

# HEALTH FACILITY DATA SURVEILLANCE PLAN NEVADA, 2016



**Brian Sandoval**  
Governor

**Richard Whitley, MS**  
Director

**Cody L. Phinney, MPH**  
Administrator

**John M. DiMuro, DO**  
Chief Medical Officer

*Nevada Division of Public and Behavioral Health*

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### [Nevada Healthcare Associated Infection Plan](#)

[Healthcare Associated Infection Progress Report](#)

[Appendix A and B from Serious Reportable Events in Healthcare, 2011 Update: A Consensus Report](#)

## BACKGROUND

### *The Division of Public and Behavioral Health*

It is the mission of the [Division of Public and Behavioral Health](#) (DPBH) to protect, promote and improve the physical and behavioral health of the people in Nevada. The vision is that DPBH is the foundation for improving Nevada's health.

### *Office of Public Health Informatics and Epidemiology*

One of the many programs within DPBH is the [Office of Public Health Informatics and Epidemiology](#) (OPHIE). The mission of OPHIE is to conduct disease surveillance, investigate disease outbreaks, and initiate disease control activities. To carry out this mission, OPHIE records and analyzes reportable disease information, conducts interviews with infected individuals and their contacts, refers individuals for medical treatment, analyzes data from disease investigations, identifies risk factors, provides education and recommendations on disease prevention, and works in conjunction with appropriate agencies to enforce communicable disease laws. OPHIE works collaboratively with the health jurisdictions in the state of Nevada, which consist of Carson City Health and Human Services (CCHHS), Washoe County Health District (WCHD), Southern Nevada Health District (SNHD), and Rural Health and Clinical Services (RHCS) which serves the 12 rural counties in Nevada.

## STAKEHOLDERS

Stakeholders are all entities interested in health facility data and healthcare acquired infections. This could include advisory boards, grantors, leadership, organizations, patients, professionals, providers, the public, researchers, state executives, the judicial and legislative branch, task forces, and regional, district, and local authorities.

## OUTBREAKS

### *Definition*

Per [NAC 441A.130](#), an outbreak is defined as the occurrence of cases in a community, geographic region or particular population at a rate in excess of that which is normally expected in that community, geographic region or particular population.

## Case Definitions

Development of a case definition is important in effective investigation of an outbreak. Case definitions serve to standardize the cases within an ongoing outbreak investigation, and among outbreak investigations that differ over time and geographic location. The case definition includes criteria for person, place, time, and clinical features.

**Table 1: Components of a case definition <sup>1</sup>**

Person	Describes key characteristics the patients share in common. For example, this description may include: age, sex, race, occupation, and exclusion criteria.
Place	Describes a specific geographic location or facility associated with the outbreak.
Time	Delineates a period of time associated with illness on set for the cases under investigation. Limiting the time period allows for exclusion of similar illnesses which are unrelated to the outbreak of interest.
Clinical Features	Consists of simple and objective descriptions, but may later be characterized by the presence of specific laboratory findings.

## SYNDROMIC SURVEILLANCE

Through surveillance, public health officials and practitioners are able to monitor the health status of a population and make decisions that impact the well-being of these populations. Unlike most other surveillance processes, however, syndromic surveillance uses near "real-time" health related data and statistical tools. Syndromic surveillance systems enable public health agencies to provide timely assessments of population health that, in conjunction with other information, assist with selecting appropriate public health actions.

Syndromic surveillance is particularly useful for situational awareness, response management, and outbreak recognition<sup>2</sup>. With this knowledge, public health professionals have the tools to navigate through situations, allocate appropriate resources, and target appropriate interventions in near real-time where multiple agencies and multiple data sets may be involved.

For more information on Nevada's Syndromic Surveillance Plan, please see the [Syndromic Surveillance Plan, January 2016](#).

## DATA SURVEILLANCE

### *National Healthcare Safety Network*

The [National Healthcare Safety Network](#) (NHSN) is an internet based surveillance system for patient and healthcare personnel safety data, and is managed by the Division of Healthcare Quality Promotion (DHQP) within the Centers for Disease Control and Prevention (CDC). NHSN is the most widely used healthcare associated infection (HAI) tracking system. NHSN currently collects data from over 17,000 facilities across the nation. NHSN provides medical facilities, states, regions, and the nation with data needed to:

- Identify infection prevention problems by facility, state, or specific quality improvement project
- Benchmark progress of infection prevention efforts
- Comply with state and federal public reporting mandates
- Drive national progress toward elimination of HAIs
- Track blood safety errors
- Track important healthcare process measures such as:
  - Healthcare personnel influenza vaccine status
  - Infection control adherence rates

The current Nevada State Plan is to target the following areas:

- Develop or enhance HAI program infrastructure
- Surveillance, detection, reporting, and response
- Prevention
- Evaluation, oversight, and communication

Table 2: HAI reporting requirements per [NAC 439.935](#) and [R104-12](#)

Facility Type	Infection					Measure		
	CLABSI	CAUTI	CDI	MRSA	SSI	Antimicrobial Resistance	Influenza Vaccination	Vaccination Module
Hospital (non-psychiatric)	•			•	•	•	•	
Hospital (psychiatric)	•						•	
Surgical Center for Ambulatory Patients					•		•	
Independent Center for Emergency Medical Care							•	
Obstetric Center							•	
Facility for Skilled Nursing		•	•†				•‡	•

† Effective January 1, 2016

‡ Effective October 1, 2016

### Healthcare Associated Infections (HAIs)

HAIs are infections people acquire while they are receiving treatment for another condition in a healthcare setting.

According to a report released by the CDC in early 2014, on any given day, about 1 in 25 (4%) hospital patients acquires at least one healthcare associated infection<sup>3</sup>.

The most common healthcare acquired infection types were:

- Pneumonia (22%)
- Surgical site infections (22%)
- Gastrointestinal infections (17%)
- Urinary tract infections (13%)
- Bloodstream infections unrelated to an infection at another site (10%)

The most common germs causing healthcare acquired infections were:

- *Clostridium Difficile* (12%)
- *Staphylococcus aureus* (11% including MRSA)

- *Klebsiella* (10%)
- *Escherichia Coli* (9%)
- *Enterococcus* (9%)
- *Pseudomonas* (7%)

**Table 3: Estimates of Healthcare Associated Infections Occurring in Acute Care Hospitals in the United States, 2011** <sup>4</sup>

Type of Healthcare Associated Infections	Estimated Number
Catheter-associated urinary tract infections (wards and critical care units)	54,500†
Central line-associated bloodstream infections (wards and critical care units)	30,100†
Surgical Site Infections associated with 10 surgical procedures	53,700†
Hospital-onset <i>Clostridium difficile</i> infections (all hospital locations)	107,700‡

† 2012    ‡ 2011

### **Central Line Associated Bloodstream Infection (CLABSI)**

CLABSI is a preventable bloodstream infection that occurs as a result of infection through the central line. A central line is considered an intravascular catheter that terminates at or close to the heart or in one of the great vessels which is used for infusion, withdrawal of blood, or hemodynamic monitoring<sup>5</sup>. (The following are considered to be acceptable vessels for the purposes of placing a central line: aorta, pulmonary arteries, superior vena cava, inferior vena cava, brachiocephalic veins, internal jugular veins, subclavian veins, external iliac veins, common iliac veins, femoral veins, and the umbilical artery and vein in neonates. NOTE: the femoral arteries are not considered ideal for the placement of a central line.<sup>6</sup>).

### **Catheter Associated Urinary Tract Infection (CAUTI)**

CAUTI is the most common type of healthcare acquired infection reported to NHSN. The most important risk factor for the development of CAUTI is prolonged catheter use, therefore it is extremely important that urinary catheters be used only when indicated and are removed as soon as they are no longer needed<sup>5</sup>.

### **Surgical Site Infection (SSI)**

SSI is an infection that occurs at or in the part of the body where the surgery took place. Some SSIs involve only the skin around the surgical

incision, but other more serious SSIs can occur under the skin, organs, or implanted materials<sup>6</sup>.

### ***Clostridium difficile Infection (CDI)***

CDI is a naturally occurring gut bacterium that is kept in control by other natural gut flora. However, when the other natural flora are killed by an extensive use of antibiotics, CDI can take over the gut and cause chronic and deadly diarrhea.

### ***Methicillin-resistant Staphylococcus aureus (MRSA)***

MRSA is a bacteria that is resistant to many antibiotics. Most MRSA infections in the community are skin infections, but in medical facilities MRSA can cause bloodstream infections, pneumonia, CAUTIs and surgical site infections.

## ***Sentinel Events and Sentinel Event Registry***

### **What is a Sentinel Event?**

Before October 1, 2013, a sentinel event was defined as: an unexpected occurrence involving facility acquired infection, death or serious physical or psychological injury or the risk thereof, including, without limitation, any process variation for which a recurrence would carry a significant chance of a serious adverse outcome. The term included loss of limb or function.

As of October 1, 2013, Nevada Assembly Bill 28 took effect and a sentinel event was redefined. Pursuant to [NRS 439.830](#), a sentinel event became defined as an event included in [Appendix A of “Serious Reportable Events in Healthcare, 2011 Update: A Consensus Report,”](#) published by the National Quality Forum.

### **Who Reports to the Sentinel Events Registry?**

According to [NRS 439.805](#), hospitals (rural and urban), obstetric centers (there are none currently licensed in NV), surgical centers for ambulatory patients, and independent centers for emergency medical care are required to report to the Sentinel Events Registry.

**Table 4: Sentinel events as defined in [NRS 439.830](#)**

Surgical or Invasive Procedure Events	
	Surgery or other invasive procedure performed on the wrong site
	Surgery or other invasive procedure performed on the wrong patient
	Wrong surgical or other invasive procedure performed on a patient
	Unintended retention of a foreign object in a patient after surgery or other invasive procedure
	Intraoperative or immediately postoperative/postprocedure death in an ASA Class I patient
Product or Device Events	
	Patient death or serious injury associated with the use of contaminated drugs, devices, or biologics provided by the healthcare setting
	Patient death or serious injury associated with the use or function of a device in patient care, in which the device is used or functions other than as intended
	Patient death or serious injury associated with intravascular air embolism that occurs while being cared for in a healthcare setting
Patient Protection Events	
	Discharge or release of a patient/resident of any age, who is unable to make decisions, to other than an authorized person
	Patient death or serious injury associated with patient elopement (disappearance)
	Patient suicide, attempted suicide, or self-harm that results in serious injury, while being cared for in a healthcare setting
Care Management Events	
	Patient death or serious injury associated with a medication error (e.g., errors involving the wrong drug, wrong dose, wrong patient, wrong time, wrong rate, wrong preparation, or wrong route of administration)
	Patient death or serious injury associated with unsafe administration of blood products
	Maternal death or serious injury associated with labor or delivery in a low-risk pregnancy while being cared for in a healthcare setting

	Death or serious injury of a neonate associated with labor or delivery in a low-risk pregnancy
	Patient death or serious injury associated with a fall while being cared for in a healthcare setting
	Any Stage 3, Stage 4, and unstageable pressure ulcers acquired after admission/presentation to a healthcare setting
	Artificial insemination with the wrong donor sperm or wrong egg
	Patient death or serious injury resulting from the irretrievable loss of an irreplaceable specimen
	Patient death or serious injury resulting from failure to follow up or communicate laboratory, pathology, or radiology test results
Environmental Events	
	Patient or staff death or serious injury associated with an electric shock in the course of a patient care process in a healthcare setting
	Any incident in which systems designated for oxygen or other gas to be delivered to a patient contains no gas, the wrong gas, or are contaminated by toxic substances
	Patient or staff death or serious injury associated with a burn incurred from any source in the course of a patient care process in a healthcare setting
	Patient death or serious injury associated with the use of physical restraints or bedrails while being cared for in a healthcare setting
Radiologic Events	
	Death or serious injury of a patient or staff associated with the introduction of a metallic object into the MRI area
Potential Criminal Events	
	Any instance of care ordered by or provided by someone impersonating a physician, nurse, pharmacist, or other licensed healthcare provider
	Abduction of a patient/resident of any age

	Sexual abuse/assault on a patient or staff member within or on the grounds of a healthcare setting
	Death or serious injury or a patient or staff member resulting from a physical assault (i.e., battery) that occurs within or on the grounds or a healthcare setting

## HOSPITAL BILLING DATA

The Nevada Department of Health and Human Services (DHHS), Division of Health Care Financing and Policy (DHCFP) have contracted with the [Center for Health Information Analysis](#) (CHIA) to collect, compile and make available select billing records. CHIA maintains billing records from inpatient, outpatient and ambulatory surgical centers in Nevada. These records enable DPBH to identify healthcare associated infections and other adverse events from diagnosis fields.

## BUREAU OF HEALTH CARE QUALITY AND COMPLIANCE (HCQC)

### *Licensure and Certification Database*

The licensure and certification database houses the licensing and certification records for healthcare facilities and medical laboratories in Nevada. State and regulatory licensing requirements must be followed by healthcare facilities. With the exception of a few facility types, healthcare facilities must first obtain a state license that must be renewed yearly before providing services. Licensure records contain general information as well as licensure history for each healthcare facility. These records enable DPBH to determine how many licensed healthcare facilities are operating in Nevada at any given time.

### *ASPEN*

ASPEN is a software application designed for the federal government by Alpine Technologies. There are two software components: ASPEN Central Office and ASPEN Complaint and Incident Tracking System. ASPEN Central Office houses HCQC inspection records. ASPEN Complaint and Incident Tracking System houses complaint records. The federal government has contracted with state governments to conduct federal surveys/inspections and respond to complaints. The data collected is used to track survey/inspection results and complaints for healthcare facilities in Nevada. These records enable DPBH to determine which deficiencies related to state and/or federal regulations are cited and issued to facilities most often.

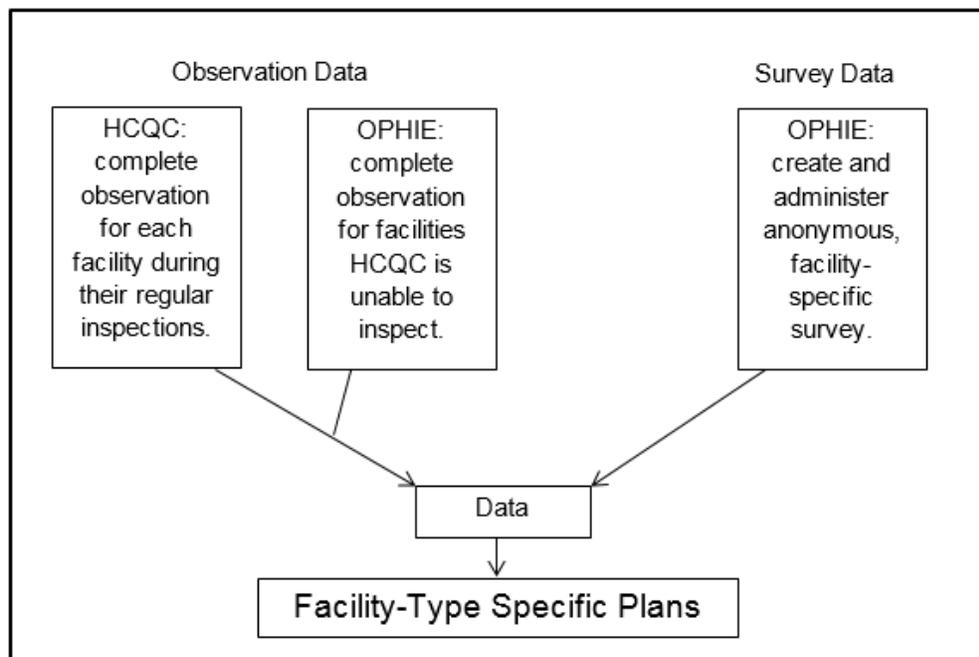
## INFECTION CONTROL ASSESSMENT SURVEYS

Facility specific assessment surveys are created by OPHIE, with tailored questions to address infection control practices and needs within that facility type. Please see Figure 2 for included modules for each facility type. These facility specific surveys are sent via email to the appropriate infection control contact at each facility of that type in Nevada. The surveys are anonymous to encourage accurate reporting.

Facilities have one month to complete the survey, with a reminder e-mail being sent half way through the month. In addition to these surveys, HCQC will conduct an observation checklist during their regular visits to each facility. This checklist will serve to validate the information OPHIE collects with the anonymous surveys. In an instance where HCQC cannot physically inspect a facility, OPHIE will inspect the facility. Data will be collected and housed within Qualtrics, an online survey software that specializes in data collection and analysis.

Facility specific aggregate data cultivated from the Infection Control Assessment surveys will provide OPHIE with information about where each type of facility needs more training and assistance. From this data, OPHIE can adapt its approach to different facilities, focusing on the weak areas in infection prevention. Facilities are also welcomed to request specific training or information be sent or presented to them.

**Figure 1: Infection Control Assessment Process**



**Table 5: Modules Included in Facility Specific Infection Control Assessment Surveys**

	Ambulatory Surgical Center	Facility for the Treatment of End Stage Renal Disease	Hospital	Skilled Nursing Facility
Infection Control Program	•	•	•	•
Communicable Disease Control	•	•	•	•
Hand Hygiene	•	•	•	•
Safe Injection Practices and Sharps Safety	•	•	•	•
Sterilization, High Level Disinfections, and Single Use Devices	•	•	•	• (no sterilization)
Employee Health Program	•	•	•	•
Environmental Infection Control	•	•	•	•
Glucometer Disinfection Between Patients	•	•	•	•
Antimicrobial Stewardship	•		•	•
Personal Protective Equipment	•	•	•	•
Pressure Ulcers			•	•
Outbreak Reporting	•	•	•	•

## REFERENCES

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2. Blumenthal D, Tavenner M. The “Meaningful Use” Regulation for Electronic Health Records. *New Engl J Med*. 2010.
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6. National Center for Emerging and Zoonotic Infectious Diseases. Division of Healthcare Quality Promotion. “NHSN Central Line-Associated Bloodstream Infection Surveillance in 2014.” March 12, 2014. Available: <http://www.cdc.gov/nhsn/PDFs/training/training-CLABSI-2014-with-answers-BW.pdf>

## APPENDIX

[\*Nevada Healthcare Associated Infection Plan\*](#)

[\*Nevada Healthcare Associated Infection Progress Report\*](#)

[\*Appendix A and B from Serious Reportable Events in Healthcare, 2011 Update:  
A Consensus Report\*](#)