

## **Blueprint for the Five-Year Plan of the Healthcare Acquired Infection (HAI) Reporting Program**

### **Purpose of this Document**

The purpose of this document is to support the Healthcare Acquired Infection (HAI) Advisory Committee to review current HAI Reporting Program activities in the state, to reaffirm the mission and goals of the program, and to outline future activities of the program to meet its mission and goals. This document is intended to be reviewed at least twice a year by the HAI Advisory Committee and to be revised and reissued once a year. Appendix A presents key abbreviations used in this document.

### **Background and Accomplishments**

HAIs are infections that patients contract while receiving treatment for medical and surgical conditions. The U.S. Centers for Disease Control and Prevention (CDC) estimates that HAIs contracted in U.S. hospitals account for approximately two million infections, 99,000 deaths, and an estimated \$4.5 billion in excess costs annually.<sup>1</sup> Even though rates may be dropping, it has also been estimated that 5-15% of all hospitalized patients experience an HAI and that these cases are widely underreported.<sup>2,3,4</sup>

The HAI Reporting Program was established in House Bill (HB) 2524 of the 2007 Oregon Legislature. The HAI Advisory Committee was first organized in October 2007 to advise the Oregon Office for Health Policy and Research (OHPR) in the development of the Oregon HAI Reporting Program, promulgated by Oregon Administrative Rules (OARs) 409-023-0000 through 409-023-0035.

When the Committee began meeting in October 2007, it was determined that 8 of 57 Oregon hospitals were using a system for collecting data on HAIs that would be comparable with public reporting. However, during its first year of deliberation, the committee observed that CDC's National Health and Safety Network (NHSN) database was emerging to be the nationally preferred network for hospital HAI data. The NHSN database offers standard definitions, protocols, and methodology for HAI reporting; a free, secure, and confidential electronic format; and the ability to perform comparisons between facilities

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1 Klevens, RM, Edwards JR, Richards CL, Horan T, Gaynes R, Pollock D, Cardo D. Estimating healthcare-associated infections in U.S. hospitals, 2002. *Public Health Rep* 2007;122:160-166.

2 Weinstein RA, Siegel JD, and Brennan PJ. "Infection Control Report Cards – Securing Patient Safety. *NEJM*. 2005: 353 (3), 225-227.

3 Smith RL, Bohl JK, McElearney ST, Friel CM, Barclay MM, Sawyer RG, and Foley EF. "Wound infection after elective colorectal surgery." *Ann Surg*. 2004: 239 (5), 599-605.

4 Eggimann P and Pittet D. "Infection control in the ICU." *Chest*. 2001: 120 (6), 2059-2093.

and against national benchmarks. Following selection of the NHSN database in 2008<sup>5</sup>, the committee partnered with the Association for Professionals in Infection Control (APIC) and the Oregon Association of Hospitals and Health Systems (OAHHS) to provide training for Oregon hospitals to use NHSN; this training included creating training materials, providing CDC Webinars, and offering on-site instruction.

Quarterly inpatient reporting to NHSN began January 1, 2009 and includes central line-associated bloodstream infections (CLABSIs) in ICUs and three surgical site infections (SSIs: coronary artery bypass graft surgery with both chest and graft incisions [CBGB]; coronary artery bypass graft surgery with chest incision only [CBGC]; and knee prosthesis procedures [KPROs]). The HAI reporting program also requires the use of select Surgical Care Improvement Project (SCIP) measures. The requirements starting in 2009 include SCIP-1 (antibiotic received 1-hour prior to surgical incision), SCIP-2 (prophylactic antibiotic selection for surgical patients), and SCIP-3 (prophylactic antibiotics discontinued within 24 hours after surgery end time).

As of December 2009, 54 of 57 of Oregon hospitals are reporting data on HAIs through NHSN. Three hospitals have received waivers for data collection, as these facilities do not perform the procedures represented by the current data set or do not have an intensive care unit. In addition, almost 50% of Oregon hospitals are reporting additional data to NHSN for internal quality improvement and infection control measurement.

The Committee also has advised OHPR in the development of the annual report of the HAI Reporting Program to inform and to educate the providers, patients and policymakers of the findings and progress of this program. The first annual report will be released in April 2010.

During the spring of 2009, the Committee sought additional funding to expand the HAI Reporting Program. The Oregon Public Health Division (OPHD) applied for a healthcare-associated infections grant through the U.S. Department of Health and Human Services, CDC, American Recovery and Reinvestment Act, Epidemiology and Laboratory Capacity for Infectious Diseases program. OPHD was awarded \$724,288 for this grant to conduct the following activities over 24 months:

Activity A: The OHPR will develop a state HAI prevention plan and provide oversight to ensure that it is implemented. The plan will express the vision of the many stakeholders as to how and why Oregon will meet its goals and objectives and will require the coordination with public and private organizations to achieve a unified set of policies to prevent HAIs.

Activity B: The OPHD will use NHSN data to estimate the burden of HAIs in Oregon, provide data to measure the impact of prevention programs occurring in the state, and it will plan and conduct a validation of the NHSN data.

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5 Office for Oregon Health Policy & Research, Oregon Administrative Rule [http://arcweb.sos.state.or.us/rules/OARS\\_400/OAR\\_409/409\\_023.html](http://arcweb.sos.state.or.us/rules/OARS_400/OAR_409/409_023.html)

Activity C: The Oregon Patient Safety Commission will develop a multi-hospital collaborative to introduce and champion evidence-based HAI prevention strategies. The overall goal for this project is to reduce HAIs in Oregon hospitals by at least 10% below benchmark each year for the next two years.

### **Goals of the HAI Reporting Program**

The mission of the Oregon HAI Reporting Program is to permanently improve healthcare in Oregon so that it is free from infections acquired during the delivery of healthcare.

The goals of the HAI Reporting Program are:

1. To create a state wide HAI surveillance system to leverage for practice changes that will prevent HAIs. The leverage comes from credible public reporting of targeted infections selected on the basis of high morbidity/mortality, high incidence in Oregon healthcare facilities, and if possible existing or emerging evidence-based practices to prevent infection.
2. To use scientifically valid measurement systems and methodology to identify, collect, and report HAI prevention targets.
3. To balance the needs of the surveillance program with the burden on healthcare facilities.
4. To educate healthcare providers (to enhance HAI prevention) and consumers (to consider HAI prevention when selecting healthcare providers).
5. To collaborate with and use local and national resources to address HAIs in the state.<sup>6</sup>
6. To clearly and efficiently report the results of the program to the public.

### **Next Steps: Proposals to expand the HAI Reporting Program**

The following activities are recommended to expand the HAI Reporting Program to meet the program goals stated above.

#### **Proposal #1: Expand mandatory SSI procedures reporting (Hospitals)**

- Step 1: Recommend prioritization for expansion
  - HAI Advisory Committee review draft two-tier priority list in Table 2 to expand SSI reporting in NHSN
  - List to be finalized in January 2010

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<sup>6</sup> Effective collaboration includes alignment with the US Department of Health and Human Services (US HHS) National Prevention Targets for HAIs and Healthcare Infection Control Practices Advisory Committee (HICPAC) Prioritized Recommendations. See Table 1 for US HHS National Prevention Targets.

- Step 2: Implementation of two-tier expansion through administrative rules
  - Staff to present amendment draft rules for Committee in March 2010
  - Finalize rules for public comment in May 2010
- Step 3: Notify and train hospitals in next two tiers of reporting
  - Notify hospitals of Tier 1 SSI measures after adoption of administrative rules for collection start date of January 2011
  - Partner with APIC and OAHHS to identify training needs and initiate training by July 2010 for Tier 1 SSIs
  - Notify hospitals of Tier 2 SSI measures by January 2011 for collection start date of July 2011
  - Partner with APIC and OAHHS to identify training needs and initiate training by January 2011 for Tier 2 SSIs
  - Incorporate Tier 1 SSI measures into 2011 annual report (to be issued April 2012); incorporate Tier 2 SSI measures into 2012 annual report (to be issued April 2013)
- Step 4: Evaluate hospital reporting program in July 2011
  - Evaluate remaining SSI measurements for inclusion in the hospital reporting program with a data collection start date of January 2012 using the same criteria during Step 1 of the expansion process

**Proposal #2: Mandatory reporting of MDRO through NHSN starting January 1, 2012 (Hospitals)**

- Step 1: Investigate NHSN MDRO module
  - Evaluate the NHSN MDRO module by having Acumentra and the State of New Jersey share their experiences using this module. To the extent possible, we will aim to learn the measurements used, barriers to use, and usefulness of the data.
  - HAI Advisory Committee to determine by January 2010 if a subcommittee is needed to investigate the MDRO module of NHSN and provide recommendations to the full committee.
  - HAI Advisory Committee to determine if it should include MDRO module in the HAI Reporting Program by July 2010.
  - If the MDRO module is included, complete Steps 2 through 5 below. If it is not completed, return the issue of MDRO reporting to the HAI Advisory Committee for re-evaluation.
- Step 2: Initiate voluntary MDRO pilot program
  - Formalize committee collaboration between OHPR and external stakeholders around MDRO module of NHSN and other activities through administrative rules
  - Develop recommendations for pilot program
  - Recruit hospitals for voluntary pilot program in 2011
- Step 3: Expand education of MDRO HAI reporting
  - Publish white paper about process similar to New York state HAI paper

- Develop learning collaborative for hospitals around use of MDRO module; the learning collaborative could be a state conference, webinars, or peer-to-peer collaborations based on the findings of this activity
- Step 4: Implementation of expansion through administrative rules
  - Draft rules to Committee March 2011 for inclusion of all hospitals for 2012
  - Final rules to Committee May 2011
- Step 5: Notify and provide training for hospitals for MDRO reporting
  - Notify hospitals of MDRO reporting requirement for collection start date of January 2012
  - Partner with APIC and OAHHS to identify training needs and initiate training by July 2011
  - Incorporate MDRO measures into 2012 annual report (to be issued April 2013)

**Proposal #3: Begin reporting “structure” process measures of best practices in 2010 (Hospitals)**

- Step 1: Create Reporting Form
  - Identify “best practices” for prevention and quality improvement for infection control (i.e. NISQIP, Checklists) by February 2010. See Table 3 for draft list of measurements.
  - Develop an annual reporting form for hospitals that identify implementation and use of best practices
- Step 2: Implementation of expansion through administrative rules
  - Staff to present amendment draft rules for Committee in March 2010
  - Finalize rules for public comment in May 2010
- Step 3: Notify hospitals and collect measurements
  - Notify hospital of structure measurements by July 2010.
  - Collect measures for calendar year 2010. Collect in January 2011.
  - Incorporate “structure” measures into annual report (issued April 2011)

**Proposal #4: Evaluate possible improvement to nursing home reporting (Nursing Homes)**

- Step 1: Evaluate Pennsylvania’s Nursing Home Reporting Program
  - Convene subcommittee to evaluate Pennsylvania’s use of its nursing home reporting program. Include external stakeholders on subcommittee.
  - From the Pennsylvania project, identify the measures collected, barriers to use, and usefulness of data.
  - Make recommendations to HAI Advisory Committee by April 2010.
  - If the HAI Advisory Committee recommends following the Pennsylvania model, implement steps 2 and 3 below. If not, issue returns to HAI Advisory Committee for re-evaluation.
- Step 2: Implementation of expansion through administrative rules
  - Establish small working group to assist staff in drafting rules
  - Present draft rules for Committee in May 2010

- Finalize rules for public comment in July 2010
- Step 3: Notify and support facilities
  - If the subcommittee recommends revising the nursing home reporting program from CMS reporting, identify new suite of measurements by July 1, 2010.
  - Identify training needs and resources and initiate training by August 1, 2010.
  - Communicate with nursing home community regarding revised reporting requirements by August 1, 2010.
  - Nursing homes to begin reporting as of January 1, 2011.
  - Incorporate revised nursing home measures into 2011 annual report (to be issued April 2012).

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**Table 1: US HHS Metrics and 5-Year HAI Prevention Targets**

Metric Number and Label	Metric	Measurement System	National 5-Year Prevention Target
1. CLABSI 1	CLABSIs per 1000 device days by ICU and other locations	CDC NHSN; Administrative discharge data <sup>7</sup>	CLABSIs per 1,000 device days by ICU and other locations below present NHSN 25 <sup>th</sup> percentile by location type (75% reduction in Stratified Infection Ratio)
2. CLABSI 4	Central line bundle compliance (non-emergent insertions)	NHSN CLIP module	100% compliance with central line bundle (non-emergent insertions)
3. C diff 1	Case rate per patient days; administrative/discharge data for ICD-9 CM coded <i>Clostridium difficile</i> Infections	Administrative discharge data; NHSN MDRO module	30% reduction in the case rate per patient days and administrative / discharge data for ICD-9-CM coded <i>Clostridium difficile</i> Infections NOTE: Preventability of endemic CDI is unknown; therefore, the meeting attendee experts suggested that HHS revisit this target in 2 years as prevention research findings may become available
4. CAUTI 2	# of symptomatic UTI / 1,000 urinary catheter days [Number of UTIs (ICD-9-CM +not present on admission) / (# major surgery ICD-9-CM + urinary catheter ICD-9CM)]*100 discharges	CDC NHSN Administrative discharge data <sup>8</sup>	25% reduction in the number of symptomatic UTI / 1,000 urinary catheter days 25% reduction in the [Number of UTIs (ICD-9-CM+not present on admission) / (# major surgery ICD-9-CM + urinary catheter ICD-9-CM)]*100 discharges <sup>9</sup>
5. MRSA 1	Incidence rate (number per 100,000 persons) of invasive MRSA infections	CDC EIP/ABCs	50% reduction in incidence rate of all healthcare-associated invasive MRSA infections
6. SSI 1	Deep incision and organ space infection rates using NHSN definitions (SCIP procedures)	CDC NHSN	Median deep incision and organ space infection rate for each procedure/risk group will be at or below the current NHSN 25 <sup>th</sup> percentile
7. SSI 2	Adherence to SCIP/NQF infection process measures (perioperative antibiotics, hair removal, postoperative glucose control, normothermia)	CMS SCIP	95% adherence rates to each SCIP/NQF infection process measure
CLABSI: Central line associated bloodstream infection. C diff: <i>Clostridium difficile</i> CAUTI: Catheter Associated Urinary Tract Infections MRSA: Methicillin-resistant <i>Staphylococcus aureus</i> SSI: surgical site infection		CLIP: Central Line Insertion Practices MDRO: Multidrug resistant organism EIP: The CDC's Emerging Infection Program ABC: Active Bacterial Core surveillance system	

<sup>7</sup> Any source that would provide nationally representative hospital discharge coding (i.e., ICD9 or, in the future, ICD10) data, including such sources as the Agency for Healthcare Research and Quality (AHRQ) Healthcare Cost and Utilization Project, the CDC National Center for Health Statistics or National Hospital Discharge Survey, and those in the Centers for Medicare and Medicaid Services (CMS).

<sup>8</sup> See above

<sup>9</sup> Zhan C, et.al. Medical Care (in press)

**Table 2: Draft Proposed Priority for SSI Procedures<sup>10</sup>**

NHSN SSI procedure	Infection Rate Pooled Mean (RC 0-3)	Hospital Volume, 2007	Expected Infections (Rate * Volume)	Hospitals ( $\geq 20$ procedures)	Product Index
<b>DRAFT TIER 1: to start reporting January 2011</b>					
Laminectomy (LAM)	.72-2.30	9608	69	22	1518
Hip Prosthesis (HPRO)	.67-2.40	6023	40	36	1440
Spinal fusion (FUSN)	.70-4.15	5310	37	20	740
Open reduction of fracture (FX)	1.11-3.36	4560	51	33	1683
Cardiac surgery (CARD)	1.10-1.84	2129	23	12	276
Peripheral vascular bypass surgery (PVBY)	2.93-6.98	942	28	12	336
Ventricular shunt (VSHN)	4.04-5.93	900	36	9	324
Abdominal Hysterectomy (HYST)	1.10-4.05	4293	47	34	1598
<b>DRAFT TIER 2: to start reporting June 2011</b>					
Exploratory laparoscopic abdominal surgery (XLAP)	1.67-2.82	6883	115	39	4485
Gallbladder surgery (CHOL)	0.23-1.72	4751	11	39	429
Appendix surgery (APPY)	1.15-3.47	4364	50	39	1950
Colon surgery (COLO)	3.99-9.47	4250	170	36	6120
Small bowel surgery (SB)	3.44-6.75	2653	91	24	2184
Herniorrhaphy (HER)	0.74-5.25	2572	19	29	551
Gastric surgery (GAST)	1.72-4.23	2024	35	14	490
Craniotomy (CRAN)	2.15-4.66	1944	42	10	420
Bile duct, liver or renal dialysis surgery (BILI)	8.07-13.65	979	79	11	869
Rectal Surgery (REC)	3.47-26.67	606	21	10	210
<b>DRAFT TIER 3: Measurements to Discuss</b>					
Cesarean Section (CSEC)	1.46-3.82	14,045	205	45	9225
Vaginal hysterectomy (VHYS)	.73-1.16	3062	22	31	682
Pacemaker (PACE)	0.44	2862	13	21	273
Carotid Endarterectomy (CEA)	0.33	1436	5	18	90
Breast surgery (BRST)	.95-6.36	1216	120	13	156
Abdominal aortic aneurysm repair (AAA)	2.12-6.46	261	6	5	30
Arteriovenostomy for renal dialysis (AVSD)	1.27	183	2	2	4

<sup>10</sup> Additional details on the content of this table are presented on the following pages.

## **Discussion of Draft Proposed Priority SSI Procedures (Table 2)**

The following section clarifies the data presented in Table 2.

**Infection Rate Pooled Mean (RC 0 - 3):** The infected rate pooled mean data<sup>11</sup> are presented as a range according to risk category of 0 through 3. The risk category predicts a patient's risk of acquiring a surgical site infection. The risk index score indicates how many of the following three risk factors are present:

1. The anesthesiologist has given the patient an American Society of Anesthesiologists' (ASA) physical status classification score of 3, 4, or 5.
2. The operation is classified as contaminated or dirty/infected.
3. The operation lasts longer than the duration cut point hours.

For more details on the definitions of these risk factors, see Appendix B. A risk score of 0 represents the lowest risk category and the absence of the three risk factors listed above.

**Hospital Volume:** For the listed SSI procedure, this is the count of procedures conducted in Oregon hospitals during calendar year 2007.

**Expected Infections:** This is the product of the "Infection Rate Pooled Mean" (risk category 0) and the "Hospital Volume" per 100 days. It is believed to be a conservative estimate of the infection rate for a given procedure in Oregon hospitals, as the mean value representing the risk category 0 is used in the calculation. For example, for the laminectomy procedure, it is estimated that 69 infections per 100 patient days occur each year in Oregon hospitals (i.e., 0.72 times 9,608, divided by 100).

**Hospitals (> 20 procedures):** This field represents the count of hospitals in Oregon which performed 20 or more procedures for a given SSI procedure during calendar year 2007.

**Product Index:** This field is the product of "Expected Infections" and "Hospitals  $\geq$  20 Procedures." For example, for laminectomy procedures, it is 69 times 22, or 1,518.

**Development of Draft Priority List for Table 2:** During December 2009, a workgroup met to create a draft proposed priority list for SSI procedures in an effort to provide a starting point for HAI Advisory Committee to develop its own list. Members discussed procedures that were seriously considered in previous deliberations of the HAI Advisory Committee and also attempted to select related procedures, in an effort to streamline training (i.e., with related procedures it was thought that the same team of professionals would be trained to identify and record HAIs) and to enhance reporting (i.e., the HAI reports could

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<sup>11</sup> NHSN report: Data summary for 2006 through 2008, issued December 2009. Jonathan R. Edwards, MStat, Kelly D. Peterson, BBA, Yi Mu, PhD, Shailendra Banerjee, PhD, Katherine Allen-Bridson, RN, BSN, CIC, Gloria Morrell, RN, MS, MSN, CIC, Margaret A. Dudeck, MPH, Daniel A. Pollock, MD, and Teresa C. Horan, MPH, Atlanta, Georgia.

provide HAIs on particular units in a facility). For example, members discussed that hip prosthesis and laminectomy were previously considered and then attempted to identify other orthopedic procedures. It was believed that it would be efficient to train orthopedic staff to identify and record HAIs and it would add to the richness of reporting to provide a well rounded picture of HAIs in orthopedic units in the hospital. In a similar manner, members identified procedures related to abdominal surgery in proposed Tier 2. In some cases, additional procedures were added that we felt should be considered by the committee, such as abdominal hysterectomy in Tier 1.

It is intended that the HAI Advisory Committee will evaluate the mission and goals of this project and then apply them to the draft proposed priority list for SSIs.

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**Table 3: Draft “Structure” Process Measures (Hospitals)**

No.	Measurement Name	Measurement Description
1	Environmental Cleaning	Hospitals will report the following: (1) report does environmental cleaning (not validated), (2) report does not implement environmental cleaning, or (3) validated that facility does environmental cleaning.
2.	Hand Hygiene Secret Shopper	(1) How many secret shopper events per month. (2) Ratio of secret shoppers per bed count.
3.	Participation in collaborative	<p>Hospitals will report what collaborative studies they have participated in within the past 5 years:</p> <p>Examples of collaboratives (list to be completed):</p> <ul style="list-style-type: none"> <li>• IHI Act Collaboratives</li> <li>• Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) prevention (Acumentra)</li> <li>• Surgical Care Improvement Project (SCIP) to prevent post-surgical infections (Acumentra)</li> <li>• NSQIP Collaboratives</li> <li>• OPSC Collaborative</li> <li>• Other MDRO collaboratives?</li> </ul> <p>The goal of this measurement would be to determine if the facility has a culture of participating in collaboratives.</p> <p>Note: Not all collaboratives are available to all hospitals.</p>
4	Influenza vaccine measurements	<p>(This is taken from rules for annual reporting for hospitals and long-term care facilities.)</p> <p>(1) Number of staff with a documented influenza vaccination during the previous influenza season.</p> <p>(2) Number of staff with a documented medical contraindication to influenza vaccination during the previous influenza season.</p> <p>(3) Number of staff with a documented refusal of influenza vaccination during the previous influenza season.</p> <p>(4) Facility assessment of influenza vaccine coverage of facility staff during the previous influenza season and plans to improve vaccine coverage of facility staff during the upcoming influenza season.</p>

## Appendix A Key Abbreviations

APIC - Association for Professionals in Infection Control  
CBGB - coronary artery bypass graft surgery with both chest and graft incisions  
CBGC - coronary artery bypass graft surgery with chest incision only  
CDC - Centers for Disease Control and Prevention  
CLABSI - Central Line-Associated Bloodstream Infection  
CMS - Centers for Medicare and Medicaid Services  
DHHS - Department of Health and Human Services (U.S.)  
HAI - Healthcare-Acquired Infection  
HICPAC - Healthcare Infection Control Practices Advisory Committee  
ICD-9 - International Classification of Diseases, Ninth Revision  
KPRO - knee prosthesis procedures  
MDRO - Multidrug-Resistant Organism  
MRSA - Methicillin-Resistant *Staphylococcus aureus*  
NHSN - National Healthcare Safety Network  
NQF - National Quality Forum  
NISQIP - National Surgical Quality Improvement Program, supported by the American College of Surgeons  
OAR - Oregon Administrative Rules  
OHPR - Oregon Office for Health Policy and Research  
OPHD - Oregon Public Health Division  
RC - Risk Category (in reference to surgical site infection risk categories)  
SCIP - Surgical Care Improvement Project  
SHEA - Society for Healthcare Epidemiologists of America  
SSI - Surgical Site Infection

## Appendix B: Surgical Site Infection (SSI) Risk Category<sup>12</sup>

**SSI Basic Risk Index:** This is a score used to predict a surgery patient's risk of acquiring a surgical site infection. The risk index score, ranging from 0 to 3, reveals how many of these risk factors are present:

- a. The anesthesiologist has given the patient an American Society of Anesthesiologists' (ASA) physical status classification score of 3, 4, or 5.
- b. The operation is classified as contaminated or dirty/infected.
- c. The operation lasts longer than the duration cut point hours. (See below for definition.)

**ASA Score:** This is an assessment by the anesthesiologist of the patient's physical condition prior to surgery. It uses the American Society of Anesthesiologist' (ASA) Classification of Physical Status. It's one of the factors that helps determine a patient's risk of acquiring a surgical site infection (a patient's SSI Basic Risk index). Here is the ASA scale:

1. Normally healthy patient
2. Patient with mild systemic disease
3. Patient with severe systemic disease that is not incapacitating
4. Patient with an incapacitating systemic disease that is a constant threat to life
5. Moribund patient who is not expected to survive with or without the operation.

**Wound Class:** This is an assessment of the degree of contamination of a surgical wound at the time of the operation. The wound class system used in the NHSN is an adaptation of the American College of Surgeons wound classification system. Wounds are divided into four classes:

- **Clean:** An uninfected operative wound in which no inflammation is encountered and the respiratory, digestive, genital, or uninfected urinary tracts are not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Operative incisional wounds that follow blunt trauma should be included in this category if they meet the criteria.
- **Clean-Contaminated:** Operative wounds in which the respiratory, digestive, genital, or urinary tracts are entered under controlled conditions and

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<sup>12</sup> The National Healthcare Safety Network (NHSN) Patient Safety Protocol, Division of Quality and Healthcare Promotion, National Center for Preparedness, Detection and Control of Infectious Disease, Chapter 16: Key Terms. March 2009, Atlanta, GA. [http://www.cdc.gov/nhsn/PDFs/pscManual/16pscKeyTerms\\_current.pdf](http://www.cdc.gov/nhsn/PDFs/pscManual/16pscKeyTerms_current.pdf)

without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection or major break in technique is encountered.

- **Contaminated:** Open, fresh, accidental wounds. In addition, operations with major breaks in sterile technique (e.g., open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute, nonpurulent inflammation is encountered are included in this category.
- **Dirty or Infected:** Includes old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing postoperative infection were present (in the operative field) before the operation.

**Duration Cut Point:** Different procedures have different duration cut points. The duration cut point of an operation is the typical time between skin incision and completion of skin closure. When a surgery lasts longer than the duration cut point hours assigned to that type of operation, infection risks may increase due to longer exposure to potential contamination. The duration cut point may also reflect the complexity of the procedure or surgical technique. For example: The duration cut point for a coronary bypass graft (chest and donor incision) is five hours. For abdominal hysterectomy, the duration cut point is two hours.

## Acumentra Health MRSA Project Overview

### Background

- A component of the Patient Safety Theme of 3-year Medicare QIO contract (2008–2011), focused on methicillin-resistant *Staphylococcus aureus* (MRSA).

### Aim

- Reduce infection and transmission rates of hospital-acquired MRSA infections

### Participants

- Three urban and two rural hospitals in Oregon, ranging from 24 to 329 beds, including some hospitals that previously reported other data to the National Healthcare Safety Network (NHSN)

### Project activities

- Each hospital collects data from one unit and submits MRSA data monthly to the NHSN's MDRO/CDAD module (see detail below).
- Hospitals participate in monthly group teleconferences for shared learning, problem solving, and learning from expert guest speakers.
- Three hospitals have been involved in developing the MDRO Safe Table toolkit, and several hospitals presented at the MDRO Safe Table conferences held in fall 2009.

## NHSN's Multidrug-Resistant Organisms (MDRO) and *Clostridium difficile*-Associated Disease (CDAD) Module

### Goals

1. "Monitoring of MDRO and *C. difficile* infections (CDI) will help evaluate local trends and changes in occurrence of these pathogens and related infections."
2. "This module will provide a mechanism for facilities to report and analyze MDRO and CDI data, in order to inform infection control staff of the impact of targeted prevention efforts."

### Organisms Monitored

1. MRSA and methicillin-sensitive *Staphylococcus aureus* (MSSA)
2. Vancomycin-resistant *Enterococcus* (VRE)
3. Multidrug-resistant (MDR) *Klebsiella*
4. Multidrug-resistant (MDR) *Acinetobacter*
5. *Clostridium difficile*-associated disease (CDAD)

## Online Training (<http://www.cdc.gov/nhsn/index.html>)

### **MDRO Infection Surveillance Training** (video = 30 min)

**Audience:** All NHSN users, including Facility Administrators and Group Administrators.

“This session describes the rationale for monitoring multidrug-resistant organisms (MDRO) in NHSN and outlines the protocol, definitions, and procedures used for MDRO Infection Surveillance data collection and reporting.”

### **LabID Event Reporting Training** (video = 30 min)

**Audience:** All NHSN users including Facility Administrators and Group Administrators.

“To calculate proxy measures of multidrug-resistant organism events, exposures, and healthcare acquisition, facilities may choose to monitor Laboratory-identified (LabID) Events. This surveillance method enables a facility to rely almost exclusively on data obtained from the laboratory. The training session covers the protocol, definitions, and procedures used to monitor LabID Events.”

### **Prevention Process and Active Surveillance Testing Outcome Measures Training**

(video = 30 min)

**Audience:** All NHSN users, including Facility Administrators and Group Administrators.

“This session describes the protocol, definitions, and procedures for monitoring Hand Hygiene adherence, Gown and Gloves Use adherence and Active Surveillance Testing (AST) adherence. Training on how AST results can be used to provide outcome measures that help facilities more accurately quantify exposure burden and/or healthcare acquisition of MRSA and/or VRE is also included in this session.”

### **C. difficile Infection Surveillance and C. difficile LabID Event Reporting Training**

(video = 34 min)

**Audience:** All NHSN users, including Facility Administrators and Group Administrators

“The first half of this session describes the rationale for monitoring *C. difficile* infection in NHSN and includes the protocol definitions and procedures used for *C. difficile* Infection Surveillance data collection and reporting.”

“To calculate proxy measures of *C. difficile* events, exposures, and healthcare acquisition, facilities may choose to monitor Laboratory-identified (LabID) Events. This surveillance method enables a facility to rely almost exclusively on data obtained from the laboratory. The second half of this session covers the protocol, definitions, and procedures used for monitoring LabID Events.”

## Required Reporting

1. Infection surveillance
2. Laboratory-identified (LabID) Event

## Optional Reporting

1. Prevention Process Measures:
  - Monitoring adherence to hand hygiene
  - Monitoring adherence to gown and glove use
  - Monitoring adherence to active surveillance testing
2. Active Surveillance Testing (AST) Outcome Measures

## **Infection Surveillance Analysis**

- MDRO/CDI Infection Incidence Rate = # of infections by MDRO or CDI/ # of Patient Days X 1000\*

## **LabID Event Reporting Analysis**

- Admission prevalence rate
- Overall prevalence rate
- Bloodstream infection admission prevalence rate
- Bloodstream infection incidence or incidence density rate
- Overall MDRO infection/colonization incidence rate\*
- Overall MDRO infection/colonization incidence density rate
- CDI incidence rate
- CDI healthcare facility-onset incidence rate
- CDI combined incidence rate

## **Prevention Process Measures Adherence Analysis**

- Adherence rate to process measures = # performed or used/ #indicated or eligible x 100

## **AST Outcome Measures Analysis**

- AST admission prevalence = # of admissions AST/Clinical/Known Positives /# of admissions x 100
- AST Incidence/Direct acquisition = # of discharge/transfer AST & new clinical positives/ # of patient days x 1000

\*CMS project metric

**Minutes  
HAI Reporting Advisory Group  
Meeting Held December 1, 2009**

**Members Present:** Jim Dameron, Woody English, Jeanne Negley, Barbara Prowe, Ron Jamtgaard, and by phone Jon Pelkey and James Oliver

1. Review of Draft Mock-up of HAI Annual Report prepared by James Oliver: In general, the group liked the types of data collected for the Annual Report. They would like to see an Executive Summary of several pages along with a brief list of Committee Members. Details from each participating hospital might better be stored in a linked site where a user could access it upon demand. The same could be said for the authorizing legislation. Printed copies could be distributed upon request – but the printed version could be much shorter than the mock-up draft as distributed. Dr. English noted that the OHPR web site, including the HAI web site, teaches patients how to do good preparation. Action Item: James Oliver agreed to prepare an Annual Report outline for our next meeting.
2. Likelihood of creating additional hospital-wide measures: The purpose of this agenda item was to trigger discussion of how we might require reporting of infections across more departments than critical care units and the knee surgery items. The ensuing discussion focused on use of total discharges, admits, or other measures rather than specific denominators for such items as device associated infections. It was suggested that critical care unit reporting could continue to provide device days (such as catheter days) whereas reporting for other hospital wards might use a different denominator. After a lengthy discussion, the group decided to revisit this topic in its next meeting. Is there an alternative metric for a denominator (perhaps outside of NHSN) that would help us to understand Oregon infections? Dameron sees this as process improvement. Use ICD-9 and divide by discharges, for example. Dameron suggested that we try this internally as a trial.
3. Update on access to federal stimulus dollars earmarked for public reporting (claims data, HAI, and other data). Barbara Prowe asked Carol Robinson for an update. Robinson said there were no dollars available. Her office is working on a health information exchange.
4. How do we build a reporting module that is consistent with HAI science? In a prior meeting, Dameron noted that 80% of HAI infections come from four infection types. The Feds currently focus on six infection sources – UTIs, CLABSI, VAPs, SSI, CDIF & MRSA. Dr. English suggested that we should not require hospitals to use a specific software system. Rather, we should build a data platform that would be filled with data from hospitals collecting data on the specific infections of interest. [This item will serve as input to James Oliver and Ron Jamtgaard in their attempts to define system specifications for collection of HAI data.]
5. How might National Surgical Quality Improvement efforts in Oregon aid the cause? Does NSQIP offer any added reporting possibilities? Dameron

reported that only 8 hospitals in Oregon are in NSQI today. He wonders whether NSQI could be used for evidence-based ways to improve hospital performance. He did not know how to tie NSQI into HAI Reporting. One goal is to allow consumers to find the best hospital for a particular diagnosis. This would mean that only certain hospitals should be "allowed" to do some surgeries. Would it be fair for the HAI group to include some NSQI process improvements in its reports?

6. Deferred Discussion: How do we create information to help consumers become better patients when seeking care?
7. Status of meetings involving James Oliver and Ron Jamtgaard regarding future database specifications: They have held only one meeting and have nothing to report yet.
8. Next Meeting: 1:00 to 3:00pm, Tuesday, January 12, 2010 in Barbara Prowe's Conference Room at 812 SW Tenth Avenue, 2<sup>nd</sup> Floor, suite 204.

Respectfully,  
Ron Jamtgaard  
[rjamtgaard@aol.com](mailto:rjamtgaard@aol.com)

#### Tentative Agenda for January 12 Meeting

1. Review of James' Annual Report Outline
2. Update from James and Ron on web-based reporting next steps
3. Status report on data in NHSN (i.e., percentage of missing data)
4. Update on how annual report will address the issue of educating the public to become better consumers of healthcare
5. Review decision not to report lower than 20 infections.

Please bring additional agenda items to the next meeting.

# Healthcare Acquired Infection Prevention Plan

## Oregon Patient Safety Commission Oregon Public Health Division Oregon Office of Health Policy and Research

### Introduction

Healthcare acquired infections (HAIs) are infections that patients contract while receiving treatment for medical and surgical conditions. The U.S. Centers for Disease Control and Prevention (CDC) estimates that HAIs contracted in U.S. hospitals account for approximately two million infections, 99,000 deaths, and an estimated \$4.5 billion in excess costs annually.<sup>1</sup> Even though rates may be dropping, it has also been estimated that 5-15% of all hospitalized patients experience an HAI and that these cases are widely underreported.<sup>234</sup>

In June 2007, the Oregon legislature passed House Bill 2524 to create a mandatory HAI Reporting Program in Oregon. In brief, the legislative mandates for the Oregon Office for Health Policy and Research (OHPR) are as follows:

- Implement an HAI surveillance and prevention program;
- Maintain a multi-disciplinary HAI Advisory Committee to advise the OHPR regarding the HAI Reporting Program;
- Require healthcare facilities to report on the following, but not limited to, list of measurements:
  - surgical site infections,
  - central line related bloodstream infections,
  - urinary tract infections, and
  - healthcare facility process measures designed to ensure quality and to reduce health care acquired infections;
- Prepare periodic reports that summarize the incidence of HAIs and compare rates among facilities and make these reports available to the public; and
- Regularly evaluate the quality and accuracy of the data collected for the HAI Reporting Program.

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1 Klevens, RM, Edwards JR, Richards CL, Horan T, Gaynes R, Pollock D, Cardo D. "Estimating healthcare-associated infections in U.S. hospitals," 2002. *Public Health Rep* 2007;122:160-166.

2 Weinstein RA, Siegel JD, and Brennan PJ. "Infection Control Report Cards – Securing Patient Safety." *NEJM*. 2005: 353 (3), 225-227.

3 Smith RL, Bohl JK, McElearney ST, Friel CM, Barclay MM, Sawyer RG, and Foley EF. "Wound infection after elective colorectal resection." *Ann Surg*. 2004: 239 (5), 599-605.

4 Eggimann P and Pittet D. "Infection control in the ICU." *Chest*. 2001: 120 (6), 2059-2093.

The Oregon HAI Advisory Committee was established in October 2007. When the committee began meeting in late 2007, it was determined that 8 of 57 Oregon hospitals were using a system for collecting data on HAIs that would be comparable with public reporting. However, during its first year of deliberation, the committee observed that the CDC's National Health and Safety Network (NHSN) database was emerging to be the nationally preferred network for hospital data. Following selection of the NHSN database, the committee partnered with Association for Professionals in Infection Control (APIC) and the Oregon Association of Hospitals and Health Systems (OAHHS) to provide training for all Oregon hospitals to use NHSN; this training included creating training materials, providing CDC Webinars, and offering on-site instruction. As of December 2009, 54 of the 57 Oregon hospitals are reporting data on HAIs through NHSN. Three hospitals have received waivers for data collection, as these facilities do not perform the procedures represented by the current data set or do not have an intensive care unit.

The Oregon Public Health Division (OPHD) has been awarded a grant of \$724,288 by the U.S. Department of Health and Human Services (DHHS), Centers for Disease Control and Prevention (CDC), American Recovery and Reinvestment Act, Epidemiology and Laboratory Capacity for Infectious Diseases (ELC), Healthcare-associated Infections program. Using these funds, commencing in September 2009, the HAI Reporting Program will conduct the following activities:

Activity A: The OHPR will develop a state HAI prevention plan and provide oversight to ensure that it is implemented. The plan will express the vision of the many stakeholders as to how and why Oregon will meet its goals and objectives and will require the coordination with public and private organizations to achieve a unified set of policies to prevent HAIs.

Activity B: The OPHD will use NHSN data to estimate the burden of HAIs in Oregon, provide data to measure the impact of prevention programs occurring in the state, and it will plan and conduct a validation of the NHSN data.

Activity C: The Oregon Patient Safety Commission (OPSC) will develop a multi-hospital collaborative to introduce and champion evidence-based HAI prevention strategies. The overall goal for this project is to reduce HAIs in Oregon hospitals by at least 10% below benchmark each year for the next two years.

### **Clarification on “Underway” and “Planned” Activities**

This planning document presents activities in two groups: items that are underway and items that are planned. For the purposes of this document, an item that is designated as “underway” means that funds are currently allocated for it. Therefore, it includes activities in which the state is currently engaged and includes activities that are scheduled to begin using currently available resources. Planned activities represent future directions the state would like to move in to meet currently unmet needs, contingent on available resources and competing priorities.

### **Key Abbreviations**

APIC - Association for Professionals in Infection Control and Epidemiology

CDC - Centers for Disease Control and Prevention

CSTE - Council of State and Territorial Epidemiologists

DHHS - Department of Health and Human Services (U.S.)

ELC - Epidemiology and Laboratory Capacity for Infectious Diseases

HAI - Healthcare Acquired Infection

HICPAC - Healthcare Infection Control Practices Advisory Committee

HL7 - Health Level 7. HL7 is an all-volunteer, non-profit organization involved in the development of international healthcare standards.

HL7 and its members provide a framework (and related standards) for the exchange, integration, sharing, and retrieval of electronic health information.

IHI - Institute for Healthcare Improvement

MDRO - Multidrug-Resistant Organism

MRSA - Methicillin-Resistant *Staphylococcus aureus*

NHSN - National Healthcare Safety Network

OAHHS - Oregon Association of Hospitals and Health Systems

OHPR - Oregon Office for Health Policy and Research

OPHD - The Oregon Public Health Division

OPHD ACDP - The Oregon Public Health Division, Acute and Communicable Disease Prevention

OPSC - Oregon Patient Safety Commission

## PLAN

### Section 1. Oregon Infrastructure Planning for HAI Surveillance, Prevention and Control

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Establish statewide HAI prevention leadership through the formation of multidisciplinary group or state HAI advisory council i. Collaborate with local and regional partners (e.g., OAHHS, Acumentra, APIC, Oregon IHI network) ii. Identify specific HAI prevention targets consistent with DHHS priorities	Oct. 2007, then ongoing Jul. 2008, then ongoing
	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
			<i>Other activities or descriptions (not required):</i>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Establish an HAI surveillance prevention and control program i. Designate a State HAI Prevention Coordinator  ii. Develop dedicated, trained HAI staff with at least one FTE to oversee the four major HAI activity areas (Integration, Collaboration, and Capacity Building; Reporting, Detection, Response and Surveillance; Prevention; and Evaluation, Oversight and Communication)	Nov. 2009
	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Nov. 2009- Apr. 2010
			<i>Other activities or descriptions (not required):</i>	
<input type="checkbox"/>	<input type="checkbox"/>	3. Integrate laboratory activities with HAI surveillance, prevention and control efforts.  Improve laboratory capacity to confirm emerging resistance in HAI pathogens and perform typing where appropriate (e.g., outbreak investigation support, health-level 7 [HL7] messaging of laboratory results)		
		<i>Other activities or descriptions (not required):</i>		

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level II	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Improve coordination among government agencies or organizations that share responsibility for assuring or overseeing HAI surveillance, prevention and control (e.g., State Survey agencies, The Oregon Public Health Division, Acute and Communicable Disease Prevention [OPHD ACDP], state licensing boards)	Jul. 2009, then ongoing
			<i>Other activities or descriptions (not required):</i> i. Improve coordination between OHPR, OPHD, and OPSC in their HAI reduction efforts by developing statewide goals and objectives.	Jan. 2010, then ongoing
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. Facilitate use of standards-based formats (e.g., Clinical Document Architecture, electronic messages) by healthcare facilities for purposes of electronic reporting of HAI data. Providing technical assistance or other incentives for implementations of standards-based reporting can help develop capacity for HAI surveillance and other types of public health surveillance, such as for conditions deemed reportable to state and local health agencies using electronic laboratory reporting (ELR). Facilitating use of standards-based solutions for external reporting also can strengthen relationships between healthcare facilities and regional nodes of healthcare information, such as Regional Health Information Organizations (RHIOs) and Health Information Exchanges (HIEs). These relationships, in turn, can yield broader benefits for public health by consolidating electronic reporting through regional nodes.	
		<i>Other activities or descriptions (not required):</i> i. Implement electronic transfer of laboratory data into NHSN at 5 to 6 institutions in the state.		Consider in 2012
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

## Section 2. Oregon Planning for Surveillance, Detection, Reporting, and Response for HAIs

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1. Improve HAI outbreak detection and investigation <ul style="list-style-type: none"> <li>i. Work with partners including Council of State and Territorial Epidemiologists (CSTE), CDC, legislature, and providers across the healthcare continuum to improve outbreak reporting to OPHD</li> <li>ii. Establish protocols and provide training for health department staff to investigate outbreaks, clusters or unusual cases of HAIs.</li> <li>iii. Develop mechanisms to protect facility/provider/patient identity when investigating incidents and potential outbreaks during the initial evaluation phase where possible to promote reporting of outbreaks</li> <li>iv. Improve overall use of surveillance data to identify and prevent HAI outbreaks or transmission in healthcare settings (e.g., hepatitis B, hepatitis C, multi-drug resistant organisms [MDRO], and other reportable HAIs)</li> </ul>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
			<i>Other activities or descriptions (not required):</i>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2. Enhance laboratory capacity for state and local detection and response to new and emerging HAI issues.	
			<i>Other activities or descriptions (not required):</i>	
Level II	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. Improve communication of HAI outbreaks and infection control breaches <ul style="list-style-type: none"> <li>i. Develop standard reporting criteria including, number, size and type of HAI outbreak for OPHD and CDC</li> </ul>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ii. Establish mechanisms or protocols for exchanging information about outbreaks or breaches among state and local governmental partners (e.g., State Survey agencies, OPHD ACDP, state licensing boards)	
			<i>Other activities or descriptions (not required):</i>	
	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	4. Identify at least 2 priority prevention targets for surveillance in support of the DHHS HAI Action Plan <ul style="list-style-type: none"> <li>i. Central Line-associated Bloodstream Infections (CLABSI)</li> <li>ii. <i>Clostridium difficile</i> Infections (CDI)</li> <li>iii. Catheter-associated Urinary Tract Infections (CAUTI)</li> <li>iv. Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) Infections*</li> <li>v. Surgical Site Infections (SSI)</li> <li>vi. Ventilator-associated Pneumonia (VAP)</li> </ul>	Jul. 2008  See below.  Jul. 2008, then ongoing
			<i>Other activities or descriptions (not required):</i> *Oregon has conducted surveillance for invasive cases of MRSA in 3 counties in the metropolitan Portland area since 2004 as part of the Active Bacterial Core surveillance of the Oregon Emerging Infections Program.	2004
	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	5. Adopt national standards for data and technology to track HAIs (e.g., NHSN). <ul style="list-style-type: none"> <li>i. Develop metrics to measure progress towards national goals (align with targeted state goals)</li> <li>ii. Establish baseline measurements for prevention targets</li> </ul>	Apr. 2010, then ongoing Apr. 2010, then review annually
			<i>Other activities or descriptions (not required):</i>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. Develop state surveillance training competencies i. Conduct local training for appropriate use of NHSN including facility and group enrollment, data collection, management, and analysis	Sep. 2008, then ongoing
			<i>Other activities or descriptions (not required):</i> ii. Conduct annual education update/refresher training on NHSN in collaboration with Oregon APIC and OAHHS	Sep 2010, then annually
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Develop tailored reports of data analyses for state or region prepared by state personnel	Apr. 2010, then ongoing
			<i>Other activities or descriptions (not required):</i> i. Develop web-based interactive reporting for HAI data ii. Include section in reports regarding consumer use of HAI data to select healthcare provider	Apr. 2011 Apr. 2010, then ongoing
<b>Level III</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Validate data entered into HAI surveillance (e.g., through healthcare records review, parallel database comparison) to measure accuracy and reliability of HAI data collection	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	i. Develop a validation plan	Dec. 2009 – Jan. 2010
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ii. Pilot test validation methods in a sample of healthcare facilities	Feb. 2010
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	iii. Modify validation plan and methods in accordance with findings from pilot project	Apr. 2010
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	iv. Implement validation plan and methods in all healthcare facilities participating in HAI surveillance	May 2010 - Sep. 2011
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	v. Analyze and report validation findings	Oct. - Nov. 2011
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	vi. Use validation findings to provide operational guidance for healthcare facilities that targets any data shortcomings detected	Dec. 2011
			<i>Other activities or descriptions (not required):</i>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. Develop preparedness plans for improved response to HAI <ul style="list-style-type: none"> <li>i. Define processes and tiered response criteria to handle increased reports of serious infection control breaches (e.g., syringe reuse), suspect cases/clusters, and outbreaks</li> </ul>	
			<i>Other activities or descriptions (not required)</i>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. Collaborate with professional licensing organizations to identify and investigate complaints related to provider infection control practice in non-hospital settings, and to set standards for continuing education and training	
			<i>Other activities or descriptions (not required):</i>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. Adopt integration and interoperability standards for HAI information systems and data sources <ul style="list-style-type: none"> <li>i. Improve overall use of surveillance data to identify and prevent HAI outbreaks or transmission in HC settings (e.g., hepatitis B, hepatitis C, multi-drug resistant organisms [MDRO], and other reportable HAIs) across the spectrum of inpatient and outpatient healthcare settings</li> </ul>	
	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> <li>ii. Promote definitional alignment and data element standardization needed to link HAI data across the nation.</li> </ul>	
			<i>Other activities or descriptions (not required):</i>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Enhance electronic reporting and information technology for healthcare facilities to reduce reporting burden and increase timeliness, efficiency, comprehensiveness, and reliability of the data <ul style="list-style-type: none"> <li>i. Report HAI data to the public</li> </ul>	Apr. 2010, then ongoing

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<i>Other activities or descriptions (not required):</i> ii. See Section 1, Activity 5, part i.	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. Make available risk-adjusted HAI data that enables state agencies to make comparisons between hospitals.	Program underway; applies to limited measurements. We plan to expand in the future.
			<i>Other activities or descriptions (not required):</i>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Enhance surveillance and detection of HAIs in nonhospital settings	
			<i>Other activities or descriptions (not required):</i> i. Evaluate adding measurements for long-term care facilities ii. Evaluate adding measurements for ambulatory surgical centers and outpatient renal dialysis centers	2010-2011 2013
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

### Section 3. Oregon Planning for HAI Prevention Activities

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Implement Healthcare Infection Control Practices Advisory Committee (HICPAC) recommendations. i. Develop strategies for implementation of HICPAC recommendations for at least 2 prevention targets specified by the state multidisciplinary group.	July 2010
	<i>Other activities or descriptions (not required):</i>			
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Establish prevention working group under the state HAI Advisory Committee to coordinate state HAI collaboratives  i. Assemble expertise to consult, advise, and coach inpatient healthcare facilities involved in HAI prevention collaboratives	Recruitment underway. Group to be convened Jan/Feb 2010 Ongoing
	<i>Other activities or descriptions (not required):</i>			
	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	3. Establish HAI collaboratives with at least 10 hospitals (i.e. this may require a multi-state or regional collaborative in low population density regions) i. Identify staff trained in project coordination, infection control, and collaborative coordination ii. Develop a communication strategy to facilitate peer-to-peer learning and sharing of best practices	Apr. 2010  Feb.-Apr. 2010  Feb.-Apr. 2010, then ongoing

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	iii. Establish and adhere to feedback of clear and standardized outcome data to track progress	Jun.-Jul. 2010, then ongoing
			<i>Other activities or descriptions:</i> iv. Develop strategy to extend learning to non-participating hospitals. v. OPHD will provide data summaries on outcomes needed by prevention collaborative and serve as a consultant to support the selection of outcomes and metrics to track compliance	Fall 2010, then ongoing Feb. 2010, then ongoing
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. Develop state HAI prevention training competencies i. Consider establishing requirements for education and training of healthcare professionals in HAI prevention (e.g., certification requirements, public education campaigns and targeted provider education) or work with healthcare partners to establish best practices for training and certification	
			<i>Other activities or descriptions (not required):</i> ii. See Section 2, Activity 6, part ii.	
<b>Level II</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. Implement strategies for compliance to promote adherence to HICPAC recommendations i. Consider developing statutory or regulatory standards for healthcare infection control and prevention or work with healthcare partners to establish best practices to ensure adherence	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ii. Coordinate/liaise with regulation and oversight activities such as inpatient or outpatient facility licensing/accrediting bodies and professional licensing organizations to prevent HAIs	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	iii. Improve regulatory oversight of hospitals, enhancing surveyor training and tools, and adding sources and uses of infection control data	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	iv. Consider expanding regulation and oversight activities to currently unregulated settings where healthcare is delivered or work with healthcare partners to establish best practices to ensure adherence	
			<i>Other activities or descriptions (not required):</i> v. Sustain HAI improvement efforts over time by developing funding model and sustainability plan.	2010-2011
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. Enhance prevention infrastructure by increasing joint collaboratives with at least 20 hospitals (i.e., this may require a multi-state or regional collaborative in low population density regions)	Serious consideration in 2011
			<i>Other activities or descriptions (not required):</i>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7. Establish collaborative to prevent HAIs in nonhospital settings (e.g., long term care, dialysis)	Serious consideration in 2011
			<i>Other activities or descriptions (not required):</i>	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

## Section 4. Oregon HAI Evaluation and Communication Planning

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Conduct needs assessment and/or evaluation of the state HAI program to learn how to increase impact	Jun. 2010
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	i. Establish evaluation activity to measure progress ii. Establish systems for refining approaches based on data	Aug. 2010
			<i>Other activities or descriptions (not required):</i>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Develop and implement a communication plan about the state's HAI program and progress to meet public and private stakeholders needs	Jun. 2010
			i. Disseminate state priorities for HAI prevention to healthcare organizations, professional provider organizations, governmental agencies, non-profit public health organizations, and the public	
			<i>Other activities or descriptions (not required):</i>	
Level II	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Provide consumers access to useful healthcare quality measures	Apr. 2010, then ongoing
			<i>Other activities or descriptions (not required):</i>	
Level III	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Identify priorities and provide input to partners to help guide patient safety initiatives and research aimed at reducing HAIs	Aug. 2010
			<i>Other activities or descriptions (not required):</i>	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				