
OFFICE OF PUBLIC HEALTH INFORMATICS
AND EPIDEMIOLOGY

*2016 HEALTHCARE ASSOCIATED
INFECTION STATE REPORT*

2ND EDITION



Brian Sandoval
Governor
State of Nevada

Cody L. Phinney, MPH
Administrator
Division of Public and Behavioral Health

Richard Whitley, MS
Director
Department of Health and Human Services

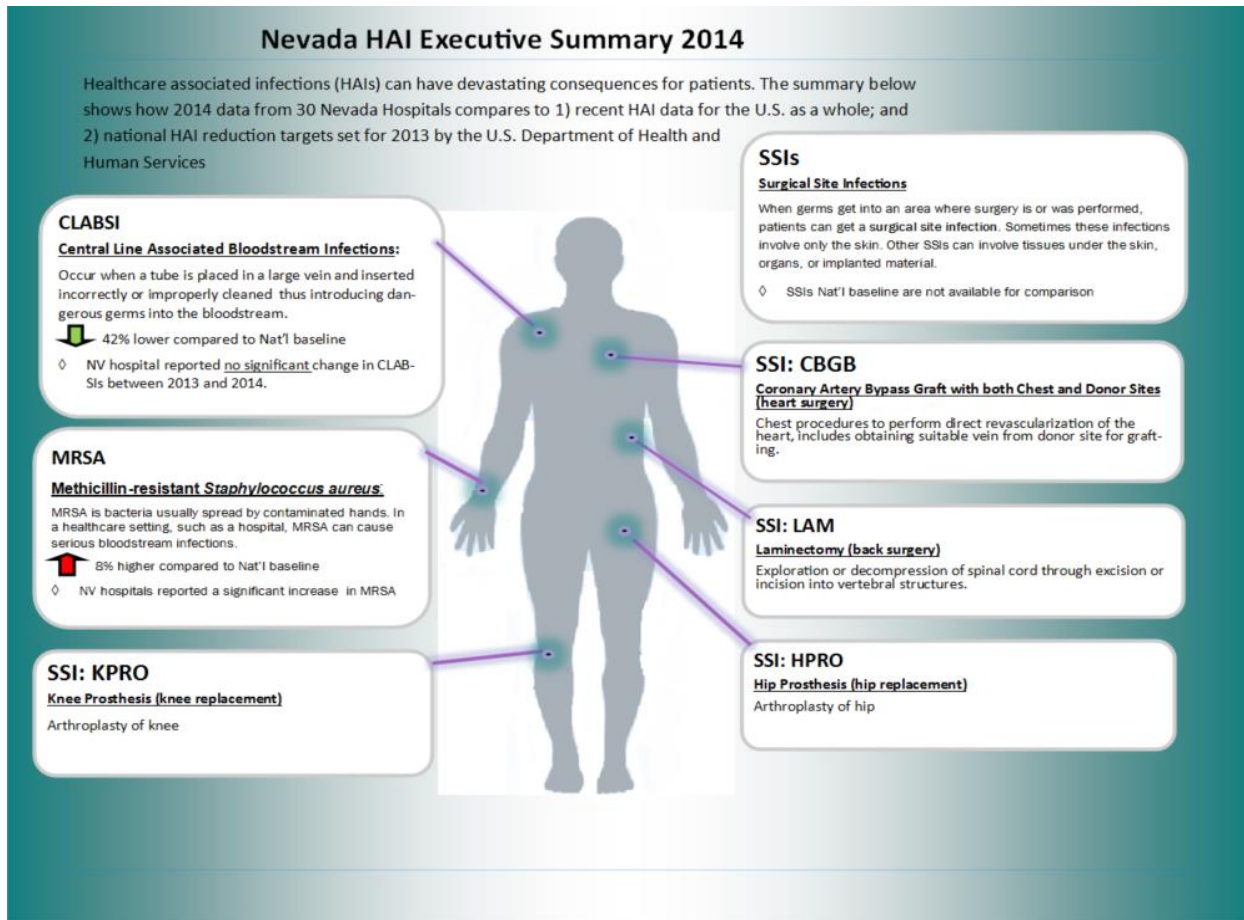
John DiMuro, D.O., MBA
Chief Medical Officer
Division of Public and Behavioral Health

Table of Contents

Executive Summary.....	3
Figure 1: Nevada HAI Executive Summary 2014.....	3
Table 1: Executive Summary of Healthcare-Associated Infections in Nevada Hospitals (2014)	4
Background.....	5
Methods.....	6
Central Line-Associated Bloodstream Infections (CLABSI).....	8
Table 2: Facility Specific Annual CLABSI data (2014) (N=30).....	10
Central Line-Associated Bloodstream Infections (CLABSI) ICU- other	12
Table 3: Facility Specific Annual CLABSI Data for Adult ICUs/ICU-Other (2014) (N=20)	13
Methicillin-resistant <i>Staphylococcus aureus</i> Bloodstream Infection (MRSA BSI).....	14
Table 4: Facility Specific Annual Hospital Onset MRSA BSI (2014) (N=21).....	15
Surgical Site Infections (SSI).....	16
Table 5: Facility Specific Annual SSI Data (2014) (N=19).....	18
Surgical Site Infection data for Coronary Artery Bypass Graft with Both Chest and Donor Site Incisions (CBGB).....	19
Table 6: Facility-Specific Annual Data for Coronary Bypass Graft with Both Chest and Donor Site Incisions (CBGB) (2014) (N=13).....	20
Surgical Site Infection data for Laminectomy (SSI-LAM)	21
Table 7: Facility Specific Annual SSI Data for Laminectomy (LAM) (2014) (N=16).....	22
Surgical Site Infection data for Hip Prosthesis (SSI-HPRO).....	23
Table 8: Facility Specific Annual SSI Data for Hip Prosthesis (HPRO) (N=19)	24
Surgical Site Infection data for Knee Prosthesis (SSI-KPRO).....	25
Table 9: Facility Specific Annual SSI Data for Knee Prosthesis (KPRO) (2014) (N=19)	26
Conclusion.....	27
References:	29

Executive Summary

Figure 1: Nevada HAI Executive Summary 2014



*Data based on the Centers for Disease Control and Prevention Progress Report Release in 2016 using 2014 data from Acute Care Hospitals

Table 1: Executive Summary of Healthcare-Associated Infections in Nevada Hospitals (2014)

Healthcare - Associated Infection Type	National Baseline Years	HHS Reduction Target*	# Hospitals Reporting	2013 NV SIR	2014 NV SIR	2014 NV SIR vs. 2013 NV SIR	2014 SIR Meets HHS Reduction Target?	Improved Compared with 2013 NV SIR?
CLABSI	2006-2008	50% (SIR=0.5)	30	0.622	0.587	↓ 11.33%	No	Yes
CLABSI in adult ICUs	2006-2008	50% (SIR=0.5)	20	0.666	0.599	↓ 10.06%	No	Yes
MRSA	2010-2011	25% (SIR=0.75)	19	0.737	1.052	↑ 42.74%	No	No
SSI	2006-2008	25% (SIR=0.75)	18	0.69	0.618	↓ 10.44%	Yes	Yes
SSI: CBGB	2006-2008	25% (SIR=0.75)	9	0.353	0.458	↑ 29.75%	Yes	No
SSI: LAM	2006-2008	25% (SIR=0.75)	15	0.582	0.583	↑ 0.17%	Yes	No
SSI: HPRO	2006-2008	25% (SIR=0.75)	18	0.895	0.873	↓ 2.46%	No	Yes
SSI: KPRO	2006-2008	25% (SIR=0.75)	18	0.826	0.549	↓ 33.54%	Yes	Yes

* The U.S. Department of Health and Human Services (HHS) determined target 5-year HAI reductions in 2009: www.health.gov/hcq/pdfs/HAI-Targets.pdf

* Nevada made progress in 2014 by comparing 2014 NV SIR with 2013 NV SIR and HHR reduction target. MRSA did not make improvement in both categories.

What is the Standardized Infection Ratio (SIR)?

The SIR is a summary statistic that can be used to track HAI prevention progress over time. Lower SIRs are better. The SIR for the facility or state is adjusted to account for factors that might cause infection rates to be higher or lower, such as hospital size, teaching status, type of patients the hospital serves, surgery and patient characteristics. This number can be used to track HAI prevention progress over time and this number is compared to the national baseline

Background

What are Healthcare-Associated Infections?

According to the Centers for Disease Control and Prevention (CDC) healthcare-associated infections (HAIs) are a threat to patient safety. HAIs occur when healthcare workers neglect to follow best practices such as hand hygiene, proper use of personal protective equipment (PPE), proper cleaning of environmental surfaces, etc., which result in a patient contracting a preventable infection. As a means to promote the prevention of HAIs, Nevada adopted regulations to make the following HAIs reportable beginning in 2011; Central Line-Associated Bloodstream Infections (CLABSI) including Methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections and Surgical Site Infection (SSI's) for hospitals that have an average daily census of 25 or more. These infections are reported into the National Healthcare Safety Network (NHSN). NHSN is a database that was created by CDC to collect data on HAIs and other healthcare-associated data. Nevada's mandates for HAIs can be found at <https://www.leg.state.nv.us/NAC/NAC-439.html#NAC439Sec935>.

This report will show the progress of hospitals in Nevada in their effort to prevent HAIs amongst those who are treated in their facility.

How to Use This Report

The report compares the Health and Human Services reduction target to the 2013 and 2014 Nevada SIR. It also provides a comparison of rates between the 2013 and 2014 Nevada SIR. Each facility-specific HAIs are broken down into individual tables. Within each table, a brief description of what the infection is, a summary of the findings and prevention techniques are outlined.

Some facilities had no SIR value which means the data could not be compared between years 2013-2014. Though there is data from 2014 SIR, no data for 2013 SIR exists, therefore a comparison could not be completed for the SIR value between 2013 and 2014. In some instances both 2013 SIR and 2014 SIR are zero, and it could not be determined if the 2014 SIR is better when compared to the 2013 SIR. Data analysis of SIR's utilizing NHSN are

only calculated if the number expected is greater than or equal to one. If the expected number of infections is less than one there will be no SIR data available.

Intended Audience

This report is intended for the general public, healthcare workers, providers and those who work to protect public health. The tables in the report summarizes basic HAI data reported by healthcare facilities to NHSN.

Methods

Data Collection

Nevada healthcare facilities report HAIs to the state by utilizing NHSN. Based upon [NAC 439.925](#) a medical facility or a facility for skilled nursing that provides medical services and care to an average of 25 or more patients during each business day in the immediately preceding calendar year must enter their reportable HAIs into NHSN. Nevada currently has 61 licensed hospitals. The hospitals mentioned in this report meet the above definition of a mandatory reporter. To identify an HAI, hospitals used definitions created by NHSN. Please visit <http://www.cdc.gov/hai/> for more information on reportable HAIs and their definitions. The NHSN database was developed by the CDC in order to keep track of HAIs among different states. In 2011, healthcare facilities were required to report HAIs to NHSN per [NRS 439.847](#). NHSN provides facilities, states, regions, and the nation with data needed to identify problem areas, measure progress of prevention efforts, and ultimately eliminate HAIs.

This progress report contains 2013 and 2014 data from state licensed healthcare facilities that met the definition for mandated reporters. For more information regarding NRS 439.847 please visit <http://www.leg.state.nv.us/NRS/NRS-439.html>

Data Validation

Due to a lack of funding, onsite validation by the state was unable to be conducted to confirm that NHSN definitions were followed when reporting or not reporting infections. Prior to publishing the progress report, data was sent to each healthcare facility to verify the

information being released to the public. Each facility had the opportunity to review the reported data for any errors in order to avoid any discrepancies.

The SIR is	Implication
more than 1	There was an increase in the number of infections reported compared to what is expected.
1	The number of infections match what is expected.
less than 1	There was a decrease in the number of infections reported compared to what is expected.

The lower the SIR, the better the infection ratio. The SIR for a facility or state is risk adjusted to account that some hospitals treat patients that are sicker than others. These factors include, but are not limited to teaching status, type of surgery characteristics and patients a hospital serves, and hospital size, patient care location, bed size of hospital and patient age.

Table Elements:

Healthcare Facility Name: Healthcare facilities that submitted their report.

Central Line Days: The total number of days a central line is in place for each patient. The count is performed each day at the same time, and each patient with a central line is counted as a central line-day.

Total Observed Infections: The total number of infections reported by the hospitals.

Expected number: National historical baseline is used to determine the expected number. The expected number is calculated by CDC using data from HAI events that occurred during the baseline period.

SIR in 2013 & 2014: SIR value is from the actual observed infection divided by the expected infection. The SIR is only calculated if the number of expected HAIs is greater than 1.

The Comparison between the 2014 SIR and 2013 SIR: A summary statistic used to measure relative difference in HAI occurrence during the reporting period. Each facility's number of infections is compared to the expected value based on the SIR. To get the percentage value, SIR 2014 is subtracted from SIR 2013 then divided by the value of SIR 2014 multiply by 100%:

$$\frac{SIR2013}{SIR2014} \times 100 = \text{percentage value}$$

- If the percentage value is negative, this represents a decrease in infections in each facility, which would mean the facility improved.
- If the percentage value is positive, this represents an increase of infections in each facility, which would mean the facility did not improve.

Central Line-Associated Bloodstream Infections (CLABSI)

A “central line” or “central venous catheter” is a tube that is placed in a patient’s large vein in order to receive medication, fluids, or blood collection for medication purposes. A bloodstream infection may occur when the tube that is placed in a large vein was inserted incorrectly or is improperly cleaned or cared for, thus introducing dangerous germs into the bloodstream.

Bloodstream infections are serious infections typically causing a prolonged hospital stay, increased cost, and risk of mortality. CLABSIs are a preventable infection that can lead to thousands of deaths per year. For more information:

http://www.cdc.gov/nhsn/PDFs/pscManual/4PSC_CLABScurrent.pdf

There are 30 healthcare facilities, excluding Intensive Care Units, which reported CLABSI data in Nevada. The Centers for Disease Control and Prevention provides the state and each hospital with the number of expected infections. The number of observed infections are infections that were reported into NHSN by the reporting hospitals. Based on the national historical baseline the expected number of CLABSI was 617 for the state of Nevada. However, there were 354 reported infections in 2014 that occurred in Nevada. Out of 30 healthcare facilities, 12 showed improvement. Looking at the comparison for SIR 2014 and SIR 2013, the state did see an improvement.

Expected Infections for NV 2014	Actual Infections for NV 2014
617	354

Ways the patient and their family can prevent a CLABSI:

- Research the hospital, if possible, to learn about its CLABSI rate.
- Speak up about any concerns so that healthcare personnel are reminded to follow the best infection prevention practices.
- Ask a healthcare provider if the central line is absolutely necessary. If so, ask them to help you understand the need for it and how long it will be in place.
- Pay attention to the bandage and the area around it. If the bandage comes off or if the bandage or area around it is wet or dirty, tell a healthcare worker right away.
- Do not get the central line or the central line insertion site wet.
- Tell a healthcare worker if the area around the catheter is sore or red or if the patient has a fever or chills.
- Do not let any visitors touch the catheter or tubing.
- The patient should avoid touching the tubing as much as possible.
- In addition, everyone visiting the patient must wash their hands—before and after they visit.
- For more information: <http://www.cdc.gov/HAI/bsi/CLABSI-resources.html>

Table 2: Facility Specific Annual CLABSI data (2014) (N=30)

Hospital Name	Central Line Days (2014)	# of Infections (2014)	# of Expected (2014)	SIR in 2013	SIR in 2014	Improved compare with Predicted Based on SIR 2013?
Nevada Total	392,388	354	617	0.6220	0.587	Improvement
Banner Churchill Community Hospital	388	0	0.50	●	●	N/A
Carson Tahoe Regional Medical Center	5,740	3	8.31	0.6260	0.361	Better
Centennial Hills Hospital	9,037	2	12.70	0.0900	0.157	No Improvement
Complex Care Hospital Medical Center	14,923	10	13.431	●	0.745	N/A
Complex Care Hospital Medical Center-IMC	5,107	0	4.596	●	0.000	N/A
Complex Care Hospital Medical Center-MED/SURG	9,816	15	13.993	●	1.072	N/A
Desert Springs Hospital	15,817	4	24.04	0.0800	0.166	No Improvement
Harmon Medical	11,566	24	13.879	1.6470	1.729	No Improvement
Horizon Specialty Hospital	5,755	7	5.18	●	1.351	N/A
Kindred Hospital Las Vegas- St. Rose de Lima	10,057	2	9.051	●	0.221	N/A
Kindred Hospital Las Vegas-Flamingo	11,396	1	11.209	●	0.091	N/A
Kindred Hospital Las Vegas-Flamingo (WARD, LTAC)	9,465	1	8.519	●	0.117	N/A
Kindred Hospital Las Vegas-Sahara	10,057	2	9.051	●	0.221	N/A
Mountain View Hospital	31,199	40	54.37	0.7530	0.736	Improvement
North Vista Hospital	7,525	15	9.13	1.5650	1.644	No Improvement
Northeastern Nevada Regional Hospital	122	0	0.18	●	●	N/A
Northern Nevada Medical Center	1,142	0	1.57	0.7170	0.000	Improvement
Progressive Hospital	4,154	0	3.739	●	0.000	N/A
Renown Regional Medical Center	37,995	7	73.78	0.2940	0.095	Improvement
Renown South Meadows	1,726	0	2.47	0.4100	0.000	Improvement
Southern Hills Hospital and Medical Center	7,885	1	11.34	0.6980	0.088	Improvement
Spring Valley Medical Center	16,979	11	27.01	0.6350	0.407	Improvement

Hospital Name	Central Line Days (2014)	# of Infections (2014)	# of Expected (2014)	SIR in 2013	SIR in 2014	Improved compare with Predicted Based on SIR 2013?
St. Mary's Regional Medical Center	7,089	6	11.44	0.8620	0.525	Improvement
St. Rose de Lima Hospital	7,905	2	11.54	0.0000	0.173	No Improvement
St. Rose Dominican Hospital Siena	15,567	6	23.53	0.6490	0.255	Improvement
St. Rose San Martin Hospital	8,412	3	12.88	0.5950	0.233	Improvement
Summerlin Hospital and Medical Center	24,172	20	39.35	0.3500	0.508	No Improvement
Sunrise Hospital and Medical Center	47,596	53	91.86	0.2850	0.577	No Improvement
University Medical Center of Southern Nevada	32,987	103	70.84	1.1610	1.454	No Improvement
Valley Hospital Medical Center	20,809	16	37.57	0.9990	0.426	Improvement

- The SIR is only calculated if the number of expected HAIs is greater than 1.

Central Line-Associated Bloodstream Infections (CLABSI) ICU- other

The CLABSI data below is based on the Intensive Care Unit (ICU) setting. There were 20 healthcare facilities that reported CLABSIs for Nevada. Overall in the state there was improvement from the expected and observed SIR for 2014 when compared to the 2013 SIR. The expected number of CLABSIs in ICUs was 222. Only 107 infections were reported to NHSN in 2014.

Expected Infections for NV 2014	Actual Infections for NV 2014
222	107

Table 3: Facility Specific Annual CLABSI Data for Adult ICUs/ICU-Other (2014) (N=20)

Hospital Name	Central Line Days (2014)	# of Infections (2014)	# of Expected (2014)	2013 SIR	2014 SIR	Improved compare with Predicted Based on SIR 2013?
Nevada Total	111,743	107	222	0.666	0.599	Improvement
Banner Churchill Community Hospital	97	0	0.146	●	●	N/A
Carson Tahoe Regional Medical Center	2485	1	3.728	0.248	0.268	No Improvement
Centennial Hills Hospital	2580	1	3.87	0.31	0.258	Improvement
Kindred Hospital Las Vegas-Flamingo(CC, LTAC)	1931	0	2.51	●	0.000	N/A
Mountain View Hospital	10501	13	20.262	0.777	0.642	Improvement
North Vista Hospital	3202	5	4.803	1.344	1.041	Improvement
Northeastern Nevada Regional Hospital	122	0	0.183	●	●	N/A
Northern Nevada Medical Center	122	0	0.183	●	●	N/A
Renown Regional Medical Center	16503	0	40.496	0.187	0.000	Improvement
Renown South Meadows	742	0	1.113	●	0.000	N/A
Southern Hills Hospital and Medical Center	2774	1	4.161	1.218	0.24	Improvement
Spring Valley Medical Center	5003	3	7.505	0.74	0.4	Improvement
St. Mary's Regional Medical Center	3612	4	5.418	0.947	0.738	Improvement
St. Rose de Lima Hospital	2579	1	3.869	0	0.258	No Improvement
St. Rose Dominican Hospital Siena	6939	2	10.409	0.429	0.192	Improvement
St. Rose San Martin Hospital	3629	1	5.444	0	0.184	No Improvement
Summerlin Hospital and Medical Center	6755	8	10.039	0.571	0.797	No Improvement
Sunrise Hospital and Medical Center	18766	19	40.326	0.218	0.471	No Improvement
University Medical Center of Southern Nevada	13386	40	37.118	1.005	1.078	No Improvement
Valley Hospital Medical Center	10015	8	20.701	1.483	0.386	Improvement

● The SIR is only calculated if the number of expected HAIs is greater than 1.

Methicillin-resistant *Staphylococcus aureus* Bloodstream Infection (MRSA BSI)

According to the CDC, Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of staph bacteria that is resistant to several antibiotics. MRSA is a common healthcare-associated infection and can cause skin infections in the community as well as serious bloodstream infections in healthcare settings.

Among 21 healthcare facilities, there were 82 MRSA bloodstream infections reported in 2014. The expected number of MRSA BSI was 78. Overall, healthcare facilities that reported MRSA infections into NHSN showed no improvement when comparing their 2014 SIR value with the SIR 2013. Due to the increase in MRSA bloodstream infections within Nevada, hospitals need improvement in this area of prevention.

Expected Infections for NV 2014	Actual Infections for NV 2014
78	82

Ways the patient and their family can prevent MRSA-BSI:

- Keep taking any antibiotics prescribed by your doctor. Don't take half-doses or stop before you complete your prescribed course.
- Clean your hands often, especially before and after changing your wound dressing or bandage.
- People who live with you should clean their hands often as well.
- Keep any wounds clean and change bandages as instructed until healed.
- Avoid sharing personal items such as towels or razors.
- Wash and dry your clothes and bed linen.
- More information: https://www.cdc.gov/mrsa/pdf/SHEA-mrsa_tagged.pdf

Table 4: Facility Specific Annual Hospital Onset MRSA BSI (2014) (N=21)

Hospital Name	Patient Days (2014)	# of Infections (2014)	# of Expected MRSA (2014)	2013 SIR	2014 SIR	Improved compare with Predicted Based on SIR 2013?
Nevada Total	1,351,478	82	78	0.737	1.052	No Improvement
Banner Churchill Community Hospital	7,138	0	0.288	●	●	N/A
Carson Tahoe Health System	50,200	0	2.153	0.000	0.000	N/A
Centennial Hills Hospital	42,786	3	1.678	0.0000	1.788	No Improvement
Desert Springs Hospital	69,737	3	3.694	0.572	0.812	No Improvement
Harmon Medical and Rehabilitation Hospital	36,825	6	1.443	●	4.159	N/A
Mountain View Hospital	101,816	6	4.496	●	1.335	N/A
North Vista Hospital	38,998	5	2.806	0.939	1.782	No Improvement
Northeastern Nevada Regional Hospital	10,098	0	0.425	●	●	N/A
Northern Nevada Medical Center	18,629	0	0.945	●	●	N/A
Renown Regional Medical Center	155,235	6	12.462	0.078	0.481	No Improvement
Renown South Meadows	9,964	1	0.480	●	●	N/A
Spring Valley Medical Center	77,725	4	3.335	0.652	1.199	No Improvement
Southern Hills Hospital	34,435	2	1.353	0.000	1.478	No Improvement
St. Mary's Regional Medical Center	63,405	2	2.639	1.024	0.758	Improvement
St. Rose de Lima Hospital	28,774	0	1.031	0.000	0.000	N/A
St. Rose Dominican Hospital Siena	60,173	1	2.156	1.338	0.464	Improvement
St. Rose San Martin Hospital	39,209	0	1.405	0.000	0.000	N/A
Summerlin Hospital and Medical Center	100,502	6	5.911	0.276	1.015	No Improvement
Sunrise Hospital and Medical Center	187,213	10	14.411	0.772	0.694	Improvement

● The SIR is only calculated if the number of expected HAIs is greater than 1.

Surgical Site Infections (SSI)

Surgical site infections are infections that develop after surgery in the area of the surgical site.

Some surgical sites may involve other tissues under the skin, organs, or implanted material.

There are several different types of SSIs such as coronary artery bypass graft, chest and donor site incisions, laminectomy, hip prosthesis surgery, and knee prosthesis surgery. SSIs are preventable given that proper surgical techniques are being practiced, as well proper care of the wound after the surgery.

Among the 19 healthcare facilities that reported SSIs, there were 110 reported infections.

Whereas the NHSN expected 181 cases in 2014. Overall the state did better when comparing the 2014 SIR with the SIR in 2013.

Expected Infections for NV 2014	Actual Infections for NV 2014
181	110

Ways to prevent a SSI-

Before surgery:

- Tell your doctor about other medical problems you may have. Health problems such as allergies, diabetes, and obesity could affect your surgery and your treatment.
- Quit smoking. Patients who smoke get more infections. Talk to your doctor about how you can quit before your surgery.
- Do not shave near where you will have surgery. Shaving with a razor can irritate your skin and make it easier to develop an infection.

At the time of surgery:

- Speak up if someone tries to shave you with a razor before surgery. Ask why you need to be shaved and talk with your surgeon if you have any concerns.

After surgery:

- If you do not see your providers clean their hands, please ask them to do so.
- Family and friends who visit you should not touch the surgical wound or dressings.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.
- Make sure you understand how to care for your wound before you leave the hospital.
- Always clean your hands before and after caring for your wound.

- Make sure you know who to contact if you have questions or problems after you get home.
- If you have any symptoms of an infection, such as redness and pain at the surgery site, drainage, or fever, call your doctor immediately.
- More information: http://www.cdc.gov/HAI/ssi/faq_ssi.html#a4

Table 5: Facility Specific Annual SSI Data (2014) (N=19)

Hospital Name	Total Procedures (2014)	# of Infection (2014)	# of Expected (2014)	2013 SIR	2014 SIR	Improved compare with Predicted Based on SIR 2013?
Nevada Total	15,317	110	181.10	0.683	0.624	Better
Carson Tahoe Regional Medical Center	596	9	8.874	1.535	1.014	Better
Centennial Hills Hospital	1,100	2	12.822	0.000	0.156	No Improvement
Desert Springs Hospital	389	0	5.453	0.293	0.000	Improvement
Mountain View Hospital	596	7	8.531	0.911	0.821	Improvement
North Vista Hospital	112	0	1.298	0.9970	0.000	Improvement
Northeastern Nevada Regional Hospital	88	0	1.08	•	0.000	N/A
Northern Nevada Medical Center	437	5	4.258	0.4710	1.174	No Improvement
Renown Regional Medical Center	2,211	11	25.980	0.484	0.423	Improvement
Renown South Meadows	402	1	3.837	0.244	0.261	No Improvement
Saint Mary's Regional Medical Center	1,117	9	12.165	1.005	0.740	Improvement
Southern Hills Hospital and Medical Center	691	8	7.196	0.866	1.112	No Improvement
Spring Valley Medical Center	2,213	11	22.530	0.937	0.577	Improvement
St. Rose de Lima Hospital	141	1	1.666	0.000	0.600	No Improvement
St. Rose Dominican Hospital Siena	1,656	20	19.627	1.020	1.019	Improvement
St. Rose San Martin Hospital	245	3	3.420	0.390	0.877	No Improvement
Summerlin Hospital and Medical Center	1,031	6	8.765	0.665	0.685	No Improvement
Sunrise Hospital and Medical Center	902	10	15.912	0.474	0.628	No Improvement
University Medical Center of Southern Nevada	331	1	5.222	0.681	0.191	Improvement

• The SIR is only calculated if the number of expected HAIs is greater than 1.

Surgical Site Infection data for Coronary Artery Bypass Graft with Both Chest and Donor Site Incisions (CBGB)

Among 13 hospitals and 1,630 procedures, there were 15 reported infections of CBGB. NHSN expected 32.784 cases in 2014, but three healthcare facilities in the state did not have any reportable infections. Overall, the state showed no improvements when comparing the expected SIR to the actual SIR in 2013.

Expected Infections for NV 2014	Actual Infections for NV 2014
32.784	15

Table 6: Facility-Specific Annual Data for Coronary Bypass Graft with Both Chest and Donor Site Incisions (CBGB) (2014) (N=13)

Hospital Name	Total Procedures (2014)	# of Infection (2014)	# of Expected (2014)	2013 SIR	2014 SIR	Improved compare with Predicted Based on SIR 2013?
Nevada Total	1,630	15	32.784	0.353	0.458	No Improvement
Carson Tahoe Regional Healthcare	55	1	1.106	●	0.904	N/A
Desert Springs Hospital	145	0	2.682	0.4	0.000	Better
Mountain View Hospital	201	3	3.811	0.731	0.787	No Improvement
Renown Regional Medical Center	200	1	4.22	0.2750	0.237	Better
Spring Valley Medical Center	103	0	2.043	0.0000	0.000	N/A
St. Mary's Regional Medical Center	91	2	1.517	0.0000	1.319	No Improvement
St. Rose Dominican Hospital Siena	127	2	2.256	1.404	0.887	Better
St. Rose San Martin Hospital	41	0	0.762	●	●	N/A
Summerlin Hospital and Medical Center	122	2	2.273	0.741	0.880	No Improvement
Sunrise Hospital and Medical Center	320	2	7.359	0.000	0.272	No Improvement
University Medical Center of Southern Nevada	89	1	2.219	0.4410	0.451	No Improvement
Valley Hospital Medical Center	136	1	2.536	0.1227	0.394	No Improvement

● The SIR is only calculated if the number of expected HAIs is greater than 1.

Surgical Site Infection data for Laminectomy (SSI-LAM)

Among 16 hospitals and 4,694 total procedures, there were 27 reported infections. NHSN's expected case count was 49.721 for 2014. Six healthcare facilities in the state did not have any reportable infections. Overall, the state SIR did not change when comparing the 2014 SIR to the 2013 SIR.

Expected Infections for NV 2014	Actual Infections for NV 2014
49.721	27

Table 7: Facility Specific Annual SSI Data for Laminectomy (LAM) (2014) (N=16)

Hospital Name	Total Procedures (2014)	# of Infection (2014)	# of Expected (2014)	2013 SIR	2014 SIR	Improved compare with Predicted Based on SIR 2013?
Nevada Total	4694	27	49.721	0.582	0.583	Same
Carson Tahoe Regional Medical Center	37	1	0.396	●	●	N/A
Centennial Hills Hospital	137	0	1.686	●	0.000	N/A
Desert Springs Hospital	111	0	0.933	0.000	●	N/A
Mountain View Hospital	159	4	1.725	1.3930	2.3190	No Improvement
North Vista Hospital	43	0	0.401	●	●	N/A
Northern Nevada Medical Center	82	0	0.823	0.000	●	N/A
Renown Regional Medical Center	1261	7	12.709	0.000	0.551	No Improvement
Spring Valley Medical Center	416	1	0.188	0.236	0.188	Improvement
St. Mary's Regional Medical Center	549	3	5.476	0.911	0.548	Improvement
St. Rose Dominican Hospital Siena	478	2	4.698	0.721	0.426	Improvement
St. Rose San Martin Hospital	101	1	1.188	0.000	0.842	No Improvement
Southern Hills Hospital and Medical Center	210	3	2.134	0.842	1.406	No Improvement
Summerlin Hospital and Medical Center	208	0	2.051	●	0.000	N/A
Sunrise Hospital and Medical Center	274	2	3.383	1.428	0.591	Improvement
University Medical Center of Southern Nevada	124	0	1.336	0.912	0.000	Improvement

● The SIR is only calculated if the number of expected HAIs is greater than 1.

Surgical Site Infection data for Hip Prosthesis (SSI-HPRO)

Among 19 hospitals and 3,444 total procedures, there were 42 reported infections in 2014. NHSN expected 43 cases in 2014, and seven healthcare facilities in the state did not have any reportable infections. Overall, the state improved when comparing the 2014 SIR to the 2013 SIR.

Expected Infections for NV 2014	Actual Infections for NV 2014
43	42

Table 8: Facility Specific Annual SSI Data for Hip Prosthesis (HPRO) (N=19)

Hospital Name	Total Procedures (2014)	# of Infection (2014)	# of Expected (2014)	2013 SIR	2014 SIR	Improved compare with Predicted Based on SIR 2013?
Nevada Total	3,444	42	43	0.895	0.873	Improvement
Carson Tahoe Regional Medical Center	238	2	4.157	2.189	0.481	Improvement
Centennial Hills Hospital	375	0	5.353	0.000	0.000	N/A
Desert Springs Hospital	68	0	1.150	0.599	0.000	Improvement
Mountain View Hospital	118	0	1.763	0.729	0.000	Improvement
North Vista Hospital	32	0	0.512	●	●	N/A
Northeastern Nevada Regional Hospital	29	0	0.553	●	●	N/A
Northern Nevada Medical Center	139	2	1.609	0.000	1.243	No Improvement
Renown Regional Medical Center	299	3	4.474	0.768	0.671	Improvement
Renown South Meadows	192	0	2.011	0.000	0.000	N/A
Spring Valley Medical Center	543	6	0.971	1.187	0.971	Improvement
St. Mary's Regional Medical Center	187	2	2.322	1.433	0.861	Improvement
St. Rose de Lima Hospital	100	1	1.298	0.000	0.771	No Improvement
St. Rose Dominican Hospital Siena	443	13	6.204	1.495	2.096	No Improvement
St. Rose San Martin Hospital	55	2	1.046	●	1.911	N/A
Southern Hills Hospital and Medical Center	202	2	2.534	1.016	0.789	Improvement
Summerlin Hospital and Medical Center	94	3	1.419	1.800	2.114	No Improvement
Sunrise Hospital and Medical Center	186	5	3.723	0.304	1.343	No Improvement
University Medical Center of Southern Nevada	75	0	1.195	0.959	0.000	Improvement

● The SIR is only calculated if the number of expected HAIs is greater than 1.

Surgical Site Infection data for Knee Prosthesis (SSI-KPRO)

Among 19 hospitals and 4,248 total procedures, there were 24 reported infections. NHSN expected 36 KPRO infections in 2014. Nine healthcare facilities in the state did not have any reportable infections. Overall, the state did improve when comparing the 2014 SIR to the 2013 SIR.

Expected Infections for NV 2014	Actual Infections for NV 2014
36	24

Table 9: Facility Specific Annual SSI Data for Knee Prosthesis (KPRO) (2014) (N=19)

Hospital Name	Total Procedures (2014)	# of Infection (2014)	# of Expected (2014)	2014 SIR	SIR P-value (2014)	2013 SIR
Nevada Total	4,248	24	36	0.549	0.0013	0.826
Carson Tahoe Regional Medical Center	222	4	2.930	1.365	0.5102	1.291
Centennial Hills Hospital	454	2	4.883	0.410	0.1794	0.000
Desert Springs Hospital	65	0	0.688	.	.	.
Mountain View Hospital	118	0	1.232	0.000	0.2917	0.000
North Vista Hospital	37	0	0.385	.	.	.
Northeastern Nevada Regional Hospital	59	0	0.528	.	.	.
Northern Nevada Medical Center	216	3	1.826	1.643	0.3894	1.361
Renown Regional Medical Center	451	0	4.576	0.000	0.0103	1.017
Renown South Meadows	210	1	1.827	0.547	0.6158	0.631
Southern Hills Hospital and Medical Center	279	3	2.529	1.186	0.7121	0.765
Spring Valley Medical Center	787	4	0.547	0.547	0.2136	1.437
St. Mary's Regional Medical Center	290	2	2.850	0.702	0.6804	1.261
St. Rose de Lima Hospital	41	0	0.368	.	.	.
St. Rose Dominican Hospital Siena	608	3	6.470	0.464	0.1580	0.789
St. Rose San Martin Hospital	48	0	0.424	.	.	.
Summerlin Hospital and Medical Center	112	1	0.968	.	.	0.000
Sunrise Hospital and Medical Center	122	1	1.448	0.691	0.8105	0.578
University Medical Center of Southern Nevada	43	0	0.473	.	.	.
Valley Hospital Medical Center	86	0	0.898	.	.	.

- The SIR is only calculated if the number of expected HAIs is greater than 1.

Conclusion

Infection prevention is an ongoing goal for Nevada. With best practices being used every day with every patient, Nevada can not only decrease, but eventually eliminate healthcare-associated infections. Nevada did see improvement by a decrease in infections when comparing 2013 data to 2014 data for the following infection types: CLABSI, CLABSI Adult ICUs/ICU-other, SSI, SSI-HPRO, and SSI-KPRO. Areas in which Nevada healthcare facilities need improvement in decreasing infection rates are: MRSA bloodstream infections, SSI-CBGB, and SSI-LAM. Further training on preventing infections for healthcare workers within hospitals in these areas is needed along with a change in the everyday practices. Proper hand hygiene before and after providing care to patients along with correct use and proper disposal of personal protective equipment can assist with preventing the spread of bacteria from one patient to another. Other methods of infection prevention include properly accessing and cleaning central lines and keeping bandages clean and dry. Practicing these and other practices are just a few methods that can decrease healthcare associated infections among patients in Nevada. There is still work to be done to ensure patients are not subjected to receiving an infection when they visit Nevada healthcare facilities, but we are well on our way to providing better healthcare within Nevada.

ACKNOWLEDGMENTS

This report was prepared by the Division of Public & Behavioral Health (DPBH) – Office of Public Health Informatics and Epidemiology (OPHIE).

Written, Compiled, and Edited By:

Kimisha Causey, MPH

Health Program Specialist II

Jessica Conner, MPH

Health Facilities Inspector II

Adrian Forero

Health Facilities Inspector III

Yucui (“Yurie”) Liu, MS

Biostatistician

Abegail Cruz

University of Nevada Las Vegas, Intern

Special thanks to all the agencies and healthcare facilities that contributed to this report. This report would not be possible without your support, cooperation and dedication to improve patients’ safety in Nevada.

For questions regarding this report please contact:

Healthcare Associated Infection Program, DPBH

3811 West Charleston Blvd Ste. 205, Las Vegas, NV 89102

Phone: 702-486-3568 or email: kcausey@health.nv.gov

References:

- Centers for Disease Control and Prevention. Bloodstream Infection Event. Central Line-Associated Bloodstream Infection and Non-central line-associated Bloodstream Infection. 2016. Retrieved from: http://www.cdc.gov/nhsn/PDFs/pscManual/4PSC_CLABScurrent.pdf
- Centers for Disease Control and Prevention. Healthcare-associated Infection. Central line-associated Bloodstream infection: Resources for patients and healthcare providers. 2011. Retrieved from: <http://www.cdc.gov/HAI/bsi/CLABSI-resources.html>
- Centers for Disease Control and Prevention. Healthcare-associated Infection. HAI Data and Statistics. 2016. Retrieved from: <http://www.cdc.gov/hai/surveillance/>
- Centers for Disease Control and Prevention. Healthcare-associated Infection. HAI Progress Report FAQ. 2016. Retrieved from: <http://www.cdc.gov/hai/surveillance/progress-report/faq.html>
- Centers for Disease Control and Prevention. Healthcare-associated Infection. Methicillin-resistant *Staphylococcus aureus* (MRSA) Infection in Healthcare Settings Retrieved from: <http://www.cdc.gov/mrsa/community/index.html>
- Edwards, J.R., & Dudeck, M. (2011) The Standardized Infection Ratio: What, Why and When. Retrieved from: http://eo2.commpartners.com/users/apic/downloads/110126_Presentation_Slides.pdf

FUNDING SOURCE

This report was produced by the Office of Public Health Informatics and Epidemiology of the Division of Public and Behavioral Health with funding from grant 6 NU50CK000419-03-01.

RECOMMENDED CITATION

Office of Public Health Informatics and Epidemiology. Division of Public and Behavioral Health. *2016 Healthcare Associated Infection Report, Second Edition*. Las Vegas, Nevada. March 2017.