

# Adult Pneumonia Care in Utah Hospitals Quality and Charges, 2005-2007

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Released January, 2009

## **Introduction**

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

To learn important information about pneumonia care, see “Pneumonia Resources” later in this report.

### **Did you know?**

- Pneumonia is a serious lung disease that can affect anyone
- More than 500 Utahns died from pneumonia in 2005-2007
- Pneumonia is the sixth leading cause of death in the U.S.

To learn important information about pneumonia, including symptoms and common treatments, please click on “Pneumonia Resources” to the right in this report and visit the [American Lung Association](#) website.

## **Hospital Quality**

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

- ✓ Pneumonia Deaths in Utah Hospitals

This measure shows the percentage of in-hospital deaths among adult pneumonia patients. A particular hospital’s percentage of deaths depends on its patients’ medical history and how ill its patients are. You should consult your health care professional for help in understanding the best treatment options for you.

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

Read more about methods and measures used for the hospital utilization section in this report in [Methods and Measures](#).

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

## **Hospital Charges**

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

✓ Pneumonia Among Adults

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

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

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

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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.**

## **Key Findings**

### **How did Utah’s quality of pneumonia care in hospitals compare with the nation from 2005 through 2007?**

Utah overall (as a state) had a lower rate of expected deaths among adult pneumonia inpatients, compared to other similar patients in the U.S. Rates and measures used are in parentheses.

510 (3.1%) of 16,237 adult pneumonia inpatients died in Utah hospitals (IQI 20).

Among the 39 Utah hospitals that treated 30 or more adult pneumonia inpatients

- 11 hospitals had a lower rate of deaths than expected.
- 28 hospitals had about the same rate of deaths as expected.
- No hospital had a higher rate of deaths than expected.

There are many kinds of pneumonia as well as many causes and risk factors. This report includes some of the more common kinds of bacterial, viral and mycoplasma pneumonia among adults. See the [Technical Document](#).

Note that many factors can affect in-hospital pneumonia deaths at a particular hospital. The measures in this report include pneumonia patients with do not resuscitate orders and other pneumonia patients not expected to recover. Read more in “About the Report”.

### **How did hospital charges differ among Utah hospitals in 2007?**

Average hospital charges for the adult pneumonia inpatients (APR-DRG 139 Other Pneumonia) in this report differed widely. Among the 39 Utah hospitals that reported charges for adult pneumonia inpatients, average hospital charge ranged from

- \$5,294 to \$12,606 for patients at the minor/moderate severity of illness level
- \$5,258 to \$24,500 for patients at the major/extreme severity of illness level

As expected, average hospital charges for patients treated at the major/extreme severity of illness level tend to be higher than at the minor/moderate severity of illness level. Often these patients require more complex treatment and longer hospital stays than patients at the minor/moderate illness level. However, patients who are very ill and die before they receive much treatment or have “do not resuscitate” orders may have low charges. Also, APR-DRG 139 Other Pneumonia includes several of the more common kinds of pneumonia, similar but not identical to the kinds in the quality indicators. See the Technical Document for details.

Note that many factors will affect hospital charges. Read more in “About the Report”.

## **About the Report**

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

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

- Senate Bill 132 (2005) requires the Health Data Committee (HDC) and its staff to publish reader-friendly reports comparing Utah’s hospitals 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.

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

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

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

- 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.

- Utah Transparency Advisory Panel (formerly called “SB 132 Task Force) is an HDC advisory group represented by consumers, payers, hospitals, quality organizations and public health. Panel members have advised staff about methods and measures to use in the reports as well as reporting priorities.
  - 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.

## **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.”

## **About the Data**

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

Most of the data in this report come from health care hospital claim records. Utah hospitals are required by law to submit a standard set of information about each inpatient who spends at least 24

hours in the hospital to the Office of Health Care Statistics, Utah Department of Health, for the Utah Hospital Discharge Database. The Agency for Healthcare Research and Quality (AHRQ), a federal agency in charge of quality of care, provided national information. For further information visit the AHRQ website <http://www.ahrq.gov/>

### **Have the data been verified by others?**

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

### **Why use these indicators/measures?**

SB 132 mandates that the comparison reports use nationally recognized quality standards. A federal agency charged with overseeing health care quality, the Agency for Healthcare Research and Quality (AHRQ), developed the Inpatient Quality Indicators (IQIs). The IQIs allow comparison among Utah hospitals with similar patients nationwide. This report shows one IQI for pneumonia. 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 measure for average charge is an All Patient Refined Diagnosis Related Group (APR-DRG) for similar, though not identical, conditions and procedures among inpatients. For this reason, the number of patients for the APR-DRG and the IQI is not the same. Also, keep in mind that for death rates, three years of data are used, while a single year is used for charge.

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

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

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

The average charge shown in this report differs from "costs," "reimbursement," "price" and "payment." Different payers have different arrangements with each hospital for payment. Many factors will affect the cost of your hospital stay, including whether you have health insurance, the type of insurance and the billing procedures at the hospital. This report excludes outlier (unusually high) charge cases and length of stay cases from the calculation of average charge for inpatients. It does not

exclude outlier charge for outpatients (see Glossary and Technical Document). While APR-DRGs do consider levels for each inpatient's severity of illness, these levels may not completely reflect the complexity of the inpatient's condition. The indicators used in this report do not distinguish between patients expected to recover and patients with do-not-resuscitate (DNR) orders or patients receiving palliative care (comfort care).

## Hospitals in Utah

County Name	Hospital Name	Location City, State, Zip	Phone Number
Beaver	Beaver Valley Hospital	Beaver, UT 84713	(435) 438-7100
Beaver	Milford Valley Memorial Hospital	Milford, UT 84751	(435) 387-2411
Box Elder	Bear River Valley Hospital	Tremonton, UT 84337	(435) 257-7441
Box Elder	Brigham City Community Hospital	Brigham City, UT 84302	(435) 734-9471
Cache	Cache Valley Specialty Hospital	North Logan, UT 84341	(435) 713-9700
Cache	Logan Regional Hospital	Logan, UT 84341	(435) 716-1000
Carbon	Castleview Hospital	Price, UT 84501	(435) 637-4800
Davis	Davis Hospital & Medical Center	Layton, UT 84041	(801) 807-1000
Davis	Lakeview Hospital	Bountiful, UT 84010	(801) 299-2200
Duchesne	Uintah Basin Medical Center	Roosevelt, UT 84066	(435) 722-4691
Garfield	Garfield Memorial Hospital	Panguitch, UT 84759	(435) 676-8811
Grand	Allen Memorial Hospital	Moab, UT 84532	(435) 259-7191
Iron	Valley View Medical Center	Cedar City, UT 84720	(435) 868-5000
Juab	Central Valley Medical Center	Nephi, UT 84648	(435) 623-3000
Kane	Kane County Hospital	Kanab, UT 84741	(435) 644-5811
Millard	Delta Community Medical Center	Delta, UT 84624	(435) 864-5591
Millard	Fillmore Community Medical Center	Fillmore, UT 84631	(435) 743-5591
Salt Lake	Alta View Hospital	Sandy, UT 84094	(801) 501-2600
Salt Lake	Intermountain Medical Center	Murray, UT 84157	(801)-507-7000
Salt Lake	Jordan Valley Medical Center	West Jordan, UT 84088	(801) 561-8888
Salt Lake	LDS Hospital	Salt Lake City, UT 84143	(801) 408-1100
Salt Lake	The Orthopedic Specialty Hospital	Salt Lake City, UT 84107	(801) 314-4100



## Hospitals in Utah (continued)

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

## **Become an Informed Health Care Consumer**

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

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

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

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

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

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

## **Pneumonia Resources for Consumers**

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

**American Lung Association** - fights lung disease in all its forms, with special emphasis on asthma, tobacco control and environmental health. Research indicates that certain lung conditions can affect the heart too.

**HealthInsight** – is the Quality Improvement Organization (QIO) for both Utah and Nevada. View easy-to-read rankings of Utah hospitals for heart attack, heart failure, pneumonia and surgical infection prevention.

**Hospital Compare** - find information (Medicare data) on how well hospitals care for patients with certain medical conditions or surgical procedures including pneumonia.

**Medline Plus** – short, easy-to read overview about pneumonia including causes, symptoms, exams and treatments. Sponsored by the Library of Medicine.

**Mayo Clinic** – comprehensive patient material regarding pneumonia and when to receive medical attention. Also informative sections on complications, prevention and home care.

## **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. 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.

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

## **Pneumonia Terms Used in This Report**

**Influenza:** a contagious disease that is caused by a virus. When influenza attacks the lungs, the lining of the respiratory tract is damaged. The tissues temporarily become swollen and inflamed but usually heal within two or more weeks. Influenza is often complicated by pneumonia, especially in the elderly. Influenza, especially with pneumonia, can be life threatening. Other name: flu. Read more at <http://www.lungusa.org/site/apps/s/content.asp?c=dvLUK9O0E&b=34706&ct=67283>.

**Pneumonia:** an inflammation of the lung caused by infection with bacteria, viruses, and other organisms. Pneumonia is often a complication of a pre-existing condition/infection and triggered when a patient's defense system is weakened, most often by a simple viral upper respiratory tract infection or a case of influenza, especially in the elderly. This report includes some but not all kinds of pneumonia among adult hospital inpatients (age 18 years and older). The average hospital charge in this report is for patients in the All Patient Refined Diagnosis Related Group 139 (APR-DRG 139) Other Pneumonia. "Other Pneumonia" includes some of the more common kinds of bacterial, viral and mycoplasma pneumonia as well as influenza with pneumonia. It does not include respiratory syncytial viral (RSV) pneumonia, which is more common among children, or many of the rarer kinds of bacterial, viral and fungal pneumonias such as those associated with tuberculosis and cystic fibrosis. The indicator for in-hospital deaths among adult pneumonia patients is more inclusive. For a complete list of the kinds of pneumonia included in these indicators, see the Technical Document in the pneumonia report.

Medical terms for pneumonia are based on American Lung Association definitions at <http://www.lungusa.org>.

# Pneumonia Deaths in Utah Hospitals (IQI 20)

Adults 18 Years and Over: 2005-2007

Hospital	Patients (Denominator)	Actual Rate	Expected Rate	Statistical Rating
<b>Utah Overall</b>	<b>16,237</b>	<b>3.1%</b>	<b>5.1%</b>	<b>***</b>
Allen Memorial Hospital	79	5.1%	2.6%	**
Alta View Hospital	576	2.4%	5.6%	***
American Fork Hospital	470	3.2%	4.7%	**
Ashley Valley Hospital	153	2.0%	3.0%	**
Bear River Valley	84	2.4%	2.5%	**
Beaver Valley Hospital	222	3.6%	2.8%	**
Brigham City Community	84	2.4%	2.9%	**
Castleview Hospital	376	3.7%	3.9%	**
Central Valley Hospital	129	4.7%	3.3%	**
Cottonwood Hospital	956	3.3%	6.2%	***
Davis Hospital	513	4.5%	3.5%	**
Delta Community	68	5.9%	3.3%	**
Dixie Regional	1,090	4.3%	5.5%	**
Fillmore Community	52	0.0%	2.1%	**
Garfield Memorial	121	2.5%	2.8%	**
Gunnison Valley Hospital	173	2.3%	2.0%	**
Heber Valley Hospital	113	1.8%	4.0%	**

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

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

[View Data Limitations.](#)

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

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\*\*\* Lower % deaths than expected, \*\* Same % deaths as expected, \* Higher % deaths than expected

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

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

# Pneumonia Deaths in Utah Hospitals (IQI 20)

Adults 18 Years and Over: 2005-2007

- CONTINUED -

Hospital	Patients (Denominator)	Actual Rate	Expected Rate	Statistical Rating
<b>Utah Overall</b>	<b>16,237</b>	<b>3.1%</b>	<b>5.1%</b>	<b>***</b>
Intermountain Medical Care	58	3.4%	6.6%	**
Jordan Valley Hospital	628	1.8%	4.0%	***
Kane County Hospital	147	1.4%	3.1%	**
LDS Hospital	871	1.8%	6.0%	***
Lakeview Hospital	587	5.8%	6.1%	**
Logan Regional	442	3.2%	5.9%	***
McKay-Dee Hospital	1,268	3.2%	5.9%	***
Mountain View Hospital	314	2.5%	4.7%	**
Mountain West Hospital	200	1.5%	4.3%	**
Ogden Regional	563	2.8%	5.4%	***
Pioneer Valley Hospital	590	2.0%	4.5%	***
Salt Lake Regional	314	2.9%	4.7%	**
San Juan Hospital	76	3.9%	4.3%	**

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

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

[View Data Limitations.](#)

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

\*\*\* Lower % deaths than expected, \*\* Same % deaths as expected, \* Higher % deaths than expected

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

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



# Pneumonia Deaths in Utah Hospitals (IQI 20)

Adults 18 Years and Over: 2005-2007

- CONTINUED -

Hospital	Patients (Denominator)	Actual Rate	Expected Rate	Statistical Rating
<b>Utah Overall</b>	<b>16,237</b>	<b>3.1%</b>	<b>5.1%</b>	<b>* * *</b>
Sanpete Valley Hospital	145	2.1%	2.8%	* *
Sevier Valley Hospital	189	2.6%	3.4%	* *
St. Mark's	1,080	2.5%	6.0%	* * *
Timpanogos Regional	295	3.7%	5.1%	* *
Uintah Basin Hospital	163	3.1%	2.7%	* *
University Health Care	1,173	2.0%	5.6%	* * *
Utah Valley Regional	992	4.9%	6.3%	* *
Valley View Hospital	336	2.4%	3.4%	* *
Veterans Administration Medical Center	530	4.5%	7.5%	* * *

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

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# Pneumonia

(APR-DRG 139, Other Pneumonia, Age 18 Years and Over)

## Average Hospital Charges, 2007

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Patients	Average Charge	Patients	<u>Average Charge</u>
<b>Utah Overall</b>	<b>2,757</b>	<b>\$9,417</b>	<b>1,639</b>	<b>\$16,645</b>
Allen Memorial Hospital	21	\$6,914	10	\$9,353
Alta View Hospital	109	\$9,389	56	\$13,719
American Fork Hospital	94	\$7,946	39	\$13,594
Ashley Regional Medical Center	45	\$8,743	10	\$13,634
Bear River Valley Hospital	22	\$5,294	<5	\$5,258
Beaver Valley Hospital	55	\$7,855	15	\$7,755
Brigham City Community Hospital	18	\$9,127	5	\$10,314
Cache Valley Specialty Hospital	5	\$5,508	<5	\$10,160
Castleview Hospital	83	\$7,572	39	\$11,931
Central Valley Medical Center-CAH	40	\$9,279	15	\$15,556
Cottonwood Hospital	136	\$9,537	116	\$14,468
Davis Hospital & Medical Center	121	\$10,564	47	\$20,865
Delta Community Medical Center-CAH	15	\$6,637	7	\$8,626
Dixie Regional Medical Center	169	\$8,679	74	\$15,967
Fillmore Community Medical Center-CAH	11	\$5,485	<5	\$8,205
Garfield Memorial Hospital	32	\$7,865	11	\$12,506

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### Table Legend

< 5 = 1 to 4 patients

### State average hospital length of stay

Minor/Moderate is 3.1 days

Major/Extreme is 4.7 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 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.

# Pneumonia

(APR-DRG 139, Other Pneumonia, Age 18 Years and Over)

- CONTINUED -

Hospital	Level of Illness			
	Minor/Moderate		Major/Extreme	
	Patients	Average Charge	Patients	<u>Average Charge</u>
<b>Utah Overall</b>	<b>2,757</b>	<b>\$9,417</b>	<b>1,639</b>	<b>\$16,645</b>
Gunnison Valley Hospital-CAH	39	\$6,572	5	\$6,123
Heber Valley Medical Center-CAH	35	\$6,874	14	\$6,402
Intermountain Medical Care	25	\$8,885	28	\$13,185
Jordan Valley Medical Center	160	\$10,803	55	\$24,500
Kane County Hospital	49	\$8,363	6	\$13,535
Lakeview Hospital	91	\$10,926	42	\$17,981
LDS Hospital	110	\$9,037	101	\$14,347
Logan Regional Hospital	84	\$7,905	49	\$12,501
McKay-Dee Hospital	182	\$9,503	124	\$16,204
Mountain View Hospital	32	\$10,640	33	\$20,956
Mountain West Medical Center	40	\$12,227	25	\$18,473
Ogden Regional Medical Center	89	\$11,067	65	\$19,290
Pioneer Valley Hospital	86	\$12,606	64	\$21,991
Salt Lake Regional Medical Center	48	\$12,137	31	\$20,532
San Juan Hospital	23	\$7,798	7	\$14,872
Sanpete Valley Hospital-CAH	48	\$8,493	9	\$10,894
Sevier Valley Medical Center	23	\$7,907	18	\$8,419

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# Pneumonia

(APR-DRG 139, Other Pneumonia, Age 18 Years and Over)

- CONTINUED -

	Level of Illness			
	Minor/Moderate		Major/Extreme	
Hospital	Patients	Average Charge	Patients	<u>Average Charge</u>
<b>Utah Overall</b>	<b>2,757</b>	<b>\$9,417</b>	<b>1,639</b>	<b>\$16,645</b>
St. Mark's Hospital	144	\$11,415	144	\$19,184
Timpanogos Regional Hospital	48	\$12,163	24	\$21,276
Uintah Basin Medical Center	54	\$5,851	21	\$11,727
University Health Care	98	\$8,559	99	\$17,155
Utah Valley Regional Medical Center	125	\$10,120	92	\$21,340
Valley View Medical Center	61	\$8,276	40	\$13,615
Veterans Administration Medical Center	87	Not Available	91	Not Available

## Table Legend

< 5 = 1 to 4 patients

## State average hospital length of stay

Minor/Moderate is 3.1 days

Major/Extreme is 4.7 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 conditions that require more complex treatment.

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