the number of gallbladder patients treated, available specialists, teaching status and especially the medical history of the facility's patients and how ill those patients are. Facilities that treat high-risk (very ill) patients may have higher percentages of open surgeries than facilities that transfer these patients. Facilities also may report patient diagnosis codes differently, which could impact the comparison of utilization measurement among facilities. Utilization indicators adjust for how ill each facility'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.

Higher-risk gallbladder removal patients are usually inpatients. Lower-risk gallbladder removal patients are often outpatients. 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 facility for payment. Many factors will affect the cost of your facility stay, including whether you have health insurance, the type of insurance and the billing procedures at the facility. This report excludes outlier (unusually high) charge cases and length of stay cases from the calculation of average charge for inpatients. It does not exclude outlier charge for outpatients (see Glossary). 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.

Outpatients do not have levels for severity of illness, whereas inpatients do have levels for severity of illness.

## 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

County Name	Hospital Name	Location City, State, Zip	Phone Number
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
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	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

## Hospitals in Utah (continued)

County Name	Hospital Name	Location City, State, Zip	Phone Number
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:

### **Questions are the Answer: Get More Involved in Your Health Care**

**<http://www.ahrq.gov/questionsaretheanswer/index.html>**

### **Guide to Health Quality: How to Know It When You See It**

**<http://www.ahrq.gov/consumer/guidetoq/>**

### **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 Agency for Healthcare Research and Quality (AHRQ), a federal agency charged with overseeing quality of care, developed the Inpatient Quality Indicators (IQIs). The IQIs allow comparison among Utah inpatients and similar inpatients nationwide based on the State Inpatient Databases 2005, 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 2005. 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 Senate Bill 132, the Health Care Consumer's Report Bill, which was passed in 2005.

### **APR-DRGs**

Measures for average facility charge are All Patient Refined Diagnosis Related Groups (APR-DRGs) for similar, though not identical, kinds of gallbladder procedures 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 Technical Document to learn more. For a hard copy, click the Technical Document link and print.

Each APR-DRG has four levels for severity of illness. This report shows average facility charge for minor and moderate severity of illness levels combined and average facility charge for major and extreme severity of illness levels combined. APR-DRGs and severity of illness levels apply to inpatients but not to outpatients. 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 the IQI may not be the same as the number of patients for similar APR-DRGs. 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. For more information, see this report's Technical Document.

## **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 not 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](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.

**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 2005. 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](http://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 2005. 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](http://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](http://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/](http://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 2005. 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 2005. Read more at [www.hcup.ahrq.gov](http://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. 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 except the Veterans Administration. The AHRQ IQI tables include only Utah residents. The APR-DRGs tables include Utah resident and non-resident patients.

## **Gallbladder Terms Used in This Report**

**Bile:** a substance made up of mostly of salts and cholesterol excreted from the liver and stored in the gallbladder. Bile is sent to the small intestine to help digest fatty foods.

**Cholangiogram, percutaneous transhepatic cholangiogram:** an x-ray of the bile ducts inside and outside the liver. The x-ray is taken after contrast medium (dye) is injected. Though the medical community is divided, some surgeons perform an x-ray (cholangiogram) to be sure the bile ducts are intact.

**Cholangitis:** an infection of the common bile duct, the tube that carries bile from the liver to the gallbladder and intestines.

**Cholecystitis:** inflammation of the gallbladder, often causing abdominal pain which can be severe.

**Cholelithiasis:** see gallstones.

**Common bile duct injury:** a rare but serious complication of gallbladder removal. Among laparoscopic gallbladder removals, it occurs in less than one in 200 patients.

**Gallbladder:** an organ that stores bile excreted from the liver.

**Gallbladder disease:** includes inflammation, infection, stones, or obstruction of the gallbladder.

**Gallbladder removal:** surgery to remove the gallbladder. The surgery is usually done if the gallbladder is inflamed or blocked, if gallstones are causing inflammation of the pancreas or if cancer is suspected.

**Gallstones:** hard objects that form within the gallbladder and its ducts. Gallstones occur when bile gets too thick and forms stones resembling gravel, peas or even olives. These stones can cause blockages, infection, jaundice, stagnant bile and cholangitis which may require hospitalization and surgery.

**Laparoscopic gallbladder removal:** the surgeon removes the gallbladder using small instruments, including a camera. The surgeon inserts these instruments into the abdomen through small puncture holes near the belly button and below the ribs. The surgeon finds the gallbladder, cuts its vessels and tubes, and removes it. Another minimally invasive procedure (called endoscopic retrograde cholangiopancreatography) removes the gallstones through the mouth and stomach.

**Laparoscopic to open gallbladder removal:** sometimes the surgeon begins a laparoscopic gallbladder removal but must change to an open gallbladder removal. The change in plan may be due to how the patient's organs are positioned, past abdominal surgeries or other reasons.

**Open gallbladder removal:** the surgeon removes the gallbladder through an incision (cut) four to eight inches long below the right ribs. Patients who have had previous abdominal surgery or certain medical conditions may need open rather than laparoscopic gallbladder removal.

**Note:**

Medical terms for gallbladder conditions and procedures are based on Healthfinder, <http://www.healthfinder.gov/library/> and MedlinePlus, <http://www.nlm.nih.gov/medlineplus/encyclopedia.html>

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## **Gallbladder Resources for Consumers**

If you would like to learn more about gallbladder problems and treatments, below is a list of reputable state and national websites that you might find helpful.

**American College of Gastroenterology** – website containing educational materials developed by physician experts on gallbladder disease. Good resource for understanding risk factors in women.

**American College of Surgeons** – offers an informative eight-page consumer brochure covering gallbladder removal topics such as treatment options, risks/possible complications and pain control.

**American Gastroenterological Association** – features information about gallstones and how they form, how they can be treated and alternatives to gallbladder removal.

**National Digestive Diseases Information Clearinghouse (NDDIC)** - established in 1980 to increase knowledge and understanding about digestive diseases among people with these conditions and their families, health care professionals, and the general public.

**MedlinePlus** – offers good consumer information about gallbladder removal including medical illustrations and definitions and an overview of surgical risks and complications. Sponsored by the Library of Medicine.

**Society of American Gastrointestinal and Endoscopic Surgeons** - website for patients to better inform themselves about gallbladder surgery. Also included is a helpful patient brochure on laparoscopic gallbladder removal (cholecystectomy).

**Society of Laparoendoscopic Surgeons** – contains patient information for minimally-invasive procedures including laparoscopic gallbladder removal.



# Inpatient Laparoscopic (Lap) Gallbladder Removals in Utah Hospitals (IQI 23)

Age 18 Years and Over: 2006

Hospital	Lap and Open Inpatients	Actual Lap Inpatients
<b>Utah Overall</b>	<b>2,164</b>	<b>83.5%</b>
Alta View Hospital	70	90.0%
American Fork Hospital	49	93.9%
Brigham City Community Hospital	34	91.2%
Castleview Hospital	33	93.9%
Cottonwood Hospital	127	90.6%
Davis Hospital and Medical Center	64	85.9%
Dixie Regional Medical Center	236	94.9%
Jordan Valley Medical Center	126	92.9%
Lakeview Hospital	48	100.0%
LDS Hospital	211	69.2%
Logan Regional Hospital	70	88.6%
McKay-Dee Hospital Center	128	60.9%
Mountain View Hospital	38	92.1%
Ogden Regional Medical Center	40	82.5%
Pioneer Valley Hospital	85	67.1%

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**Utah overall had a higher percentage of laparoscopic gallbladder removals (83.5%) than similar inpatients nationwide (about 76%).**

**Laparoscopic surgery (lap) requires smaller incisions and quicker recovery for the patient, so it is usually preferable. However, the doctor may start a lap, find unanticipated problems and change to an open surgery. Other patients with known complex medical problems require planned open surgery.**

[See additional hospitals that treated at least one patient but less than 30 patients.](#)  
[View Data Limitations.](#)

**Actual:** percentage of gallbladder removal inpatients who had laparoscopic gallbladder removals at this hospital.

# Inpatient Laparoscopic (Lap) Gallbladder Removals in Utah Hospitals (IQI 23)

Age 18 Years and Over: 2006

- CONTINUED -

Hospital	Lap and Open Inpatients	Actual Lap Inpatients
<b>Utah Overall</b>	<b>2,164</b>	<b>83.5%</b>
Salt Lake Regional Medical Center	35	82.9%
Sevier Valley Medical Center	35	100.0%
St. Mark's Hospital	233	82.4%
University Health Care	75	60.0%
Utah Valley Regional Medical Center	203	88.7%
Valley View Medical Center	45	93.3%
Veterans Administration Medical Center	39	56.4%

**Utah overall had a higher percentage of laparoscopic gallbladder removals (83.5%) than similar inpatients nationwide (about 76%).**

**Laparoscopic surgery (lap) requires smaller incisions and quicker recovery for the patient, so it is usually preferable. However, the doctor may start a lap, find unanticipated problems and change to an open surgery. Other patients with known complex medical problems require planned open surgery.**

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[See additional hospitals that treated at least one patient but less than 30 patients.](#)  
[View Data Limitations.](#)

**Actual:** percentage of gallbladder removal inpatients who had laparoscopic gallbladder removals at this hospital.

**These Hospitals Treated Between 1 and 29  
Gallbladder Removal Inpatients in 2006**

Allen Memorial Hospital  
Ashley Regional Medical Center  
Bear River Valley Hospital  
Cache Valley Specialty Hospital  
Central Valley Hospital  
Delta Community Medical Center  
Gunnison Valley Hospital  
Heber Valley Medical Center  
Mountain West Medical Center  
Sanpete Valley Hospital  
Timpanogos Regional Hospital  
Uintah Basin Medical Center

# Inpatient Gallbladder Removal - Open

(APR-DRG 262), Age 18 Years and Over

## Average Hospital Charges, Utah: 2006

Facility	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Inpatients	Average Charge	Inpatients	<u>Average Charge</u>
<b>Utah Overall</b>	<b>156</b>	<b>\$18,699</b>	<b>74</b>	<b>\$40,285</b>
Alta View Hospital	<5	\$9,035	0	\$0
American Fork Hospital	<5	\$16,543	0	\$0
Ashley Valley Medical Center	6	\$18,137	<5	\$22,809
Brigham City Community Hospital	5	\$21,889	<5	\$22,548
Castleview Hospital	<5	\$28,887	0	\$0
Cottonwood Hospital	5	\$12,519	<5	\$34,275
Davis Hospital & Medical Center	5	\$23,890	<5	\$47,463
Dixie Regional Medical Center	<5	\$14,867	6	\$29,584
Heber Valley Medical Center	<5	\$18,562	0	\$0
Jordan Valley Hospital	<5	\$29,147	5	\$49,275
LDS Hospital	16	\$15,442	10	\$43,018
Logan Regional Hospital	7	\$15,812	<5	\$48,215
McKay-Dee Hospital	37	\$16,899	6	\$34,914
Mountain View Hospital	<5	\$27,300	0	\$0
Ogden Regional Medical Center	6	\$23,584	<5	\$60,284
Pioneer Valley Hospital	11	\$24,599	<5	\$55,848
Salt Lake Regional Medical Center	<5	\$34,513	<5	\$48,379
St. Mark's Hospital	12	\$18,740	9	\$37,895
Timpanogos Regional Hospital	<5	\$31,525	0	\$0
University Health Care	15	\$18,686	<5	\$51,009
Utah Valley Regional Medical Center	9	\$18,100	9	\$35,219
Veterans Administration Medical Center	<5	Not Available	10	Not Available

### Table Legend

< 5 = 1 to 4 patients

### State average hospital length of stay

Minor/Moderate is 2.9 days

Major/Extreme is 4.6 days.

[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 gallbladder problems and other serious conditions 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.

# Inpatient Gallbladder Removal - Laparoscopic

(APR-DRG 263), Age 18 Years and Over

## Average Hospital Charges, Utah: 2006

Facility	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Inpatients	Average Charge	Inpatients	<u>Average Charge</u>
<b>Utah Overall</b>	<b>1,636</b>	<b>\$13,220</b>	<b>408</b>	<b>\$24,647</b>
Allen Memorial Hospital	6	\$12,076	0	\$0
Alta View Hospital	67	\$10,212	17	\$16,526
American Fork Hospital	47	\$11,663	10	\$18,289
Ashley Valley Medical Center	17	\$14,200	<5	\$20,950
Bear River Valley Hospital	5	\$10,876	<5	\$10,946
Brigham City Community Hospital	27	\$10,839	6	\$18,793
Cache Valley Specialty Hospital	<5	\$12,183	<5	\$9,542
Castleview Hospital	23	\$14,960	11	\$19,891
Central Valley Medical Center	10	\$10,977	<5	\$20,816
Cottonwood Hospital	90	\$10,090	32	\$20,545
Davis Hospital & Medical Center	57	\$17,099	10	\$23,080
Delta Community Medical Center	<5	\$7,017	0	\$0
Dixie Regional Medical Center	232	\$10,590	39	\$24,970
Gunnison Valley Hospital	<5	\$9,075	0	\$0
Heber Valley Medical Center	5	\$11,818	<5	\$31,505
Jordan Valley Hospital	107	\$18,476	19	\$29,376
Lakeview Hospital	44	\$12,628	11	\$30,132
LDS Hospital	123	\$13,004	37	\$27,169
Logan Regional Hospital	70	\$10,271	18	\$15,062
McKay-Dee Hospital	79	\$12,110	29	\$24,627
Mountain View Hospital	33	\$15,744	14	\$34,123
Mountain West Medical Center	13	\$19,090	<5	\$28,813
Ogden Regional Medical Center	27	\$17,132	11	\$26,939

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### Table Legend

< 5 = 1 to 4 patients

### State average facility length of stay

Minor/Moderate is 2.3 days

Major/Extreme is 5.6 days.

[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 gallbladder problems and other serious conditions 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.

# Inpatient Gallbladder Removal - Laparoscopic

(APR-DRG 263), Age 18 Years and Over

Average Hospital Charges, Utah: 2006

- CONTINUED -

Facility	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Patients	Average Charge	Patients	<u>Average Charge</u>
<b>Utah Overall</b>	<b>1,636</b>	<b>\$13,220</b>	<b>408</b>	<b>24,647</b>
Pioneer Valley Hospital	47	\$16,991	13	\$40,379
Salt Lake Regional Medical Center	31	\$17,824	<5	\$27,472
Sanpete Valley Hospital	6	\$12,500	<5	\$20,432
Sevier Valley Hospital	32	\$12,454	6	\$24,158
St. Mark's Hospital	137	\$14,591	29	\$30,981
Timpanogos Regional Hospital	21	\$17,566	7	\$20,651
Uintah Basin Medical Center	16	\$10,204	<5	\$14,801
University Health Care	50	\$14,504	11	\$23,917
Utah Valley Regional Medical Center	152	\$13,577	45	\$24,132
Valley View Medical Center	37	\$10,547	6	\$12,629
Veterans Administration Medical Center	18	\$0	6	\$0

## Table Legend

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## Outpatient Gallbladder Removal - Laparoscopic (ICD9 51.23)

Age 18 Years and Over

Average Total Charges, Utah: 2006

Facility	Outpatients	Average Charge
<b>Utah Overall</b>	<b>5,923</b>	<b>\$6,258</b>
Alta View Hospital	240	\$4,160
American Fork Hospital	293	\$4,689
Ashley Regional Medical Center	65	\$10,280
Bear River Valley Hospital	28	\$6,566
Brigham City Community Hospital	91	\$7,332
Cache Valley Specialty Hospital	27	\$5,999
Castleview Hospital	101	\$8,867
Central Valley Medical Center-CAH	5	\$5,839
Cottonwood Hospital	655	\$4,125
Davis Hospital & Medical Center	211	\$8,245
Delta Community Medical Center-CAH	<5	\$5,306
Dixie Regional Medical Center	250	\$5,617
Garfield Memorial Hospital	5	\$2,841
Gunnison Valley Hospital-CAH	64	\$5,284
Heber Valley Medical Center-CAH	24	\$7,764
Jordan Valley Hospital	158	\$11,747
Lakeview Hospital	148	\$7,393
LDS Hospital	590	\$5,165
Logan Regional Hospital	161	\$4,697
McKay-Dee Hospital	644	\$5,866

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336 additional outpatients had laparoscopic gallbladder removals at freestanding ambulatory surgery centers. 95 additional outpatients were coded as having open gallbladder removals. These 431 outpatients are not included in this table.

### Table Legend

< 5 = 1 to 4 patients

### State average hospital length of stay

Most outpatients stay less than 24 hours.  
A few may stay longer for observation.

[View Data Limitations.](#)

**Level of Illness:** Not available for outpatients. Most outpatients probably have relatively simple gallbladder problems and straightforward laparoscopic gallbladder removals.

**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.

## Outpatient Gallbladder Removal - Laparoscopic (ICD9 51.23)

Age 18 Years and Over

Average Total Charges, Utah: 2006

- CONTINUED -

Facility	Outpatients	<u>Average Charge</u>
<b>Utah Overall</b>	<b>5,923</b>	<b>\$6,258</b>
Mountain View Hospital	106	\$6,479
Mountain West Medical Center	57	\$11,976
Ogden Regional Medical Center	166	\$9,432
Pioneer Valley Hospital	86	\$9,495
Salt Lake Regional Medical Center	78	\$9,533
San Juan Hospital	8	\$9,254
Sanpete Valley Hospital-CAH	61	\$5,771
Sevier Valley Hospital	53	\$7,671
St. Mark's Hospital	424	\$6,927
St. Mark's Outpatient Surgical Center	36	\$4,973
Timpanogos Regional Hospital	108	\$8,586
Uintah Basin Medical Center	49	\$6,269
University Health Care	165	\$6,334
Utah Surgical Center	54	\$6,337
Utah Valley Regional Medical Center	538	\$6,015
Valley View Medical Center	172	\$5,005

336 additional outpatients had laparoscopic gallbladder removals at freestanding ambulatory surgery centers. 95 additional outpatients were coded as having open gallbladder removals. These 431 outpatients are not included in this table.

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