



Colorado Department of Public Health and Environment
Health Facility-Acquired Infections Disclosure Initiative
Semi-Annual Bulletin: Volume 3, No. 1, May 2010
Surgical Site Infections Associated with Inpatient Orthopedic Operative Procedures
In Colorado Hospitals

Introduction

This report was written to fulfill the requirements set forth in the Hospital-Acquired Infections Disclosure Act (Colorado Revised Statute title 25, article 3, part 6). The Act requires hospitals, hospital units, ambulatory surgery centers and dialysis treatment centers to report health facility-acquired infections data as a condition of their state licensure. The Colorado Department of Public Health and Environment (CDPHE) is the lead state agency administering the initiative. CDPHE is required to produce semi-annual bulletins disclosing the results of the data collected.

This bulletin is the first semi-annual bulletin for 2010 and focuses on surgical site infections (SSIs) associated with hip and knee replacement (total or partial) inpatient procedures in Colorado Hospitals. The tables in this bulletin show the results of SSI data collected by hospitals that perform these procedures. The reporting period includes surgeries performed from July 1, 2008 through December 31, 2008. Although data from this time period has been presented previously, CDPHE and the Colorado Health Facilities Acquired Infections Advisory Committee felt it was important to present this data again to ensure accurate reporting. Hospitals are required to track patients who have had procedures with implants for a year to determine if they developed an infection. Previous reports did not allow for the one year of surveillance.

In Colorado, 57 hospitals perform hip replacement surgeries and 56 provide knee replacement surgeries that meet the National Healthcare Safety Network (NHSN) definitions. This bulletin presents data submitted from 54 hospitals that performed hip replacement procedures and 54 hospitals that performed knee replacement procedures during the specified reporting period. Three hospitals performed no hip replacements and two performed no knee replacements during this reporting period. The data presented in this report were submitted by the hospitals through the NHSN. CDPHE uses the NHSN to access the data and format the information for presentation to the general public and depends on accurate information from reporting facilities. CDPHE does not yet perform data validation or audit facilities to ensure the data are complete but is preparing to do validation on procedure data, similar to the data presented in this report, beginning in 2011. This report should be used as one of many healthcare quality evaluation tools and cannot, on its own, provide a complete picture of healthcare in Colorado.

This bulletin will focus on inpatient orthopedic operative procedures performed in acute care hospitals. All acute care hospitals operating in Colorado must be licensed by the State.

Surgical Site Infections

Surgical site infections (SSIs) are infections that are directly related to operative procedures. Facilities providing certain cardiac, orthopedic and abdominal procedures are required to report these procedures and any surgical site infection associated with the procedure to the NHSN. Hip and knee prostheses fall under the orthopedic procedure category.

Infections can occur at the site of the incision typically within the first 30 days of the procedure or within one year if an implant is left in place. Symptoms of an infection can include drainage from the incision, pain, tenderness, swelling or redness.

The decision to report on SSIs for specific types of surgeries is based on scientific evidence about HAIs. Some of the reasons to target these types of surgeries are:

- High volume procedures;
- Expensive for healthcare payers; and
- Performed at a number of health facilities in Colorado – often allowing consumers to choose where to receive treatment.

Surgical procedures selected for reporting are performed in a variety of facilities, and tend to be associated with health facility-acquired infections.

Most SSIs from these types of surgeries can:

- Be prevented by following established prevention techniques;
- Easily be detected and reported accurately; and
- Have a devastating impact on the patient's quality of life.

NHSN assigns each surgical patient a risk category based on risk factors collected by each reporting facility. These risk factors include: (1) Duration of procedure, (2) Wound class (clean, contaminated, or dirty/infected), and (3) the American Society of Anesthesiologists (ASA) score. The ASA score, a pre-operative rating assigned to each patient, is a measure of the patient's general health status and co-existing conditions. Currently, the ASA score is the only indicator of pre-existing conditions in the NHSN system. The patient's risk category is assigned by the NHSN based on the number of risk factors at the time of surgery. Patients with no risk factors are considered low risk; patients with one risk factor are considered moderate risk; and patients with two or three risk factors are considered high risk.

Hospitals will vary in regard to the types of patients they treat. Some hospitals are more likely to treat severely ill patients, those in poor physical condition and/or those with contaminated or infected wounds who are at a higher risk for infection. These hospitals may have higher infection rates due to the higher proportion of high risk patients.

Orthopedic Operative Procedures

A NHSN operative procedure is a procedure 1) that is performed on a patient who is an inpatient or an outpatient; and 2) takes place during an operation (defined as a single trip to the operating room (OR)) where a surgeon makes at least one incision through the skin or mucous membrane, including laparoscopic approach, and closes the incision before the patient leaves the OR.

House Bill 1045 defined specific clinical procedures for which health facilities shall collect health facility-acquired infection data and report to the NHSN. Orthopedic operative procedures were included in those specific procedures. Orthopedic operative procedures include hip and knee prostheses (total or partial). A hip prosthesis is hip joint replacement surgery that replaces all or part of the hip joint with an artificial device. The procedure consists of a cup, which is typically plastic, ceramic or metal that will replace the hip socket, a metal or ceramic ball that replaces the head of the thighbone and finally a metal stem that attaches to the bone. A knee prosthesis is a knee joint replacement that replaces all or part of the knee joint with an artificial device. In this procedure, the patella (kneecap) is removed, the femur (thigh bone) and tibia (shin bone) are cut down and a metal, ceramic or plastic prosthesis is put in place.

Results

The tables below present data from surgeries performed from July 1, 2008 – December 31, 2008. Tables 1 a-c below show data submitted by 54 of the Colorado hospitals who performed inpatient hip prosthesis procedures during this reporting period. Tables 2 a-c below show data submitted by 54 of the Colorado hospitals who performed inpatient knee prosthesis procedures during this reporting period.

The standardized infection ratio (SIR) is a risk adjusted summary measure that accounts for the type of procedure and risk category. The SIR provides an overall score for a procedure at each health facility based on the expected number of infections after adjusting for the risk category. It is the ratio of the observed to expected number of SSIs. If the SIR value is greater than 1.0, there are more infections than expected. If the SIR value is less than 1.0, then fewer infections occurred than expected. A statistical test (Poisson test) is used to determine if the difference is statistically significant. It is important to note that it is possible for a facility's SIR to be higher or lower than 1.0, but, due to statistical comparison and the total number of procedures and infections, not be significantly better or worse than the national rate. Also, it is possible for an SIR to be statistically high or low, even when a different facility has an even

higher or lower (respectively) SIR that is not statistically significant; again, this is due to the numbers of procedures, infections, and the statistical testing process.

Based on concerns from Colorado healthcare practitioners on how this data was originally presented, CDPHE epidemiologists and statisticians developed a method of risk stratification that CDPHE believes more fairly compares the infections rates of hospitals. The data presented in this report groups the hospitals by the percentage of high risk procedures the hospital performed during the reporting time frame. A SIR is calculated for each facility and among the risk group and compares each SIR to the national infection rate and the risk group infection rate.

This is CDPHE's first attempt at presenting the data stratified by risk to more fairly compare hospitals. Work is being done at the national level to improve risk adjusted data as well. The Centers for Disease Control staff have plans to modify the procedure-specific data reported to the NHSN and construct improved risk models as additional procedure-specific data become available to the NHSN. However, such modifications to the surveillance system must be weighed with the additional data collection burden.

Each table lists the hospital's name, city, the percentage of high risk procedures the hospital performed, the number of procedures performed, number of infections associated with those procedures, the hospital's standardized infection ratio (SIR), a comparison to the national infection rate, the risk group specific SIR, and a comparison to the other facilities within the same risk group.

There are three categories summarizing how a Colorado hospital compares to the other hospitals in the nation and within the risk group for each specific procedure.

1. Hospital has a statistically lower (better) infection rate than the national rate;
2. Hospital has an infection rate that is statistically the same as the national rate; or
3. Hospital has a statistically higher (worse) infection rate than the national rate.

The facilities are divided into three different groups: those performing a high percentage of procedures on high risk patients, those performing a medium percentage of procedures on high risk patients and those performing a low percentage of procedures on high risk patients. High risk procedures include those performed on patients with risk categories of two or three. Generally, most patients in the high risk category are those in poor physical condition, have contaminated or infected surgical wounds and require longer than average surgeries. For each orthopedic operative procedure in this report, the number of procedures performed on high risk patients was divided by the total number of procedures performed during the reporting period. This number resulted in the percent of procedures performed on high risk patients in each facility, which ranged from 0 – 100%. The facilities were then grouped based upon the percentage of procedures performed on high risk patients. In the first group, the facilities performed between 15 – 100% of their hip and knee replacements on high risk patients. In the second group, the facilities performed between 5 – 14.9% of their procedures on high risk patients. In the third group, the facilities performed between 0 – 4.9% procedures on high risk patients.

Cautions

There are some cautions consumers should be aware of when interpreting the data in this report. Infections are not the only adverse event that may happen to a consumer. It is important to weigh other factors in judging the quality of healthcare. Consumers should always consult with their doctor, healthcare facility, health insurance carrier, family and friends before deciding where to receive care. Consumers should consider the experience of the facility, staff and other quality of care indicators in addition to the SSI data below.

It is important to note, initiatives involving electronic reporting systems require time to allow facilities to become familiar with the requirements and ensure the system is used correctly. Acute care hospitals have been reporting to the NHSN since 2007. However, NHSN definitions are complex and according to other states can be interpreted differently. CDPHE will not know how facilities are interpreting the definitions until validation is conducted. Validation of the procedure data is planned for 2011.

Table 1a: Hip Replacement (total or partial) Procedures in Hospitals that Performed a High Percentage of Procedures on High Risk Patients, Inpatient, July 1, 2008 – December 31, 2008

Hip Replacement Procedures in Hospitals that Performed a High Percentage of Procedures on High Risk Patients, Inpatient Reporting period: July 1, 2008 - December 31, 2008								
Hospitals that Performed a <u>HIGH</u> Percentage of Procedures on High Risk Patients	Region	% of High Risk Procedures Performed	Procedure Count	Infection Count	Standardized Infection Ratio (SIR) ^	National Comparison**	Standardized Infection Ratio (SIR) by Risk Group	Risk Group Comparison
Animas Surgical Hospital	Durango	50.0%	12	0	0.0	Same	0.0	Same
Aspen Valley Hospital	Aspen	25.0%	4	***	***	***	***	***
Centura St Mary Corwin Medical Center	Pueblo	15.4%	65	0	0.0	Same	0.0	Same
Denver Health Medical Center	Denver	16.7%	36	2	4.6	Same	5.1	Same
Exempla St Joseph Hospital	Denver	37.1%	232	1	0.3	Same	0.3	Same
Grand River Medical Center	Rifle	100.0%	1	***	***	***	***	***
Longmont United Hospital	Longmont	35.1%	57	0	0.0	Same	0.0	Same
Medical Center of the Rockies	Loveland	38.7%	31	2	3.7	Same	4.3	Same
Memorial Hospital Central	Colorado Springs	27.7%	217	2	0.6	Same	0.7	Same
North Colorado Medical Center	Greeley	18.1%	72	1	1.0	Same	1.2	Same
Parkview Medical Center	Pueblo	17.6%	68	1	1.0	Same	1.3	Same
Sterling Regional Medical Center	Sterling	20.0%	20	1	3.6	Same	4.3	Same
The Children's Hospital	Aurora	50.0%	8	***	***	***	***	***

^The Standardized Infection Ratio (SIR) is the ratio of observed to expected infections and is adjusted for procedure risk.

***Infections data for hospitals with fewer than 10 procedures performed in the six-month period are suppressed to protect confidential health information. These hospitals have met the reporting requirements.

**National comparison based on data collected and reported by NHSN participating hospitals from 2006-2008.

Table 1b: Hip Replacement (total or partial) Procedures in Hospitals that Performed a Medium Percentage of Procedures on High Risk Patients, Inpatient, July 1, 2008 – December 31, 2008

Hip Replacement Procedures in Hospitals that Performed a Medium Percentage of Procedures on High Risk Patients, Inpatient Reporting period: July 1, 2008 - December 31, 2008								
Hospitals that Performed a <u>MEDIUM</u> Percentage of Procedures on High Risk Patients	Region	% of High Risk Procedures Performed	Procedure Count	Infection Count	Standardized Infection Ratio (SIR)^	National Comparison**	Standardized Infection Ratio (SIR) by Risk Group	Risk Group Comparison
Centura Littleton Adventist Hospital	Littleton	11.5%	26	0	0.0	Same	0.0	Same
Centura St Francis Medical Center	Colorado Springs	10.0%	40	0	0.0	Same	0.0	Same
Colorado Plains Medical Center	Fort Morgan	7.7%	13	0	0.0	Same	0.0	Same
Community Hospital	Grand Junction	8.3%	48	3	5.1	Worse	4.0	Worse
Delta County Memorial Hospital	Delta	7.4%	27	0	0.0	Same	0.0	Same
Exempla Good Samaritan Medical Center	Lafayette	8.2%	122	0	0.0	Same	0.0	Same
Memorial Hospital North	Colorado Springs	5.7%	35	1	3.0	Same	2.6	Same
Mercy Regional Medical Center	Durango	14.7%	34	0	0.0	Same	0.0	Same
Montrose Memorial Hospital	Montrose	14.3%	21	0	0.0	Same	0.0	Same
North Suburban Medical Center	Thornton	14.3%	21	1	3.5	Same	2.9	Same
Platte Valley Medical Center	Brighton	11.1%	9	***	***	***	***	***
Poudre Valley Hospital	Fort Collins	11.8%	203	4	1.6	Same	1.4	Same
Presbyterian St Luke's Medical Center	Denver	11.0%	118	0	0.0	Same	0.0	Same
Rose Medical Center	Denver	6.0%	167	1	0.6	Same	0.5	Same
San Luis Valley Regional Medical Center	Alamosa	13.3%	15	0	0.0	Same	0.0	Same
Sky Ridge Medical Center	Lone Tree	7.0%	86	2	2.1	Same	1.7	Same
St Mary's Hospital	Grand Junction	8.8%	125	1	0.7	Same	0.5	Same
University of Colorado Hospital	Aurora	12.1%	99	4	3.3	Worse	2.8	Same
Valley View Hospital	Glenwood Springs	10.0%	30	0	0.0	Same	0.0	Same
Yampa Valley Medical Center	Steamboat Springs	5.6%	18	0	0.0	Same	0.0	Same

^The Standardized Infection Ratio (SIR) is the ratio of observed to expected infections and is adjusted for procedure risk.

***Infections data for hospitals with fewer than 10 procedures performed in the six-month period are suppressed to protect confidential health information. These hospitals have met the reporting requirements.

**National comparison based on data collected and reported by NHSN participating hospitals from 2006-2008.

Table 1c: Hip Replacement (total or partial) Procedures in Hospitals that Performed a Low Percentage of Procedures on High Risk Patients, Inpatient, July 1, 2008 – December 31, 2008

Hip Replacement Procedures in Hospitals that Performed a Low Percentage of Procedures on High Risk Patients, Inpatient Reporting period: July 1, 2008 - December 31, 2008								
Hospitals that Performed a <u>LOW</u> Percentage of Procedures on High Risk Patients	Region	% of High Risk Procedures Performed	Procedure Count	Infection Count	Standardized Infection Ratio (SIR) ^	National Comparison**	Standardized Infection Ratio (SIR) by Risk Group	Risk Group Comparison
Boulder Community Hospital	Boulder	4.0%	149	0	0.0	Same	0.0	Same
Centura Avista Adventist Hospital	Louisville	3.8%	52	2	3.4	Same	3.3	Same
Centura Penrose St Francis Health	Colorado Springs	4.2%	166	1	0.5	Same	0.5	Same
Centura Porter Adventist Hospital	Denver	3.9%	259	7	2.6	Worse	2.8	Worse
Centura St Anthony Central Hospital	Denver	2.3%	131	1	0.7	Same	0.7	Same
Centura St Anthony North Hospital	Westminster	0.0%	24	0	0.0	Same	0.0	Same
Centura St Thomas More Hospital	Canon City	0.0%	20	0	0.0	Same	0.0	Same
Colorado Mental Health Institute at Pueblo	Pueblo	0.0%	1	***	***	***	***	***
Colorado Orthopaedic & Surgical Hospital	Denver	0.0%	4	***	***	***	***	***
East Morgan County Hospital	Brush	0.0%	3	***	***	***	***	***
Exempla Lutheran Medical Center	Wheat Ridge	1.5%	194	1	0.6	Same	0.7	Same
Gunnison Valley Hospital	Gunnison	0.0%	5	***	***	***	***	***
McKee Medical Center	Loveland	4.9%	61	0	0.0	Same	0.0	Same
Parker Adventist Hospital	Parker	0.0%	16	0	0.0	Same	0.0	Same
Southwest Memorial Hospital	Cortez	0.0%	14	0	0.0	Same	0.0	Same
St Anthony Summit Medical Center	Frisco	0.0%	4	***	***	***	***	***
Swedish Medical Center	Englewood	4.9%	122	2	1.4	Same	1.4	Same
The Medical Center of Aurora	Aurora	2.2%	138	0	0.0	Same	0.0	Same
The Memorial Hospital	Craig	0.0%	1	***	***	***	***	***
Vail Valley Medical Center	Vail	4.3%	23	0	0.0	Same	0.0	Same
Wray Community Hospital	Wray	0.0%	1	***	***	***	***	***

^The Standardized Infection Ratio (SIR) is the ratio of observed to expected infections and is adjusted for procedure risk.

***Infections data for hospitals with fewer than 10 procedures performed in the six-month period are suppressed to protect confidential health information. These hospitals have met the reporting requirements.

**National comparison based on data collected and reported by NHSN participating hospitals from 2006-2008.

Table 2a: Knee Replacement (total or partial) Procedures in Hospitals that Performed a High Percentage of Procedures on High Risk Patients, Inpatient, July 1, 2008 – December 31, 2008

Knee Replacement Procedures in Hospitals that Performed a High Percentage of Procedures on High Risk Patients, Inpatient Reporting period: July 1, 2008 – December 31, 2008								
Hospitals that Performed a <u>HIGH</u> Percentage of Procedures on High Risk Patients	Region	% of High Risk Procedures	Procedure Count	Infection Count	Standardized Infection Ratio (SIR) [^]	National Comparison ^{**}	Standardized Infection Ratio by Risk Group	Risk Group Comparison
Animas Surgical Hospital	Durango	25.6%	39	0	0.0	Same	0.0	Same
Centura St Mary Corwin Medical Center	Pueblo	17.1%	105	0	0.0	Same	0.0	Same
Colorado Orthopaedic & Surgical Hospital	Denver	16.7%	6	***	***	***	***	***
Community Hospital	Grand Junction	16.7%	90	1	1.2	Same	1.4	Same
East Morgan County Hospital	Brush	40.0%	5	***	***	***	***	***
Exempla St Joseph Hospital	Denver	49.3%	339	1	0.2	Same	0.3	Same
Grand River Medical Center	Rifle	50.0%	4	***	***	***	***	***
Longmont United Hospital	Longmont	24.8%	101	0	0.0	Same	0.0	Same
Medical Center of the Rockies	Loveland	56.3%	32	0	0.0	Same	0.0	Same
Memorial Hospital Central	Colorado Springs	22.8%	351	6	1.7	Same	2.1	Same
Montrose Memorial Hospital	Montrose	18.9%	53	2	4.1	Same	4.2	Same
North Colorado Medical Center	Greeley	23.0%	165	1	0.6	Same	0.7	Same
Parker Adventist Hospital	Parker	42.9%	7	***	***	***	***	***
Pikes Peak Regional Hospital	Colorado Springs	100.0%	1	***	***	***	***	***
Wray Community Hospital	Wray	25.0%	4	***	***	***	***	***

[^]The Standardized Infection Ratio (SIR) is the ratio of observed to expected infections and is adjusted for procedure risk.

***Infections data for hospitals with fewer than 10 procedures performed in the six-month period are suppressed to protect confidential health information. These hospitals have met the reporting requirements.

**National comparison based on data collected and reported by NHSN participating hospitals from 2006-2008.

Table 2b: Knee Replacement (total or partial) Procedures in Hospitals that Performed a Medium Percentage of Procedures on High Risk Patients, Inpatient, July 1, 2008 – December 31, 2008

Knee Replacement Procedures in Hospitals that Performed a Medium Percentage of Procedures on High Risk Patients, Inpatient Reporting period: July 1, 2008 – December 31, 2008								
Hospitals that Performed a <u>MEDIUM</u> Percentage of Procedures on High Risk Patients	Region	% of High Risk Procedures	Procedure Count	Infection Count	Standardized Infection Ratio (SIR)^	National Comparison**	Standardized Infection Ratio (SIR) by Risk Group	Risk Group Comparison
Boulder Community Hospital	Boulder	10.8%	102	1	1.1	Same	0.8	Same
Centura Avista Adventist Hospital	Louisville	9.6%	83	2	2.8	Same	1.9	Same
Centura Littleton Adventist Hospital	Littleton	14.7%	34	0	0.0	Same	0.0	Same
Centura Penrose St Francis Health	Colorado Springs	6.5%	248	2	0.9	Same	0.6	Same
Centura St Anthony North Hospital	Westminster	8.8%	34	0	0.0	Same	0.0	Same
Colorado Plains Medical Center	Fort Morgan	7.1%	14	0	0.0	Same	0.0	Same
Denver Health Medical Center	Denver	12.2%	41	0	0.0	Same	0.0	Same
McKee Medical Center	Loveland	10.6%	113	1	1.0	Same	0.7	Same
Mercy Regional Medical Center	Durango	6.2%	65	0	0.0	Same	0.0	Same
North Suburban Medical Center	Thornton	7.7%	39	0	0.0	Same	0.0	Same
Parkview Medical Center	Pueblo	7.5%	173	3	2.1	Same	1.5	Same
Platte Valley Medical Center	Brighton	10.3%	29	3	11.0	Worse	7.4	Worse
Poudre Valley Hospital	Fort Collins	5.7%	389	4	1.3	Same	0.9	Same
Presbyterian St Luke's Medical Center	Denver	11.2%	197	0	0.0	Same	0.0	Same
Sky Ridge Medical Center	Lone Tree	7.5%	93	0	0.0	Same	0.0	Same
Southwest Memorial Hospital	Cortez	9.5%	21	0	0.0	Same	0.0	Same
St Mary's Hospital	Grand Junction	10.4%	144	2	1.6	Same	1.2	Same
Sterling Regional Medical Center	Sterling	9.5%	21	1	5.1	Same	3.4	Same
The Medical Center of Aurora	Aurora	6.7%	207	6	3.8	Worse	2.8	Worse
University of Colorado Hospital	Aurora	12.1%	141	3	2.3	Same	1.7	Same
Vail Valley Medical Center	Vail	7.7%	78	0	0.0	Same	0.0	Same
Valley View Hospital	Glenwood Springs	5.2%	58	0	0.0	Same	0.0	Same

^The Standardized Infection Ratio (SIR) is the ratio of observed to expected infections and is adjusted for procedure risk.

***Infections data for hospitals with fewer than 10 procedures performed in the six-month period are suppressed to protect confidential health information. These hospitals have met the reporting requirements.

**National comparison based on data collected and reported by NHSN participating hospitals from 2006-2008.

Table 2c: Knee Replacement (total or partial) Procedures in Hospitals that Performed a Low Percentage of Procedures on High Risk Patients, Inpatient, July 1, 2008 – December 31, 2008

Knee Replacement (total or partial) Procedures in Hospitals that Performed a Low Percentage of Procedures on High Risk Patients, Inpatient Reporting period: July 1, 2008 - December 31, 2008								
Hospitals that Performed a <u>LOW</u> Percentage of Procedures on High Risk Patients	Region	% of High Risk Procedures	Procedure Count	Infection Count	Standardized Infection Ratio (SIR) ^	National Comparison**	Standardized Infection Ratio (SIR) by Risk Group	Risk Group Comparison
Aspen Valley Hospital	Aspen	0.0%	5	***	***	***	***	***
Centura Porter Adventist Hospital	Denver	3.1%	510	4	1.0	Same	1.0	Same
Centura St Anthony Central Hospital	Denver	3.1%	129	1	1.0	Same	1.0	Same
Centura St Francis Medical Center	Colorado Springs	3.4%	119	1	1.1	Same	1.0	Same
Centura St Thomas More Hospital	Canon City	0.0%	31	0	0.0	Same	0.0	Same
Colorado Mental Health Institute at Pueblo	Pueblo	0.0%	1	***	***	***	***	***
Delta County Memorial Hospital	Delta	4.1%	48	0	0.0	Same	0.0	Same
Exempla Good Samaritan Medical Center	Lafayette	3.0%	167	2	1.6	Same	1.5	Same
Exempla Lutheran Medical Center	Wheat Ridge	2.0%	397	5	1.8	Same	1.7	Same
Heart of the Rockies Regional Medical Center	Salida	0.0%	5	***	***	***	***	***
Memorial Hospital North	Colorado Springs	2.0%	101	0	0.0	Same	0.0	Same
Rose Medical Center	Denver	4.9%	268	1	0.5	Same	0.5	Same
San Luis Valley Regional Medical Center	Alamosa	3.4%	29	0	0.0	Same	0.0	Same
St Anthony Summit Medical Center	Frisco	0.0%	10	0	0.0	Same	0.0	Same
Swedish Medical Center	Englewood	4.4%	160	2	1.6	Same	1.6	Same
The Memorial Hospital	Craig	0.0%	10	0	0.0	Same	0.0	Same
Yampa Valley Medical Center	Steamboat Springs	2.1%	47	0	0.0	Same	0.0	Same

^The Standardized Infection Ratio (SIR) is the ratio of observed to expected infections and is adjusted for procedure risk.

***Infections data for hospitals with fewer than 10 procedures performed in the six-month period are suppressed to protect confidential health information. These hospitals have met the reporting requirements.

**National comparison based on data collected and reported by NHSN participating hospitals from 2006-2008.

Future Reporting and Data Validation

The department and its infection advisory committee have plans to conduct data validation on a sample of data submitted to the NHSN. Based on the results of the validation, Patient Safety Program staff members will develop education programs to assist healthcare staff in understanding the NHSN definitions. Validation is scheduled to begin in June 2010 and will focus on central line-associated bloodstream infections data. Development of a validation protocol for surgical site infections will begin in 2011.

Conclusion

This report shows the results from the NHSN reporting system. This is CDPHE's first attempt at presenting the NHSN data stratified by risk in an effort to more fairly compare hospitals. After risk stratification, most hospitals had an infection rate that is statistically the same as the national rate.

CDPHE believes that the disclosure initiative will ultimately help Colorado health facilities identify areas for improvement and result in fewer infections in the coming years. CDPHE and its infection advisory committee are eager to continue this initiative and are committed to providing this valuable information to Colorado healthcare consumers.

For more information, please contact the patient safety initiatives program at:

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Phone: 303-692-2800
Fax: 303-753-6214
Email: cdphe.hfpatientsafety@state.co.us

Or view detailed information on implementing the disclosure initiative, including the annual report by visiting the patient safety initiatives Web page at:

<http://www.cdphe.state.co.us/hf/PatientSafety/index.html>