

AGENDA

Health Care Acquired Infections (HAI) Advisory Committee

December 17, 2014

1:00 – 3:00 pm

800 NE Oregon St., Portland, OR 97232, Room 1A

Phone: 877.873.8018 (passcode: 7872333)

Item	Presenter (Affiliation)	Time
1. Call to Order	Chair Mary Shanks (Kaiser)	1:00 – 1:05
2. Approval of June & Sept. HAIAC Meeting Minutes	All Members	1:05 – 1:10
3. 2013-2014 Healthcare Worker Influenza Vaccination Report	Monika Samper (OHA)	1:10 – 1:20
4. 2012 CLABSI Validation Project: Results and Discussion	Genevieve Buser (OHA)	1:20 – 1:35
5. 2013 CDI Validation Project: Overview and Discussion	Kate Ellingson (OHA)	1:35 – 1:45
6. OAR updates	Monika Samper (OHA)	1:45 – 1:50
7. Overview of OAR-mandated surveys to be distributed Jan 2015 to IPs, Labs, & LTCFs	Genevieve Buser (OHA)	1:50-1:55
8. BREAK		1:55-2:00
9. Making the 2014 HAI Annual Report More Actionable: Interactive Session on Proposed Metrics & Organization	Kate Ellingson (OHA)	2:00-2:30
10. Standing Agenda: Committee Member Updates	All Members	2:30-2:55
11. (time permitting) Integrating Reporting and Prevention	Kate Ellingson (OHA)	~~~~
12. Public comment / Adjourn	Chair	2:55– 3:00

Meeting Materials:

Agenda
Sept. 25, 2014 Minutes Draft
Oregon Annual HAI Report (hand out in meeting)
CDC “mock” state report
State Sponsored Parking Validation

Next Meeting:

March 25, 2015, 1 to 3 p.m.
Portland State Office Building,
Room 1B
800 NE Oregon Street
Portland, OR 97232

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HEALTHCARE-ASSOCIATED INFECTIONS ADVISORY COMMITTEE
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**September 24, 2014
1:00 pm to 3:00 pm**

**Portland State Office Building, Room 1A
800 NE Oregon Street
Portland, OR 97232**

MEMBERS PRESENT: Ann Thomas, MD, MPH (in place of Paul Cieslak, MD)
Joan Maca
Laurie Murray-Snyder
Rachel Plotinsky, MD (phone)
Mary Shanks, RN, MSN, CIC
Diane Waldo, MBA, BSN, RN, CPHQ, CPHRM, LNCC (phone)

MEMBERS EXCUSED: Kelli Coelho, RN, CNOR
Julia Fontanilla, RN, MN
Jill Freeman
Jon Furuno, PhD
Jamie Grebosky, MD
Csaba Mera, MD
Nancy O'Connor, RN, BSN, MBA, CIC
Pat Preston, MS (phone)
Dana Selover, MD, MPH
Dee Dee Vallier
Bethany Walmsley, CPHQ, CPPS

STAFF PRESENT: Kate Ellingson, PhD, Healthcare-Associated Infections Reporting Epidemiologist
Zintars Beldavs, MS, Healthcare-Associated Infections Program Manager
Monika Samper, RN, Healthcare-Associated Infections Reporting Coordinator
Ann Thomas, MD, MPH, Acute and Communicable Disease Medical Epidemiologist

ISSUES HEARD:

- Call to Order
- Approval of Minutes
- HAIAC Items
- Annual HAI Report and CDC State Report
- New HAI Map
- Standing Agenda: Oregon Patient Safety Commission

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- **Standing Agenda: Ambulatory Surgery Centers**
- **Standing Agenda: Long-Term Care Facilities**
- **Standing Agenda: Oregon Association of Hospital & Health Systems**
- **Standing Agenda: Acumentra**
- **Public Comment/Adjourn**

These minutes are in compliance with Legislative Rules. Only text enclosed in italicized quotation marks reports a speaker's exact words. For complete contents, please refer to the recordings.

Item	Discussion	Follow-Up
Call to Order	The meeting was called to order at approximately 1:00 pm. Insufficient members were present to achieve a quorum.	
Approval of Minutes	Minutes for the June 25, 2014 meeting could not be approved without a quorum.	
<p>HAIAC items: introduce new member, call for chairperson, introduce Kate Ellingson</p> <p>OHA Staff</p>	<p><u>New Committee Member</u> Mary Shanks, an infection preventionist with years of experience working in long-term care facilities and in hospitals within Legacy, Providence, and Kaiser healthcare systems, will serve in the role of a registered nurse with interest and involvement in infection control.</p> <p><u>New OHA Staff Member</u> Kate Ellingson, who worked at the CDC for seven years in the Division of Healthcare Quality Promotion, has accepted the position of HAI Reporting Epidemiologist with the Oregon Health Authority. Kate will be responsible for the 2014 HAI annual report and will be performing analyses and creating reports for other HAI-related projects.</p> <p><u>New Chairperson</u> Janet Sullivan has resigned from the committee, so a new chairperson is needed for a two-year commitment. OHA requested volunteers/nominations, but none of the attendees</p>	<p>OHA will recruit a chairperson.</p>

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Item	Discussion	Follow-Up
	expressed an interest in the position or suggested candidates. Therefore, OHA will assume responsibility for finding a chairperson and will keep the committee apprised.	
<p>Annual HAI Report and CDC State Report</p> <p>OHA Staff</p>	<p>The recently published <i>Health Care Acquired Infections 2009-2013 Oregon Report</i> is available online at: http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/HAI/Documents/Reports/hai_report_2009_2013.pdf. Committee members offered these comments and suggestions:</p> <ul style="list-style-type: none"> • Graphics are favorable, particularly the vertical SIR bar charts, containing a horizontal line to mark an SIR value of 1. • Charts that list all organizations for a particular facility type could be stratified, possibly by region, to improve readability. • Information meaningful to consumers, that is, how each infection type might affect a person's life, should be incorporated into the report. Examples include: average increase in hospital stay and overall mortality rate based on factors such as age and comorbidities. • Written report might be limited to a short, executive summary with simple graphics to convey basic information (e.g., color-coded up and down arrows to indicate how each hospital compares to the national baseline) supplemented by online tools, including the current interactive Oregon map, to drill down for more data. • HAI report could be produced quarterly--the original intent of the Oregon Administrative Rules/Revised Statutes--to more accurately reflect changing infection rates, thereby smoothing out spikes over time. The increased workload placed on hospitals by quarterly reporting, however, might need to be offset by reducing data requirements. • Data in the report needs to be used, not only to inform consumers of facility infection rates, but to: <ul style="list-style-type: none"> ○ Analyze current trends to establish future objectives. ○ Identify hospitals with low infection rates to ascertain best practices. 	<p>OHA would like feedback on CDC's graphic template for displaying summary data from committee members at the next meeting.</p>

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Item	Discussion	Follow-Up
	<ul style="list-style-type: none"> ○ Pinpoint facilities with high infection rates that might benefit from assistance. <p>In addition to Oregon’s annual report, CDC will be publishing an HAI progress report in December 2014, featuring a two-page graphic display of each state’s 2013 summarized data. CDC’s report for Oregon can be viewed on pages 8-9 of the meeting materials. OHA would like feedback on using this graphic template, including suggestions and comments on the content and design of the template, for summarizing facility data in the next annual report.</p>	
<p>New HAI Map</p> <p>OHA Staff</p>	<p>The new Healthcare-Associated Infections (HAI) interactive map can be accessed through the HAI website by either using the link provided in the meeting agenda or searching for “Oregon HAI Map” on the internet. Once on the main HAI webpage, select “HAI Publications and Maps”, located at the top, left portion of the screen, to find links to the map and instructions for using the map. This new tool offers a wide range of information for hospitals with user-friendly graphics:</p> <ul style="list-style-type: none"> ● Explanation of each reportable infection type and Surgical Care Improvement Project (SCIP) measure. ● Color-coded directional triangles to indicate: <ul style="list-style-type: none"> ○ How each hospital’s rate compares to the national baseline for central line-associated blood stream infections (CLABSIs), surgical site infections (SSIs), and hospital-onset <i>Clostridium difficile</i> infections (HO-CDIs). ○ Each facility’s percentage category (less than 50%, 50%-74%, etc.) for SCIP compliance and flu vaccination rates. ● Bar charts that display 2013 rates for all or a subset of hospitals, allowing comparisons among facilities. Statistics offered include: <ul style="list-style-type: none"> ○ Standard infection ratio (SIR) for CLABSIs, SSIs, and CDIs. ○ Percent of patients who received appropriate care as defined by SCIP measure. ○ Percent of healthcare workers who obtained an influenza vaccination (reporting period is 2012-2013 flu season). 	

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Item	Discussion	Follow-Up
	<ul style="list-style-type: none"> • Graphs that show multiple years of statistics for a single hospital, thereby revealing trends over time. In addition to aforementioned data available for hospital comparisons, statistics for individual facilities encompass: <ul style="list-style-type: none"> ○ Number of central-line days and CLABSIs. ○ Rate of CLABSIs per 1000 central-line days. ○ Number of surgical procedures and SSIs. ○ Percent of surgical procedures resulting in SSIs. <p>Meeting participants liked the interactive map and recommended advertising this tool to consumers through avenues such as trade organizations. To further serve the public, a member suggested linking each metric on the map, if the software permits, to the relevant section of the HAI annual report, allowing the user to easily access more detailed information.</p>	
<p>Standing Agenda: Oregon Patient Safety Commission</p> <p>Mary Post & Jessica Lenar</p>	<p>Collaborative efforts the Oregon Patient Safety Commission is spearheading include:</p> <ul style="list-style-type: none"> • Two Oregon Stop UTI initiatives aimed at reducing UTI rates by improving nursing staff infection prevention skills and promoting a culture of safety: <ul style="list-style-type: none"> ○ AHRQ Long-Term Care Collaborative (September 2014 to October 2015) – is a national initiative comprised of 182 organizations within 9 states that offers a structured learning collaborative, with opportunities for participants to share experiences, through in-person meetings, webinars, and conference calls. The Oregon component has 19 nursing facilities enrolled from profit, nonprofit, church-associated, and government-hospital district organizations. ○ Portland Metro Collaborative Pilot (September 2014 to June 2015) - consists of healthcare professionals, from 11 of the 19 Portland area nursing homes participating in the Oregon AHRQ Long-Term Care Collaborative, whose mission is to pilot and implement the UTI-prevention tools. The geographic area of facilities participating in this collaborative has been limited to permit more onsite consultations and support. • The Oregon Regional MDRO Prevention Collaborative (August 2013 to July 2014) 	

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Item	Discussion	Follow-Up
	<p>included diverse healthcare organizations, such as hospitals, nursing facilities, and emergency medical transport, from the North Coast, Linn-Benton, and South Coast regions. Participants track and report three monthly measures:</p> <ul style="list-style-type: none"> ○ Facility-onset of CDI and MDROs – 21 CDI and 17 MDRO cases reported for 104,805 patient/resident days. ○ MDRO transfer form usage (documents patient MDRO colonization or infection status at time of inter-facility transfer) –36.1% overall compliance rate for 1,641 patient transfers. ○ Hand hygiene adherence– 89.2% overall compliance rate for 7,009 observations. <p>A survey at comparing pre- and post-collaborative activities revealed:</p> <ul style="list-style-type: none"> ○ Increased use of standard definitions to identify infections. ○ Statistically significant rise in written and verbal communications by the originating facility when transferring a patient in isolation or with an active/history of MDRO or CDI colonization or infection. ○ Considerable improvement in ability of facilities to implement MDRO and CDI surveillance, hand hygiene audits, patient isolation, and environmental cleaning. ○ Better surveillance for less common, high-risk MDROs including CRE-<i>Klebsiella</i>, CRE-<i>E.coli</i>, Cephalosporin-resistant <i>Klebsiella spp</i>, and multidrug-resistant <i>acinetobacter</i>. 	
<p>Standing Agenda: Ambulatory Surgery Centers Kelli Coelho</p>	<p>No updates.</p>	

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Item	Discussion	Follow-Up
Standing Agenda: Long-Term Care Facilities Joan Maca	No updates.	
Standing Agenda: Oregon Assoc of Hospital & Health Systems Diane Waldo	No updates.	
Standing Agenda: Aumentra Laurie Murray-Snyder	<p>Beginning August 1, 2014, state Quality Improvement Organization (QIO) programs were grouped by CMS into regionalized Quality Innovation Networks (QINs) named QIN-QIOs. Formerly an Oregon QIO, Aumentra is now an affiliate of the HealthInsight Quality Innovation Network, a private, nonprofit community-based organization dedicated to improving healthcare. Nevada, New Mexico, and Utah are also part of the network.</p> <p>Although still performing the work of a QIO, Aumentra chose to act as a subcontractor, rather than become a bona fide QIO member of the HealthInsight network, in order to maintain autonomy. As a network affiliate, Aumentra's healthcare-associated infections component is focused on reducing central line-associated blood stream infections (CLABSIs), catheter-associated urinary tract infections (CAUTI), <i>Clostridium difficile</i> infections (CDI), and ventilator-associated events (VAE). Currently, Aumentra's efforts are centered on providing education to facilities on the National Healthcare Safety Network's (NHSN) healthcare-associated infection definitions.</p>	
Public Comment / Adjourn	No public comments.	

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Next meeting will be December 17, 1:00 pm to 3:00 pm, at the Portland State Office Building, Room 1A.

Submitted By: Diane Roy

Reviewed By: Kate Ellingson
Zintars Beldavs

EXHIBIT SUMMARY

A – Agenda

B – June 25, 2014 Minutes

C – CDC State Report

D – Healthcare Associated Infections Advisory Committee Report

E – Oregon Regional MDRO Prevention Collaboratives

G – QIO Program: Quality Innovation Network – Quality Improvement Organizations

DRAFT**HEALTHCARE-ASSOCIATED INFECTIONS ADVISORY COMMITTEE**

**June 25, 2014
1:00 pm to 3:00 pm**

**Portland State Office Building, Room 1B
800 NE Oregon Street
Portland, OR 97232**

MEMBERS PRESENT: Paul Cieslak, MD
Kelli Coelho, RN, CNOR (phone)
Julia Fontanilla, RN, MN (phone)
Jon Furuno, PhD
Jamie Grebosky, MD (phone)
Tara Gregory, MS, FNP
Joan Maca
Rachel Plotinsky, MD (phone)
Pat Preston, MS (phone)
Dana Selover, MD, MPH
Dee Dee Vallier (phone)

MEMBERS EXCUSED: Jill Freeman
Csaba Mera, MD
Laurie Murray-Snyder
Nancy O'Connor, RN, BSN, MBA, CIC
Janet Sullivan, RN
Diane Waldo, MBA, BSN, RN, CPHQ, CPHRM, LNCC
Bethany Walmsley, CPHQ, CPPS

STAFF PRESENT: Dianna Appelgate, MS, MPH, CIC, CPHQ, Clinical Epidemiologist
Zintars Beldavs, MS, Healthcare-Associated Infections Program Manager
Monika Samper, RN, Healthcare-Associated Infections Reporting Coordinator
Ann Thomas, MD, MPH, Acute and Communicable Disease Medical Epidemiologist

ISSUES HEARD:

- Call to Order
- Approval of Minutes
- Update: Follow-up Items (HO/CO-HCFA CDI)
- Annual HAI Report

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- **Standing Agenda: Oregon Patient Safety Commission**
- **Standing Agenda: Ambulatory Surgery Centers**
- **Standing Agenda: Long Term Care Facilities**
- **Standing Agenda: Oregon Association of Hospital & Health Systems**
- **Standing Agenda: Acumentra**
- **Inpatient/Outpatient SSI Reporting**
- **Update on Status of OAR 333-018**
- **Public Comment/Adjourn**

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Item	Discussion	Follow-Up
Call to Order	The meeting was called to order at approximately 1:00 pm. There was a quorum.	
Approval of Minutes	Minutes for the March 26, 2014 meeting were unanimously approved (see pages 1-7 of meeting materials).	
Update: Follow-up items (HO/CO-HCFA CDI) OHA Staff	Committee members at the March 26, 2014 meeting suggested adding information about healthcare facility-associated (HCFA) community onset <i>Clostridium difficile</i> infections (CDI) to the HAI annual report (refer to page 8 of meeting materials). According to data extracted from the National Healthcare Safety Network (NHSN), 68% of reported HCFA <i>C. difficile</i> LabID events are hospital onset (other types of healthcare facilities are not currently required to report CDI cases) while only 32% are community onset. However, OHA questions the completeness of this data and meeting attendees concurred. Experts believe that most reoccurrence of CDI presents in the outpatient setting, but clinics are not required to report these cases. Therefore, accurate measurement of HCFA community onset events is not possible at this time.	

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Item	Discussion	Follow-Up
<p>Annual HAI Report</p> <p>OHA Staff</p>	<p>A high-level overview of the recently published Health Care Acquired Infections 2009-2013 Oregon Report was provided by OHA (see pages 11-25 of meeting materials):</p> <p><u>Outcome Measures</u></p> <ul style="list-style-type: none"> • Central line-associated blood stream infections (CLABSIs) in adult ICUs - rates are dropping, leading Oregon to report 71% fewer CLABSIs in 2013 than the national baseline. • Central line-associated blood stream infections in NICUs - Oregon is well below the national SIR baseline of 1. • Coronary artery bypass graft (CBGB) surgical site Infections (SSIs) - except for a dip in 2012, rates have been relatively constant, indicating little improvement. • Colon surgery (COLO) SSIs - small variance in rates between years. • Hip prosthesis (HPRO) SSIs - after being above an SIR of 1 for 2011-2012, rates dropped to 0.67 in 2013. • Abdominal hysterectomy (HYST) SSIs - slight rise in 2013 (may be the result of a decrease in supracervical hysterectomies due to FDA concerns over the spread of undiagnosed cancer). • Knee prosthesis (KPRO) SSIs - lowest in 5 years after a moderate rise in 2012 • Laminectomy (LAM) SSIs - minor increase • Hospital onset CDI LabID - infection rates have grown by 10% (may be due to some hospitals changing over to a more sensitive lab test). • Dialysis events, which include both blood stream and access-related blood stream infections - both types of infections are below the NHSN pooled mean for fistula, graft, and tunneled and non-tunneled central line access methods. 	<p>OHA will send information on the logistic regression model used to calculate SIRs to committee members.</p>

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Item	Discussion	Follow-Up
	<p>In summary, although many outcome measures show improvement, SIRs for some procedures have either increased or remained relatively flat. Therefore, data needs to be employed for not only surveillance, but to develop an action plan for effective HAI prevention. The action plan might include:</p> <ul style="list-style-type: none"> • Determine methods hospitals with low SIRs are utilizing to lower infections. • Establish standardized procedures to reduce HAIs based on research findings. • Offer assistance to hospitals with high SIRs. • Enlist CMS surveyors already in the field to watch for improper patient care, as defined by the committee, and share the citations and plan of correction given to healthcare facilities with OHA. <p><u>Process Measures</u></p> <ul style="list-style-type: none"> • Healthcare worker influenza vaccination rates - increased by 8% for all surveyed healthcare organizations, including hospitals, free-standing ambulatory surgery centers, and long-term care facilities. • Surgical Care Improvement Project (SCIP) measures – compliance rates for all measures are above 95%. 	
<p>Standing Agenda: Oregon Patient Safety Commission</p> <p>Mary Post</p>	<p>Improvement activities with free-standing licensed dialysis facilities ceased in late February, and OPSC is in the process of evaluating the data. Although a final report is not yet available, data indicate that efforts were extremely effective in prevention of dialysis catheter-associated blood stream infections.</p> <p>OPSC is also engaged in several grant-sponsored projects:</p> <ul style="list-style-type: none"> • Offer training programs for long-term care facilities, which approximately 50% of LTCFs are attending. • Wrapping up multidrug-resistant organisms (MDROs) prevention collaborative comprised of three different Oregon regions: north coast, 	

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Item	Discussion	Follow-Up
	<p>Linn/Benton County, and south coast. The collaborative brings together a diverse community, including hospitals, nursing homes, and assisted living facilities, to work together and provide a forum for members to learn from each other. OPSC also provides on-site support to facilities experiencing problems/concerns with MDROs.</p>	
<p>Standing Agenda: Ambulatory Surgery Centers</p> <p>Kelli Coelho</p>	<p>No updates.</p>	
<p>Standing Agenda: Long- Term Care Facilities</p> <p>OHA</p>	<p>Oregon Administrative Rules (OAR) 333-018 now mandate that long-term care facilities (LTCFs) submit an annual Infection Prevention Program Survey to OHA beginning in 2015. To develop ideas for the content of this survey, OHA has been researching existing tools. In the meeting materials, are:</p> <ul style="list-style-type: none"> • A copy of the NHSN Annual Facility Survey (page 26-27 of meeting materials) • A list of additional items deemed important by OHA that were not included in the NHSN survey (page 9 of meeting materials). Items were gleaned from: <ul style="list-style-type: none"> ○ OPSC Infection Prevention Program Survey ○ CDC LTCF Baseline Prevention Practices Assessment Tool ○ Oregon MDRO Surveillance and Response Network LTCF Needs Assessment. <p>OHA asked for recommendations from the committee on what items should be included in the questionnaire in order to assess LTCFs ability to implement and maintain infection prevention practices. Members responded with an inquiry as to whether CMS surveyors were already gathering this information from some, if not all, LTCFs. OHA will investigate further and present a more formalized</p>	

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Item	Discussion	Follow-Up
	version of the survey at the next meeting.	
Standing Agenda: Oregon Association of Hospital & Health Systems Diane Waldo	No updates.	
Standing Agenda: Acumentra Laurie Murray-Snyder	No updates.	
Inpatient/Outpatient SSI Reporting Jennifer Zeck	<p>Currently, the HAI annual report only furnishes data for inpatient procedures, but hysterectomies, laminectomies, and total joint replacements are increasingly being performed in an outpatient setting. This can potentially skew infection data because inpatient surgeries are more likely to be performed on patients at a greater risk of acquiring an infection due to comorbidities coupled with a longer exposure to the healthcare environment. To illustrate this point, Ms. Zeck presented Good Samaritan Regional Medical Center’s 2013 data for inpatient and outpatient laminectomy cases (see pages 28-29 of meeting materials):</p> <ul style="list-style-type: none"> • Almost half of the laminectomies took place in an outpatient setting: 209 outpatient surgeries compared to 231 inpatient surgeries. • SIRs for inpatient laminectomies were substantially higher: 1.218 for inpatient surgeries versus 0.566 for outpatient surgeries. <p>Consumers therefore need both inpatient and outpatient rates to be accurately informed of each hospital’s incidence of infection for a particular procedure. Perhaps outpatient cases reported by some hospitals through NHSN could be incorporated into the HAI annual report. Members, however, expressed a concern that presenting inconsistent data—inpatient statistics for some hospitals and both inpatient and outpatient data for other facilities—might be confusing to readers. Another option might be to mandate the reporting of outpatient procedures. As a starting point, OHA would like to present this idea at an APIC meeting for feedback. If a favorable response is received, OHA would potentially survey all facilities to ascertain the viability of</p>	Present idea of mandating reporting of outpatient procedures at APIC meeting and present feedback to committee.

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Item	Discussion	Follow-Up
	hospitals supplying outpatient data.	
Standing Agenda: Update on Status of OAR 333-018 OHA Staff	Changes to Oregon Administrative Rules 333-018 discussed at the March meeting have been finalized and are available online.	
Public Comment / Adjourn	No public comments	

Next meeting will be September 24, 1:00 pm to 3:00 pm, at the Portland State Office Building, Room 1A.

Submitted By: Diane Roy

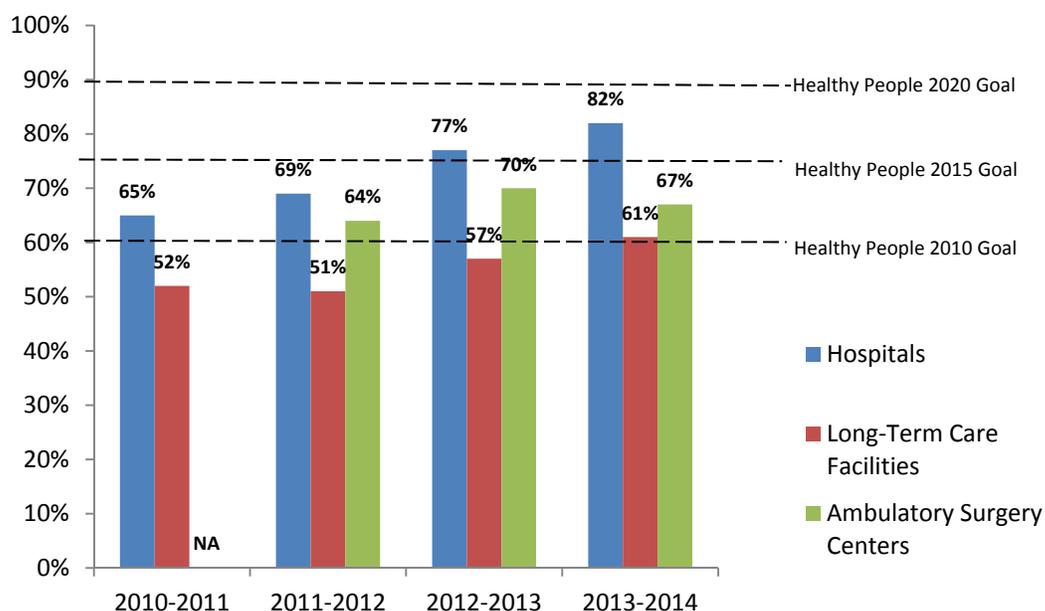
Reviewed By: Zintars Beldavs

EXHIBIT SUMMARY

- A – Agenda**
- B – March 26, 2014 Minutes**
- C – Follow-up and New Items**
- D – Oregon Annual HAI Report - 2013**
- E – Long Term Care Facility Component—Annual Facility Survey**
- F – MDRO Nursing Home Qualitative Questions**
- G – FSRMC 2013 LAM Comparison**

2013 – 2014 Healthcare Worker Influenza Vaccination Rates

Employee influenza vaccination percentages for 2010 – 2014 seasons: progress towards Healthy People Goals



Talking points:

- Hospitals are only facility meeting 2015 Healthy People goal (for 2nd year)
- LTCFs increased 4 points and ASCs dropped 3 points from last season

Facilities meeting Healthy People targets for employees for hospitals, long-term care facilities (LTCF), and ambulatory surgical centers (ASC), 2010 – 2014 seasons

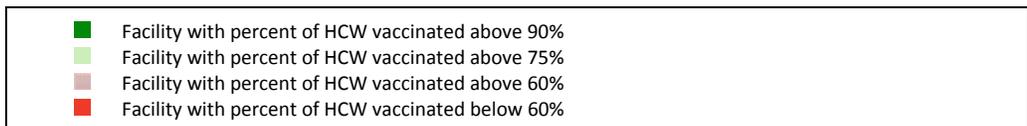
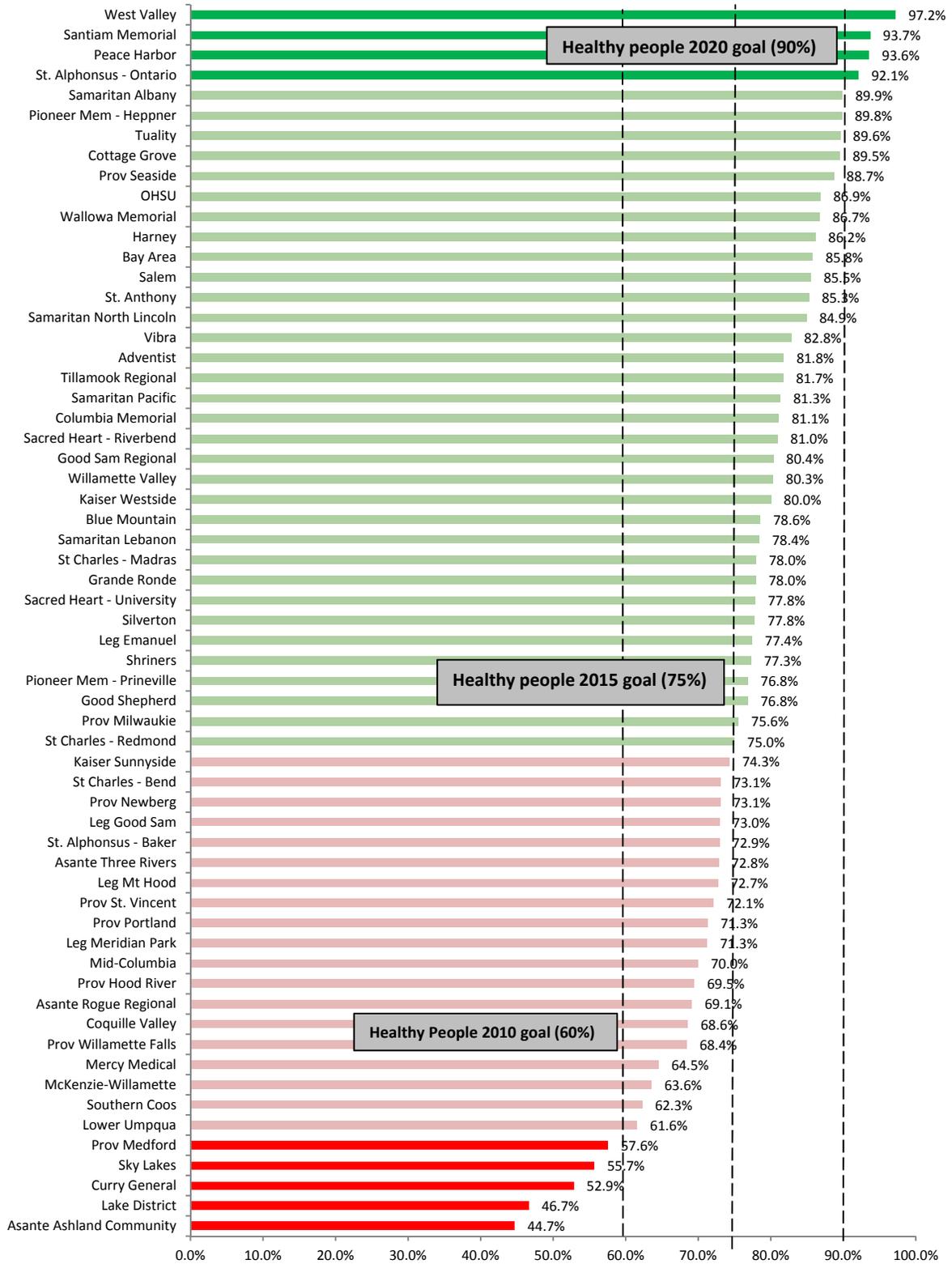
Facility Category	Count of Facility	60% or Greater Vaccination		75% or Greater Vaccination		90% or Greater Vaccination	
		Count	Percent	Count	Percent	Count	Percent
Hospitals							
2010-2011	60	44	73%	29	48%	4	7%
2011-2012	60	55	92%	43	72%	4	7%
2012-2013	60	57	95%	42	70%	5	8%
2013-2014	61	59	97%	49	80%	18	30%
Long-Term Care Facilities							
2010-2011	128	48	38%	358	27%	3	2%
2011-2012	140	54	39%	36	26%	8	6%
2012-2013	139	82	59%	37	27%	8	6%
2013-2014	139	72	52%	40	29%	13	9%
Ambulatory Surgery Centers							
2010-2011	<i>Not Collected</i>						
2011-2012	87	51	59%	38	44%	7	8%
2012-2013	84	55	65%	38	45%	17	20%
2013-2014	88	69	78%	43	49%	19	22%

Talking points:

- Hospitals had greatest increase in number of facilities meeting both 75% and 90% vaccination at 80% and 30%, respectively
- ASCs had 2nd greatest increase in meeting 75% vaccination goal at 49% of ASCs met the 2015 goal, and 22% of ASCs met the 2020 goal of 90%
- LTCF had 29% of facilities meeting the 2015 goal and 9% meeting the 2020 goal

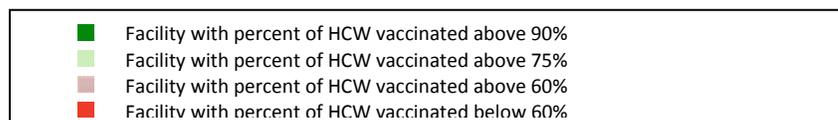
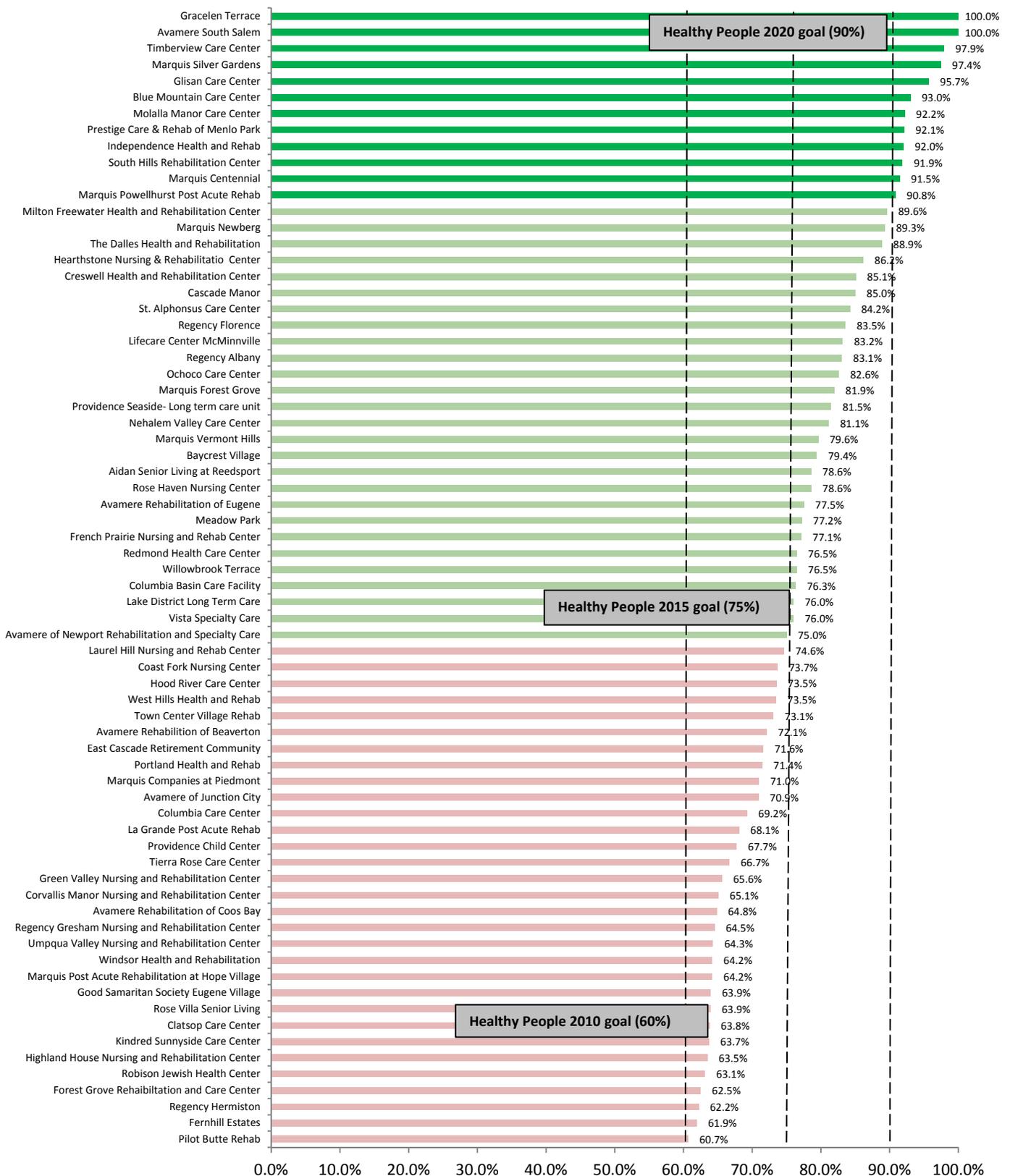
2013 – 2014 Healthcare Worker Influenza Vaccination Rates

Hospital overall influenza vaccination percentages, 2013 - 2014 season



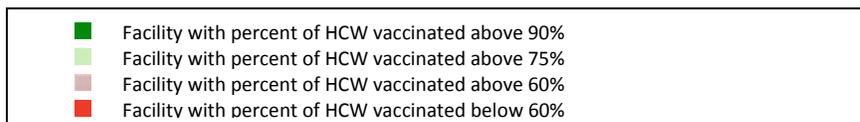
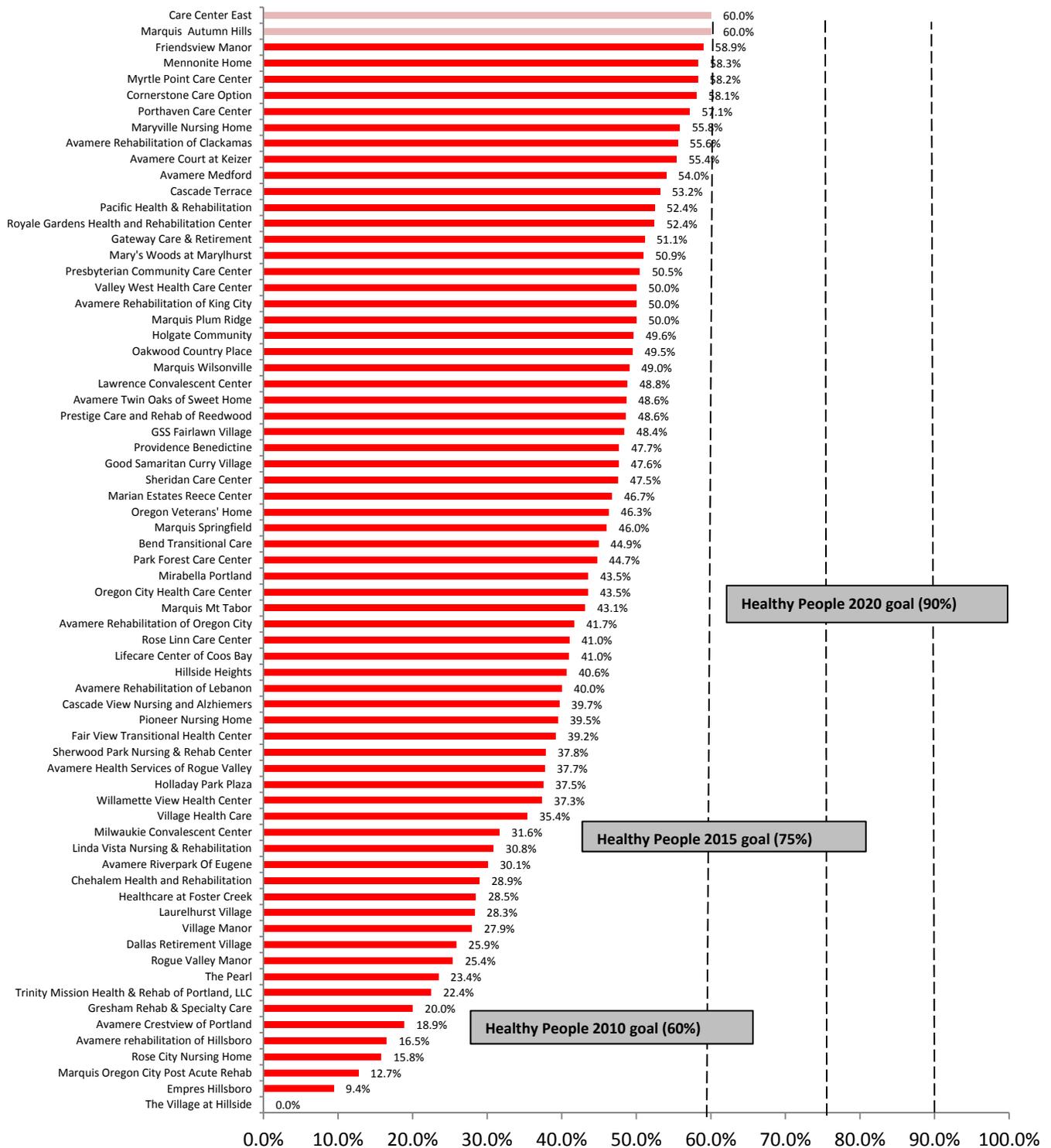
2013 – 2014 Healthcare Worker Influenza Vaccination Rates

Long-term care facility overall influenza vaccination percentages, 2013-2104



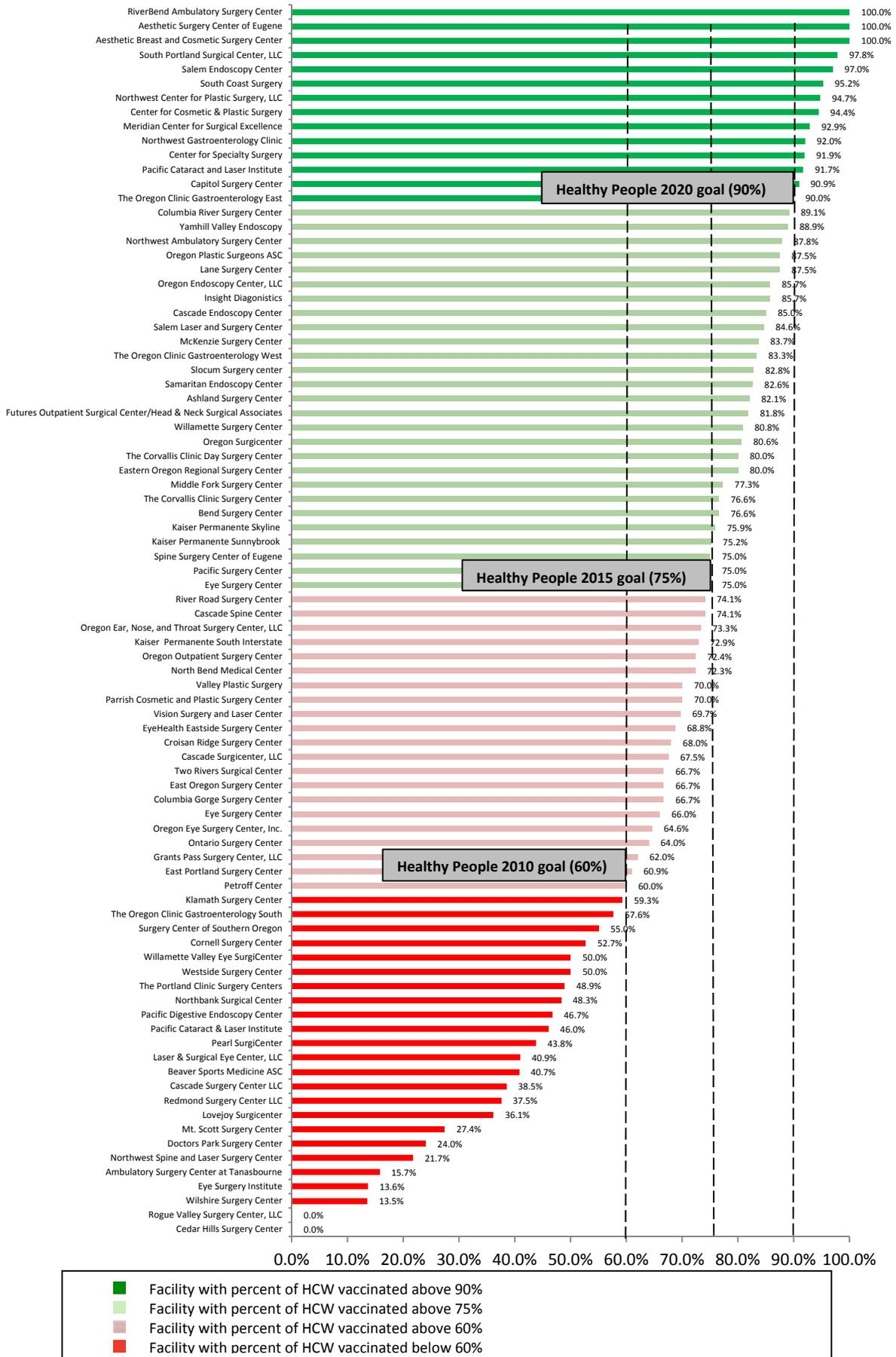
2013 – 2014 Healthcare Worker Influenza Vaccination Rates

Long-term care facility overall influenza vaccination percentages, 2013-2014, continued



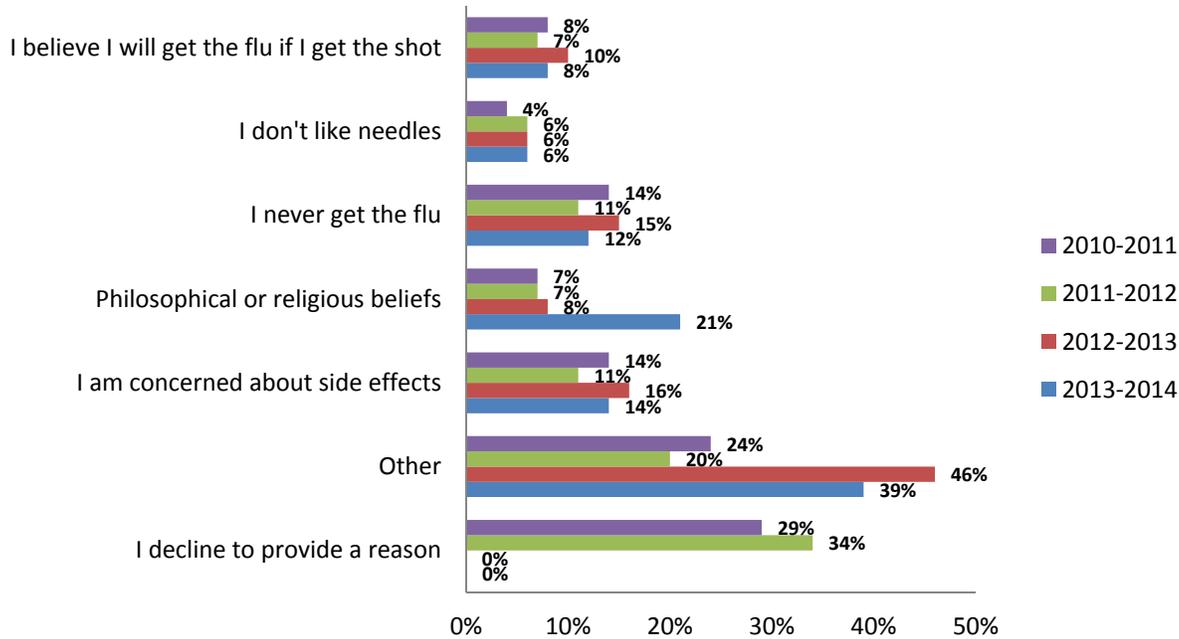
2013 – 2014 Healthcare Worker Influenza Vaccination Rates

Ambulatory surgery center overall influenza vaccination percentages, 2013-2014 season



2013 – 2014 Healthcare Worker Influenza Vaccination Rates

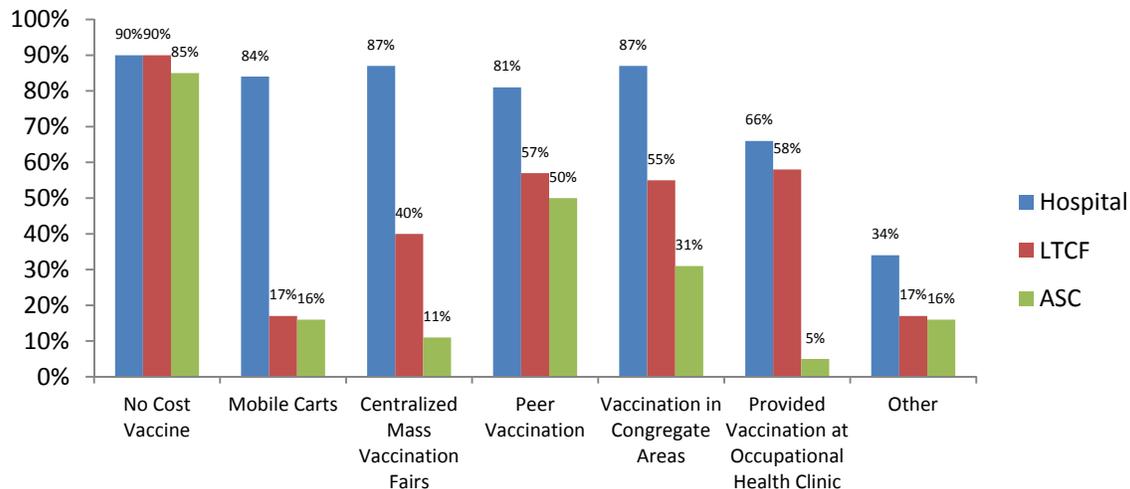
Healthcare worker’s reasons for influenza vaccine declinations, 2010 – 2014 seasons



Talking Points:

- The most commonly reported reason for declining vaccinations was “other”
- This is the 2nd year that facilities were not able to enter data on the number of healthcare workers who declined to provide a reason for refusing. Thus, many who were previously counted in the “I decline to provide a reason” in earlier years are now in the “other” category
- Philosophical or religious beliefs is the 2nd most common reason for declining vaccination
- Comments collected in the “other” column included : I decline to provide a reason, I don’t want it, personal preference, don’t believe the flu shot works, and I don’t want to say

Influenza vaccination delivery methods, 2013 – 2014 season



Talking Points:

- No cost vaccines were the most used delivery method for hospitals, (90%), LTCF (90%), and ASCs (85%)
- Hospitals also used centralized mass vaccination fairs and vaccination in congregate areas (87%), as well as mobile cares (84%) and peer vaccinator
- LTCFs also utilized vaccination at occupational health clinic and peer vaccinators
- ASCs focused efforts on peer vaccinators and vaccinations in congregate areas

Validation of NHSN-Reported Central Line-Associated Blood Stream Infections — Oregon, 2014

Genevieve Buser
Healthcare-Associated Infections Program
Oregon Health Authority
December 17, 2014

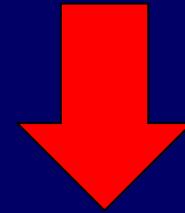
Oregon
Health
Authority

(Enter) DEPARTMENT (ALL CAPS)
(Enter) Division or Office (Mixed Case)

Background

- Central line-associated blood stream infection (CLABSI) surveillance
- Focus of infection prevention efforts
- U.S. estimates (MMWR, 2011; NEJM, 2014)

Year	2001	2009	2011
# CLABSI	43,000	18,000	15,600



- Cost: saved \$414 million, 6,000 lives (2009)

ICU CLABSI Surveillance

- Reportable in Oregon
 - 2009 Adult ICUs
 - 2011 NICUs
- 2009 NHSN data validation by OHA
 - OHA validation: gold standard
 - Facility reporting: 72% sensitivity = underreporting
- Rate change of ICU CLABSIs, 2009:
 - 1.39 → 1.54 ICU CLABSIs per 1,000 central line days



Objectives

- Validate NHSN-reported events
 - Calculate underreporting
 - Adjudicate discrepant reporting
- Calculate sensitivity and specificity of NHSN reporting vs external review
- Validate denominator methods

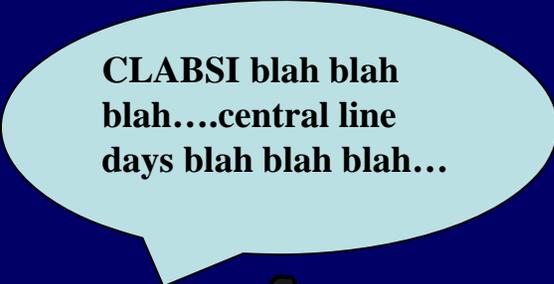
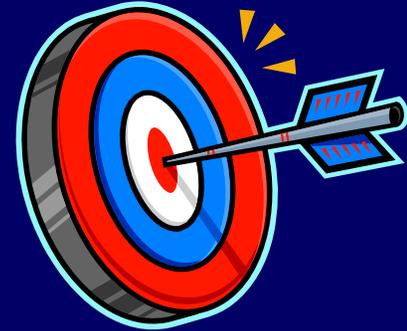
Methods



National Healthcare Safety Network (NHSN)
Validation Guidance and Toolkit 2012
Validation for Central Line-Associated
Bloodstream Infection (CLABSI) in ICUs



- ✓ *Candida spp*
- ✓ *E. coli*
- ✓ *S. aureus*



Statistics

- Descriptive
- Sensitivity, specificity
- State-wide CLABSI estimate
- Rates per 1,000 patient- or central line-day
- Categorical interview responses

RESULTS

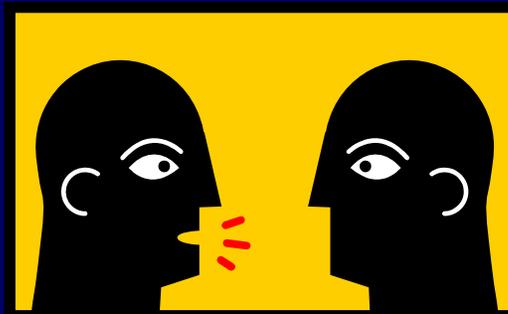
Hospitals

- 23 of 41 eligible hospitals
 - 19 targeted + 4 random
 - 6 academic
 - 3 critical access
 - 7 NICUs
 - ICU beds (4–52, median 16)
- 621 charts, 633 events reviewed
- 9 hospitals by ELR, 1 CD-ROM



Adjudication

- Reviewed 27 charts with hospitals
- Common reasons:
 - Complicated Gastrointestinal infections
 - Mismatch of *Candida* spp. infections
 - Wrong location of attribution
 - OHA unable to “see” requested NHSN reports



CLABSI Validation

- OHA identified 53 CLABSIs
- NHSN recorded 44 CLABSIs
- % Under-reporting: **12 of 53 = 23 %**

NHSN vs Complete Chart Review*

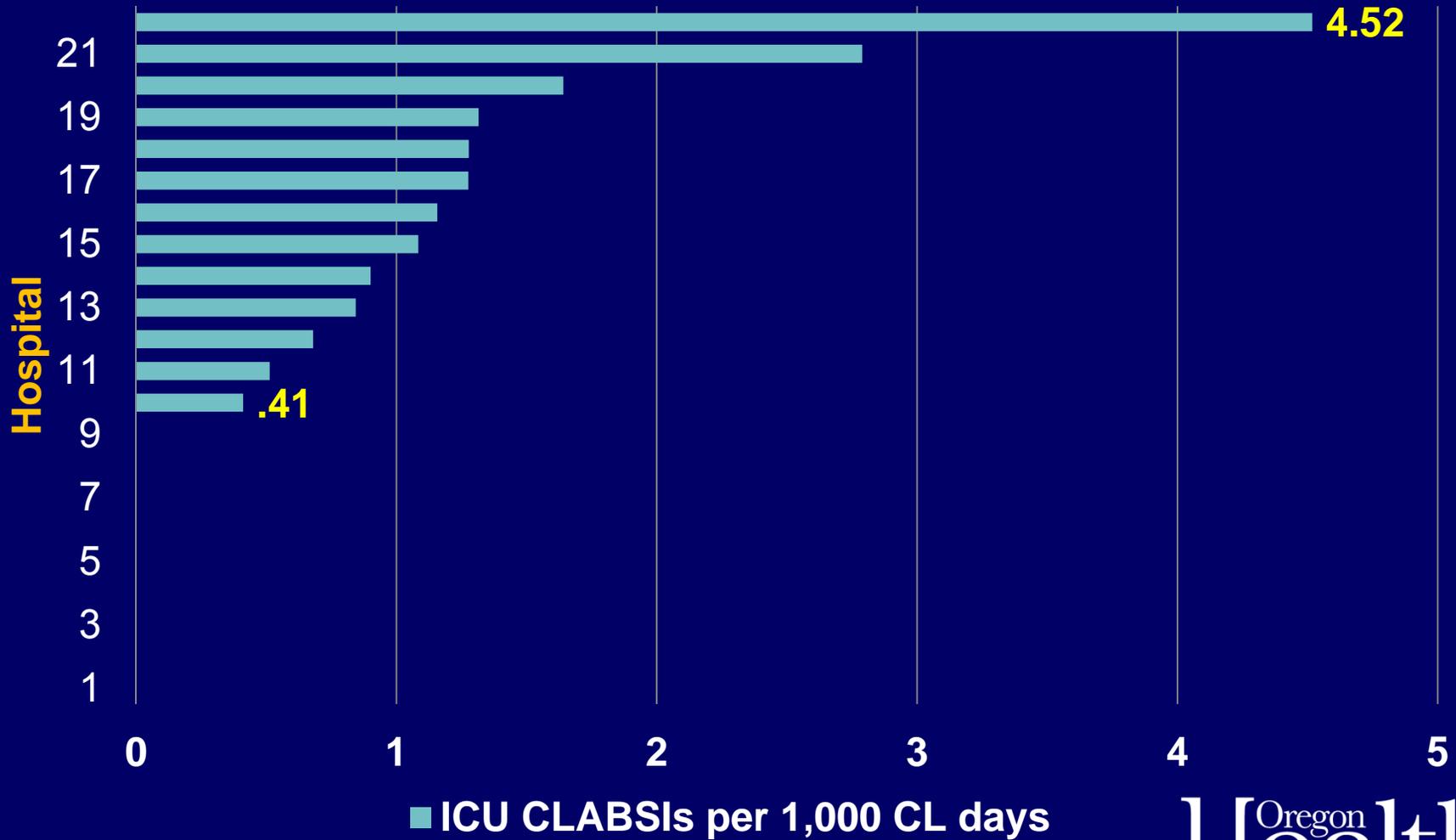
Gold Standard: Medical Chart Review

NHSN Hospital Reported CLABSI		CLABSI- Yes	CLABSI- No	Total
		Yes	41	3
No	12	577	589	
Total	53	580	633	

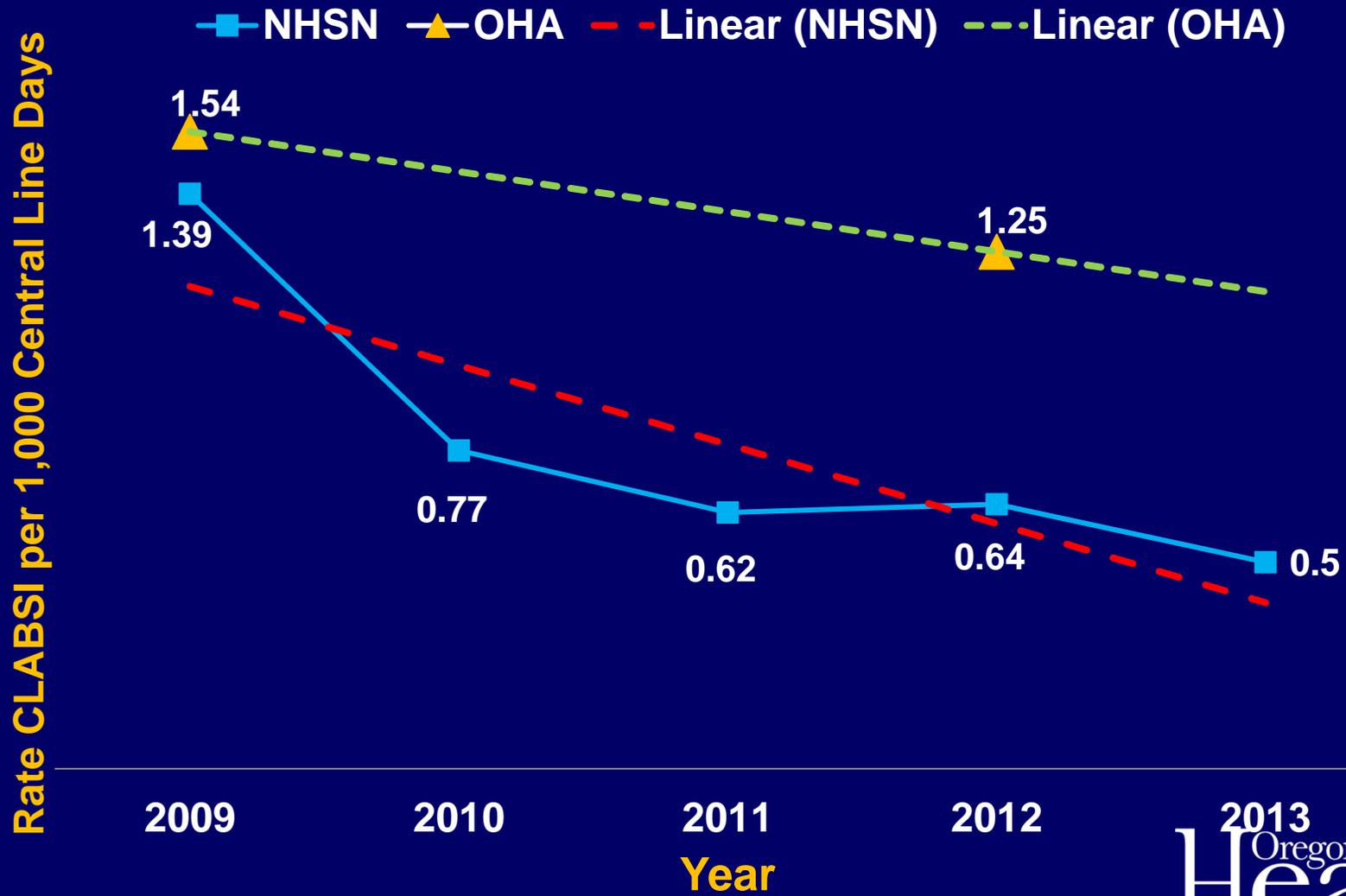
➤ **Sensitivity: 77.4% (95% CI: 64.5–86.6%)**

➤ **Specificity: 99.5% (95% CI: 98.5–99.8%)**

2012 ICU CLABSI Prevalence, N = 23*

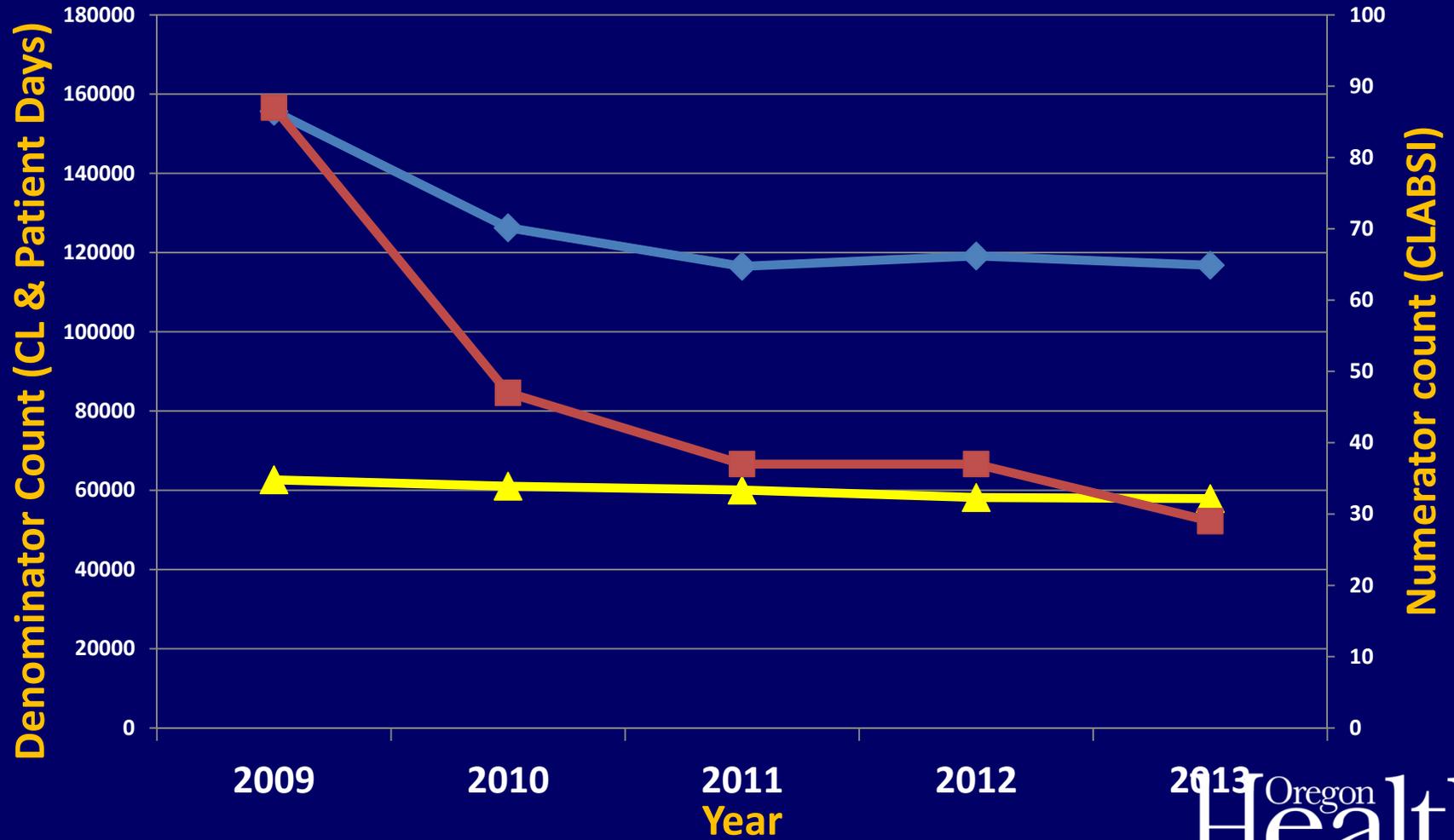


Facility- Reported vs. Validated ICU CLABSI Rates — Oregon, 2009–2013



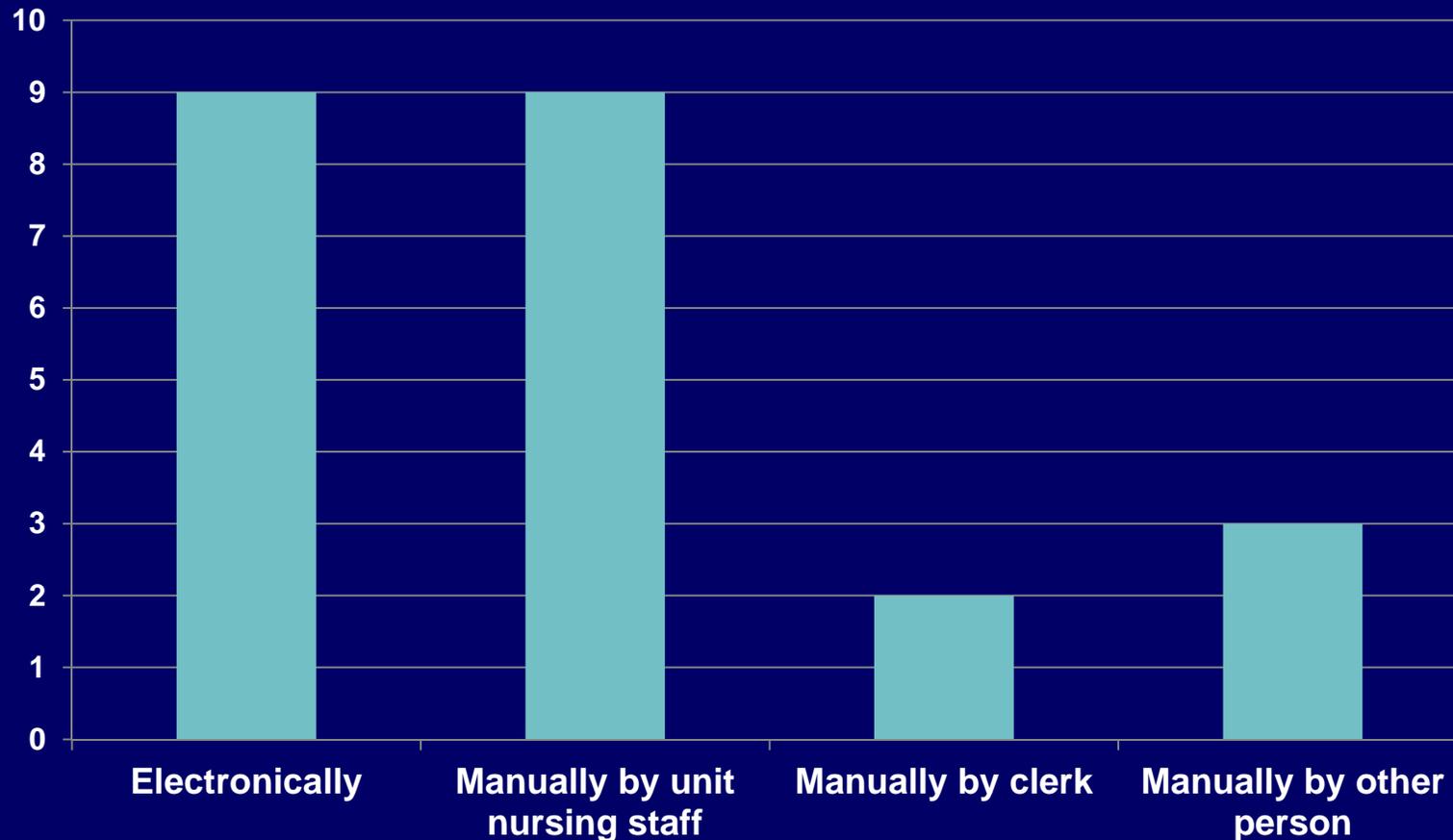
CLABSI Denominator and Numerator Trends— Oregon, 2009–2013

▲ CL days ◆ Patient days ■ CLABSI



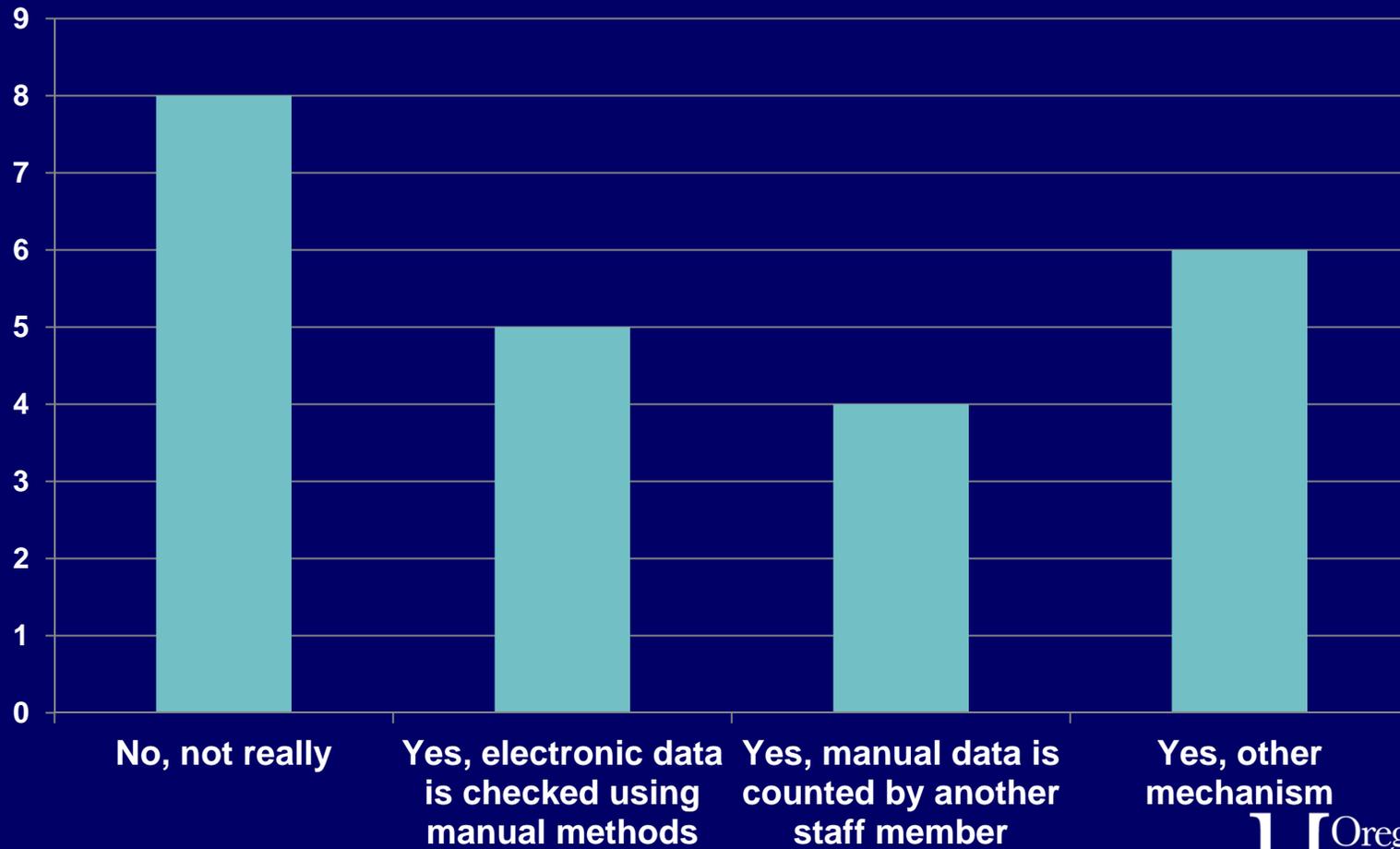
Denominator validation, N = 23

Method to Collect Central Line Days



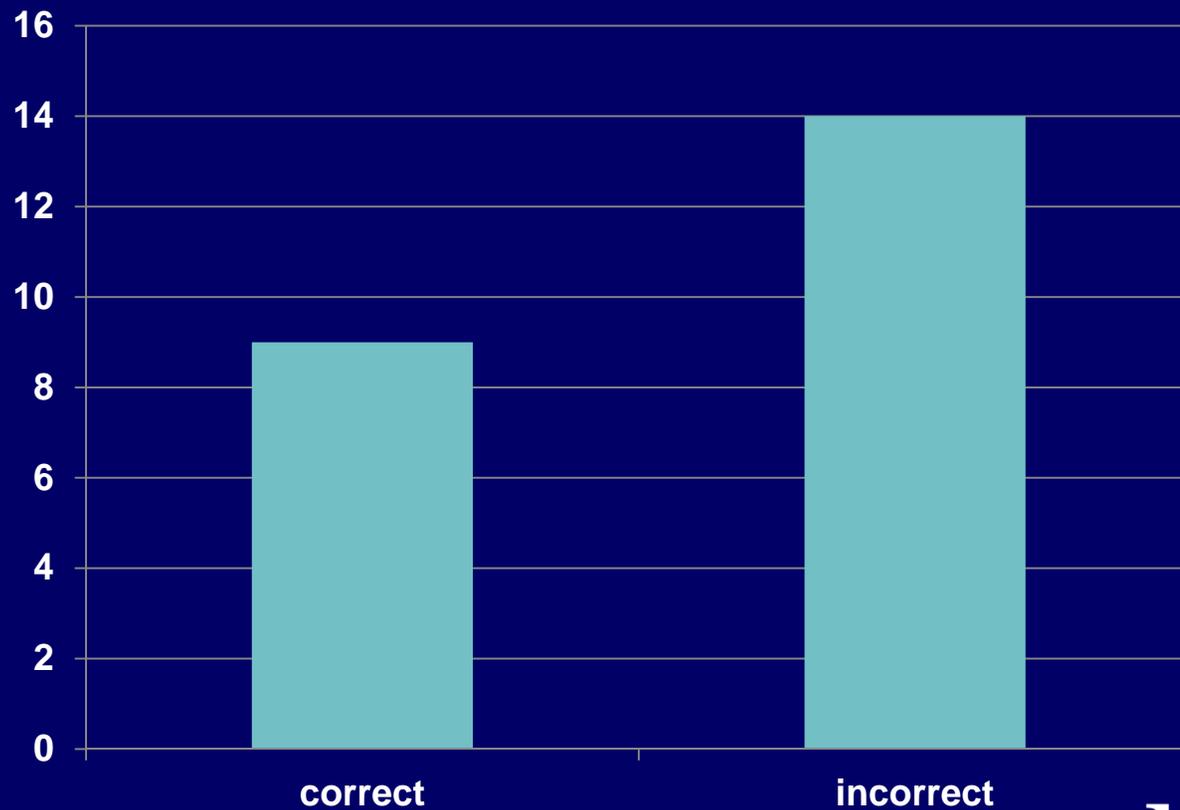
Denominator validation, N = 23

Quality Control of Central Line Data



Denominator validation, N = 23

Counting Method for PORT access



Conclusions

- Surveillance saves lives
- Hospital NHSN reporting sensitivity is fair
- Decreasing rates
 - Difference between validated and unvalidated data
 - Not because of change in exposure
- Split between manual and electronic denominator data collection
- Poor internal validation of denominator data



Acknowledgements

- Valerie OCampo, Diane Roy, Steve Robison, Zints Beldavs
- Hospital IP staff, Lab, Medical Records
- CDC Team: Katie Arnold, Kathy Bridson

References

- Magill SS et al. Multistate Point-Prevalence Survey of Health Care-Associated infections. NEJM 2014;370:1198–1208.
- Oh J et al. Statewide Validation of Hospital-Reported Central Line-Associated Bloodstream Infections: Oregon, 2009. ICHE 2012;33:439–445.
- CDC. CDC CLABSI 2012 Toolkit, 2013.
- Horan T et al. CDC/NHSN surveillance definition of health care-associated infection and criteria for specific types of infections in the acute care setting, AJIC 2008;36:309-32.
- Joint Commission, 2011. Variability of Surveillance Practices for Central Line-Associated Bloodstream Infections and Its Implications for Health Care Reform. March/April 2011;13:6–8.

2013 *C. difficile* Validation Project Overview & Discussion

Kate Ellingson
Healthcare-associated Infections Program

December 17, 2014



Background: CDI Reporting

- *Clostridium difficile* infection (CDI) laboratory-identified (LabID) events reportable under OR Mandatory HAI Reporting Program
 - 2013: All hospitals
 - 2015: Long-term acute care
 - Requirement for “Facility-wide Inpatient” reporting
 - Also condition of CMS Inpatient Quality Reporting Program
- Lab ID Event reporting through NHSN
 - CDI events defined by microbiological and administrative data
 - **No clinical criteria used**
 - Rates and SIRs calculated using patient-days
 - NICU, well-baby units excluded from numerator and denominator



Background: NHSN Classification

- A CDI Lab ID Event is reportable to NHSN if...
 - First positive specimen reported for patient/location within 14 days
 - Non-duplicate recurrent: no LabID Event for same patient/location in 14 days
- CDC/NHSN Calculated Classifications
 - **Community-onset (CO)** LabID Events: + CDI on Day 1, 2 or 3
 - **Hospital-onset (HO)** LabID Events: + CDI on/after Day 4
 - **Incident** CDI Assay: Any CDI LabID from a specimen obtained >8 weeks after most recent CDI LabID Event (or no previous LabID) for that patient
 - **Recurrent** CDI Assay: Any LabID Event from a specimen obtained >2 weeks and <=8 weeks after most recent CDI LabID Event for that patient



CDI Public Reporting Metrics

- Main metric used for public reporting of CDI LabID events is the standardized infection ration (SIR)
- $SIR = \text{observed infections} / \text{expected infections}$
 - **Observed:** # incident HO-CDI events
 - **Expected:** # calculated based on predictive model including:
 - # patient days
 - Testing type (EIA vs. NAAT)
 - CO-CDI prevalence rate
 - Bed Size
 - Medical School Affiliation

Publicly Reported CDI: OHA Annual Report

Hospital-Onset <i>Clostridium difficile</i> Laboratory Identification (HO-CDI) 2013				
Hospital Name	Observed # of HO-CDI	Expected # of HO-CDI	HO-CDI SIR	
Providence Medford Medical Center	21	18.84	1.11	▲
Providence Milwaukie Hospital	3	6.39	0.47	▼
Providence Newberg Medical Center	3	5.14	0.58	▼
Providence Portland Medical Center	37	84.50	0.44	▼
Providence Seaside Hospital	2	2.69	0.74	▼
Providence St. Vincent Medical Center	40	90.74	0.44	▼
Providence Willamette Falls Medical Center	3	8.02	0.37	▼
Sacred Heart Medical Center - Riverbend	45	70.83	0.64	▼
Sacred Heart University District	6	13.41	0.45	▼
Salem Hospital	62	66.79	0.93	▼
Samaritan Albany General Hospital	7	6.06	1.16	▲
Samaritan Lebanon Community Hospital	7	3.55	1.97	▲
Samaritan North Lincoln Hospital	0	1.96	0.00	▼
Samaritan Pacific Communities Hospital	1	3.27	0.31	▼
Santiam Memorial Hospital	7	2.07	3.38	▲

▼ SIR is < 1.0 and is less than the national baseline
 ▼ SIR is ≤ 1.0 and is no different than the national baseline or facility had 0 HO-CDIs
 ▲ SIR is > 1.0 and is no different than the national baseline
 ▲ SIR is > 1.0 and is greater than the national baseline
 -- No SIR calculated because the expected number of infections is < 1 and facility had at least one infection in 2013

Publicly Reported CDI: OHA Map

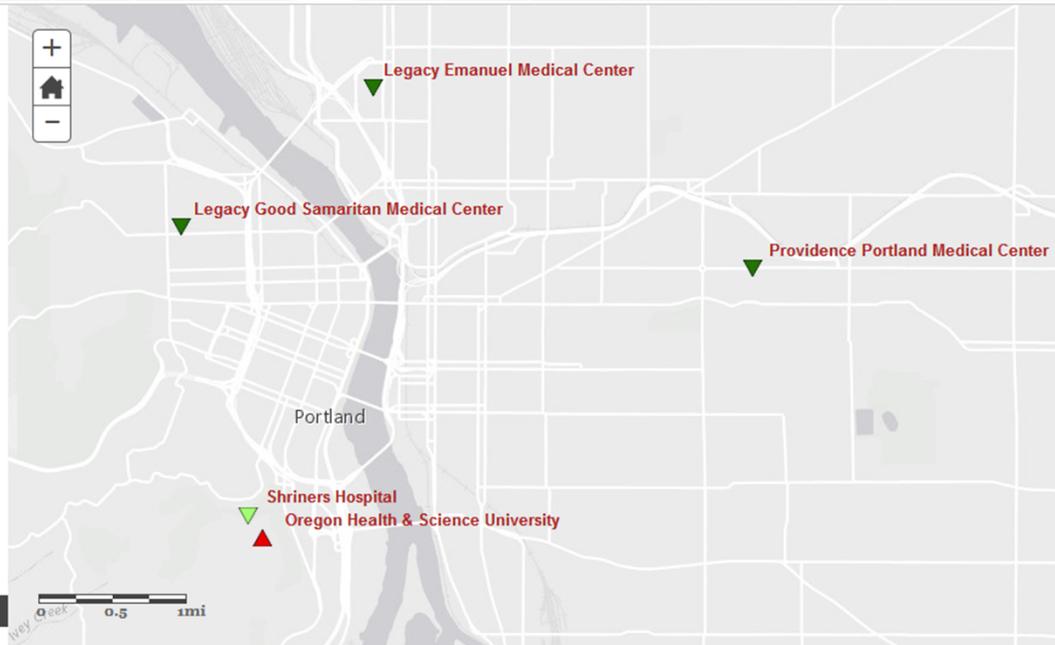
Healthcare-Associated Infections in Oregon

- CLABSI-ICU
- CLABSI-NICU
- HPRO
- LAM
- HYST
- KPRO
- CBGB
- COLO
- CDI
- SCIP 1
- SCIP 2
- SCIP 3
- SCIP 4
- SCIP 9
- SCIP 10
- FLU VAX

CDI

Hospital-onset *Clostridium difficile* infection (HO-CDI)

HO-CDI are caused when a patient acquires the *C. difficile* bacteria during their hospital stay. This type of bacterial infection can cause watery diarrhea, fever, nausea and abdominal pain. In this map, HO-CDI SIRs are assessed for the entire health care facility where a patient is housed overnight. The HO-CDI SIR for Oregon in 2013 is 0.76, which indicates 24% fewer infections were identified in Oregon hospitals than the national experience.

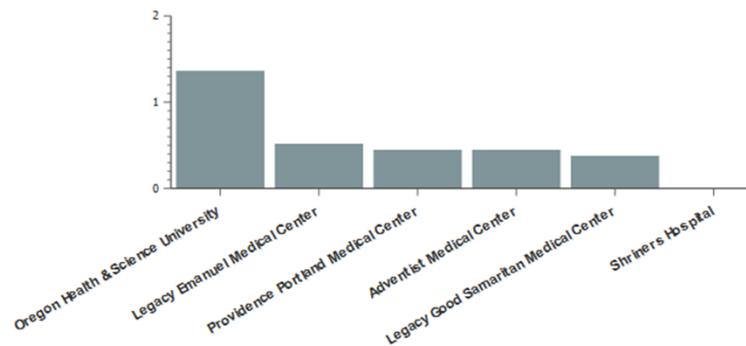


LEGEND

CDI_FC

- ▼ SIR<1: significantly fewer infections than expected based on the national experience
- ▽ SIR<1: fewer infections than expected but no different than the national experience
- △ SIR>1: more infections than expected but no different than the national experience
- ▲ SIR>1: significantly more infections than expected based on the national experience

SIR Summary 2013

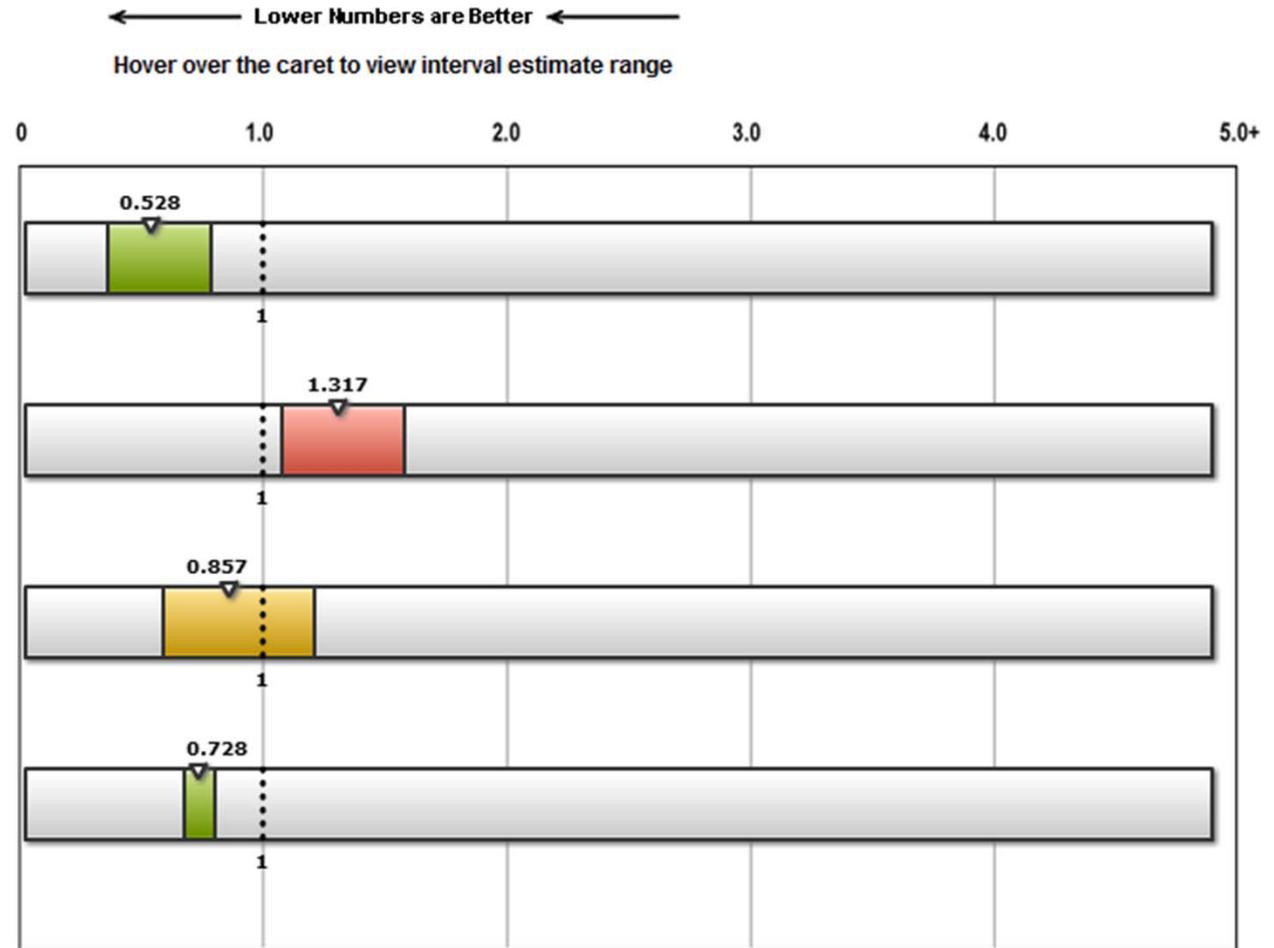


***Clostridium difficile* (C.diff.) Laboratory-identified Events (Intestinal infections)**

[Why is this important?](#)

Hide Graph

Publicly Reported CDI: CMS



From Hospital Compare: <http://www.medicare.gov/hospitalcompare>

Why Validate CDI LabID Data?

- Understand sources of systematic bias in reporting
 - Is it fair to compare hospitals based on LabID data?
 - If not, what would make comparisons fairer?
 - How can standard validation protocols maximize data quality?
- CDC (partially) pays OHA to validate
 - ELC/HAI funding for 2014-2015 grant cycle
 - CDC in process of modifying protocols for validation
 - CDC considering modification of risk adjustment protocols for CDI Lab-ID metric

CDI Lab ID Validation Studies: NY State

- Study #1: Compared CDI LabID data to clinical CDI infection surveillance, compared hospital-onset rates
 - HO-CDI rates ~30% higher with LabID than clinical surv.
 - Upward bias in LabID occurred across most hospitals
 - Conclusion: LabID okay proxy for public reporting
- Study #2: Examined multiple sources of bias: inaccurate case reporting, incorporating knowledge from outside hospitals, excluding days when patients not at-risk from denominator
 - Minimal impact of inaccurate case reporting (IPs doing well)
 - Minimal impact info from other hospitals (no info from LTCFs/Outpatient)
 - Substantial impact when excluding patient-days *not* at-risk

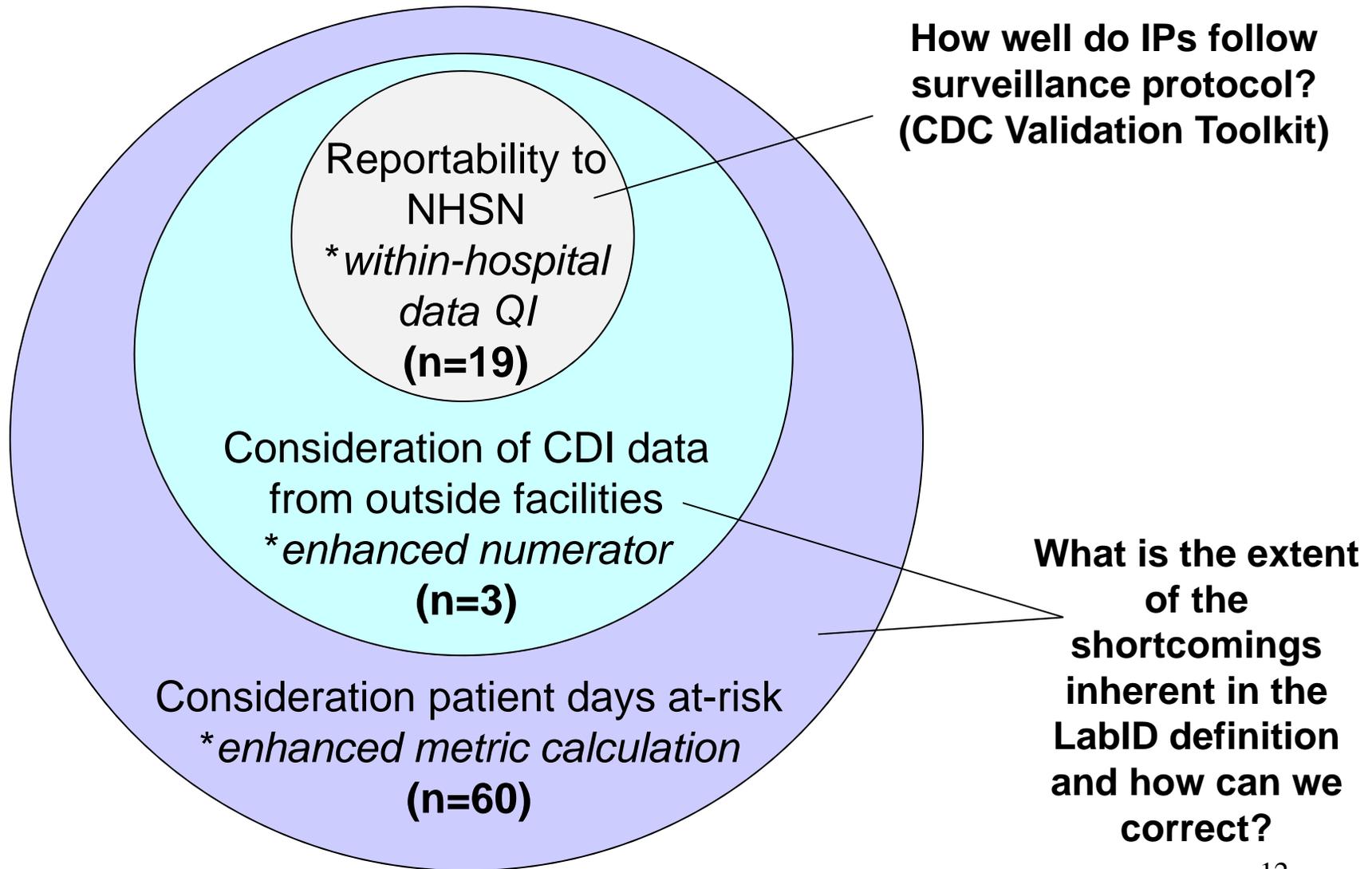
Patient-days At-Risk

- CDC denominator is **all** patient days (excluding locations serving primarily infants)
- Patients are technically not “at-risk” for an incident HO-CDI during parts of their stay
 - Days 1-3
 - For 8 weeks following HO-CDI LabID Event
- Implications of counting patient-days not at risk
 - Makes reported rates appear lower (NY study: ~45%)
 - Biases hospitals with long lengths-of-stay towards higher rates

Oregon CDI Validation Proposal: Examine Three Sources of Bias

- IP (mis)classification of CDI LabID events
 - Sample of 19 hospitals (1 LTACH) in 5 county region
 - Will use CDC protocol for validation of 2013 CDI data
 - OHA reviewers will examine administrative/lab data
- Exclusion of data from other facilities
 - Sample of 3 hospitals and surrounding LTCFs and OP clinics
 - OHA reviewers will do in-depth review of all data
 - Calculate rates/SIRs with and without external data, compare
- Inclusion of patient-days not at risk(for all hospitals)
 - Use hospital discharge data to approximate patient-days at risk
 - Calculate rates/SIRs using patient-days at-risk, compare

Three Layers CDI LabID Validation



Oregon Health Authority

2015 Healthcare-Associated Infections Oregon Hospital Survey



OREGON HEALTH AUTHORITY

*Acute and Communicable Disease Prevention
Healthcare-Associated Infections Program*

In our ongoing effort to better understand how Oregon healthcare-facilities prevent and manage healthcare-associated infections (HAI), we are pleased to announce our 2015 HAI Program Survey.

Coming to your facility during January 2015

Each hospital is asked to complete one (1) survey
within 30 days of receipt.

During January 2015, your facility's lead Infection Preventionist will receive an email invitation to complete the survey online. If contact information for this position needs to be updated with our program, please contact Diane Roy at 971-673-1111, or diane.m.roy@state.or.us.

Questions?

Call the Oregon HAI Program at (971) 673-1111.



OREGON HEALTH AUTHORITY CENTER FOR PUBLIC HEALTH PRACTICE

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Fax: 971-673-1100
E-mail: genevieve.l.buser@state.or.us



2015 Healthcare-Associated Infections Oregon Laboratory Survey



OREGON HEALTH AUTHORITY

*Acute and Communicable Disease Prevention
Healthcare-Associated Infections Program*

In our ongoing effort to better understand how Oregon healthcare-facilities prevent and manage healthcare-associated infections (HAI), we are pleased to announce our 2015 HAI Program Survey.

Coming to your laboratory during January 2015

Each laboratory is asked to complete one (1) survey
within 30 days of receipt.

During January 2015, your facility's Microbiology Director will receive an email invitation to complete the survey online. If contact information for this position needs to be updated with our program, please contact Diane Roy at 971-673-1111, or diane.m.roy@state.or.us.

Questions?

Call the Oregon HAI Program at (971) 673-1111.



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2015 Healthcare-Associated Infections Oregon Skilled Nursing Facilities Survey



OREGON HEALTH AUTHORITY

*Acute and Communicable Disease Prevention
Healthcare-Associated Infections Program*

In our ongoing effort to better understand how Oregon healthcare-facilities prevent and manage healthcare-associated infections (HAI), we are pleased to announce our 2015 HAI Program Survey.

Coming to your facility during January 2015

This is a new, mandatory survey for all Oregon Skilled Nursing Facilities (OAR 333-018-0120), effective January 1, 2015.

Each skilled nursing facility is required to complete one (1) survey within 30 days of receipt.

During January 2015, your facility's Director of Nursing will receive an email invitation to complete the survey online. If contact information for this position needs to be updated with our program, please contact Diane Roy at 971-673-1111, or diane.m.roy@state.or.us.

Questions?

Call the Oregon HAI Program at (971) 673-1111.



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Feedback & Planning for Oregon's 2014 Annual HAI Report: Scope, Organization, and Metrics

Kate Ellingson
Healthcare-associated Infections Program

December 17, 2014



Overview

- Big picture: HAI reporting in Oregon
- Goals of the annual report
- Review contents of current (2013) annual report
 - Infections and settings covered
 - Visual display formats
- Planning for 2014 report: member feedback
 - What to include in annual report versus clickable map
 - Consider what is currently available through hospital compare
- Possible inclusion of new HAI metric?
 - CDC-developed metric for assessing burden
 - Useful in Oregon?



Big Picture: Mandatory Reporting, Hospitals

Infections/Metrics	2009	2010	2011	2012	2013	2014	2015
CLABSI – Adult ICUs	✓	✓	✓	✓	✓	✓	✓
CLABSI -- NICUs			✓	✓	✓	✓	✓
CLABSI Wards							✓
CAUTI– Adult/Ped ICUs						✓	✓
CAUTI – Wards							✓
SSI, CABG/CBGB	✓	✓	✓	✓	✓	✓	✓
SSI, COLO			✓	✓	✓	✓	✓
SSI, Abd. HYST			✓	✓	✓	✓	✓
SSI, KPRO	✓	✓	✓	✓	✓	✓	✓
SSI, HPRO			✓	✓	✓	✓	✓
SSI, Laminectomy			✓	✓	✓	✓	✓
<i>C. Difficile</i> LabID Events					✓	✓	✓
MRSA Bacteremia LabID						✓	✓
→ SCIP Measure Adherence	✓	✓ (+)	✓ (+)	✓ (+)	✓	✓ (-)	✓ (?)
HCW Influenza Vaccination	✓	✓	✓	✓	✓	✓	3 ✓

Big Picture: Mandatory Reporting, Non-Hospitals

Infections/Metrics	2009	2010	2011	2012	2013	2014	2015
DIALYSIS							
Dialysis event					✓	✓	✓
HCW Influenza Vaccination							✓
LONG-TERM CARE FACILITIES							
MDS Requirements (CMS)				✓	✓	✓	✓
HCW Influenza Vaccination		✓	✓	✓	✓	✓	✓
AMBULATORY SURGICAL CENTERS							
HCW Influenza Vaccination			✓	✓	✓	✓	✓
INPATIENT REHAB							
CAUTI							✓
HCW Influenza Vaccination							4 ✓

Before Diving In: Consider...



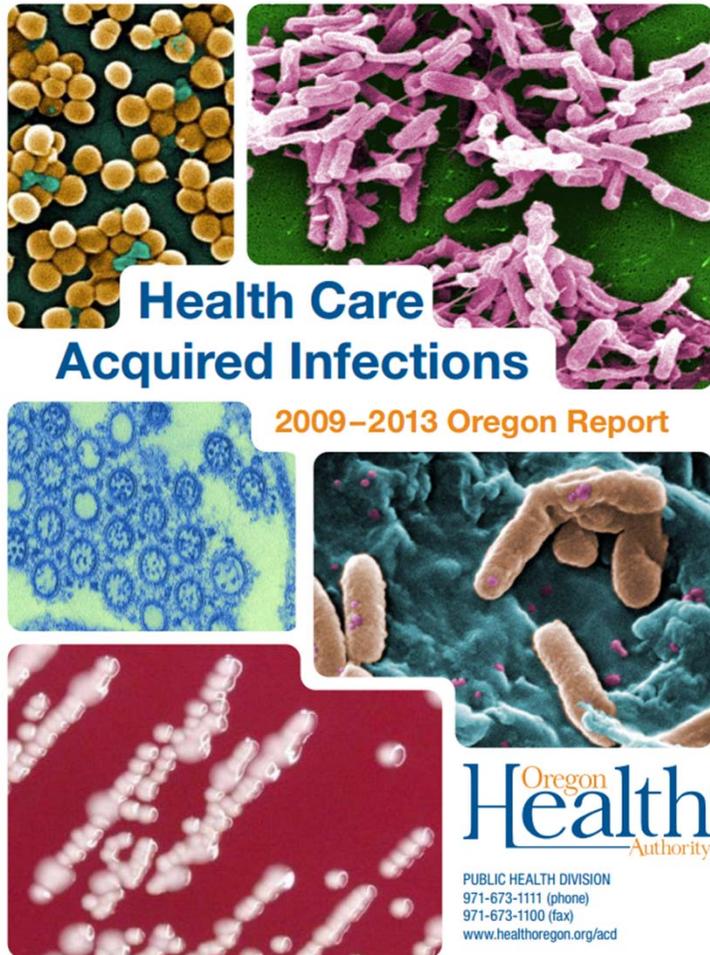
- Scope & Organization of the Annual Report
 - All infections, all metrics, comprehensive report?
 - Executive summary style report, detailed data elsewhere?
 - Separate reports for different settings, infections, audiences?
- Content and intended use of report
 - Should we encourage comparisons of facilities by SIR?
 - Should we encourage intra-facility comparison over time?
 - Should we incorporate validation findings/efforts into report?
 - How do we highlight facilities doing BETTER than expected?
 - How do we help facilities doing WORSE than expected?

Where is OR HAI Data Reported?

- OHA-generated Annual Report (facility-level)
- *NEW* OHA-generated Clickable Map (facility-level)
- CDC's Annual Report (state-level)
- CMS Hospital Compare (facility-level)



2013 Annual Report



- Hospitals
 - CLABSI
 - SSI
 - CDI LabID
 - SCIP Measures
- Dialysis
 - Bloodstream Infections (BSI)
 - Access-related BSI
- Long-term Care Facilities
 - Healthcare worker influenza vaccination
- Ambulatory Surgical Centers
 - Healthcare worker influenza vaccination

[http://public.health.oregon.gov/DiseasesConditions/Communicabl
eDisease/HAI/Documents/Reports/hai_report_2009_2013.pdf](http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/HAI/Documents/Reports/hai_report_2009_2013.pdf)

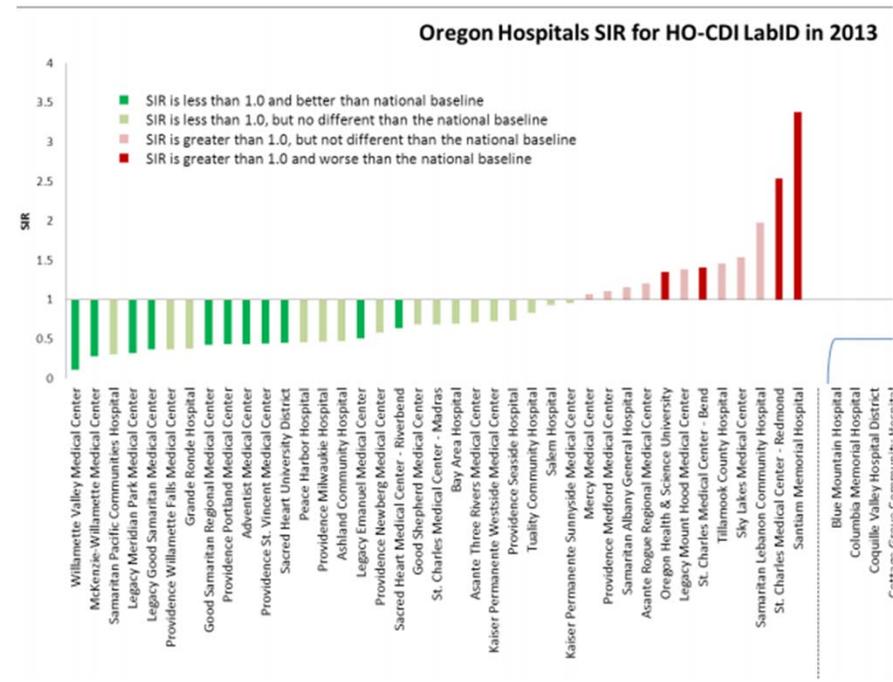
2013 OHA Annual Report: Presentation of SIRs in Multiple Ways

By Hospital: Alphabetical

By Hospital: by SIR Rank

Hospital-Onset <i>Clostridium difficile</i> Laboratory Identification (HO-CDI) 2013			
Hospital Name	Observed # of HO-CDI	Expected # of HO-CDI	HO-CDI SIR
Providence Medford Medical Center	21	18.84	1.11
Providence Milwaukie Hospital	3	6.39	0.47
Providence Newberg Medical Center	3	5.14	0.58
Providence Portland Medical Center	37	84.50	0.44
Providence Seaside Hospital	2	2.69	0.74
Providence St. Vincent Medical Center	40	90.74	0.44
Providence Willamette Falls Medical Center	3	8.02	0.37
Sacred Heart Medical Center - Riverbend	45	70.83	0.64
Sacred Heart University District	6	13.41	0.45
Salem Hospital	62	66.79	0.93
Samaritan Albany General Hospital	7	6.06	1.16
Samaritan Lebanon Community Hospital	7	3.55	1.97
Samaritan North Lincoln Hospital	0	1.96	0.00
Samaritan Pacific Communities Hospital	1	3.27	0.31
Santiam Memorial Hospital	7	2.07	3.38

- ▼ SIR is < 1.0 and is less than the national baseline
- ▼ SIR is ≤ 1.0 and is no different than the national baseline or facility had 0 HO-CDIs
- ▲ SIR is > 1.0 and is no different than the national baseline
- ▲ SIR is > 1.0 and is greater than the national baseline
- No SIR calculated because the expected number of infections is < 1 and facility had at least one infection in 2013



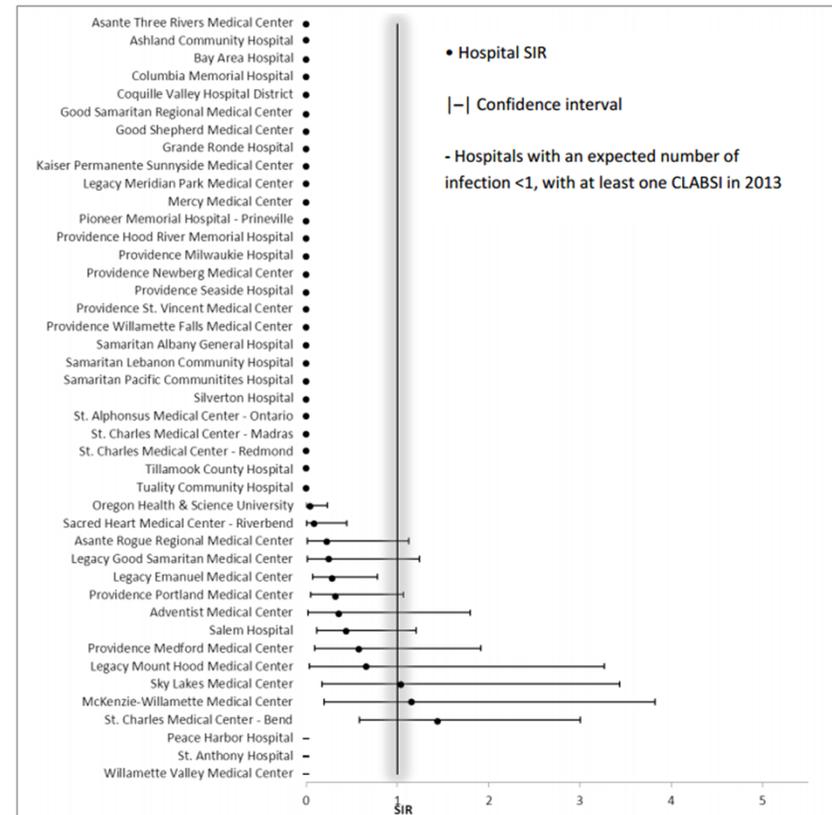
2013 OHA Annual Report: Presentation of SIRs in Multiple Ways

Difference from Prev. Year?

Forest Plots

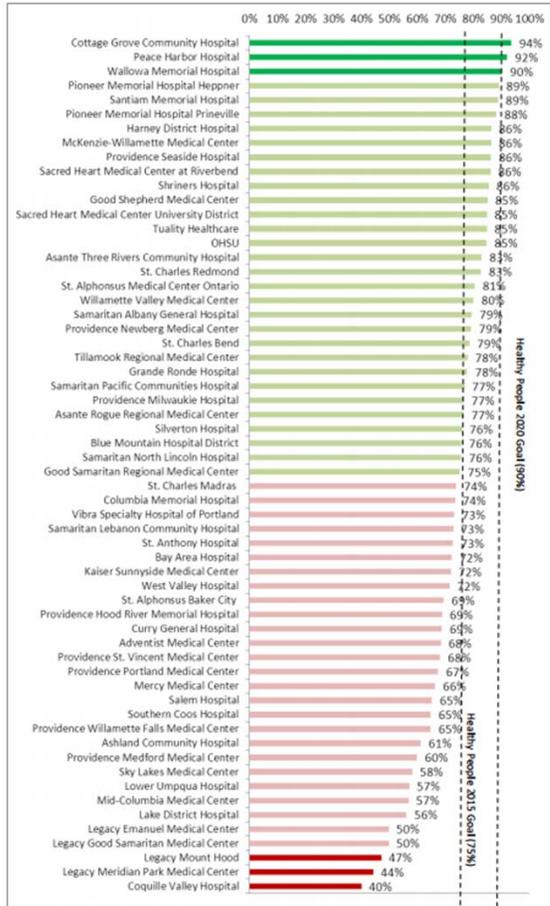
Hospital Name	SIR		
	2012	2013	Percent difference
Adventist Medical Center	0.23	0.44	89%
Asante Rogue Regional Medical Center	1.11	1.21	9%
Asante Three Rivers Medical Center	0.27	0.71	167%
Ashland Community Hospital	0.50	0.48	-6%
Bay Area Hospital	0.13	0.69	444%
Blue Mountain Hospital	0.00	0.00	**
Columbia Memorial Hospital	0.90	0.00	-100%
Coquille Valley Hospital District	1.43	0.00	-100%
Cottage Grove Community Hospital	0.00	0.00	**
Curry General Hospital	0.00	0.00	**
Good Samaritan Regional Medical Center	0.85	0.43	-50%

Figure 25. Oregon hospital's SIR with confidence intervals for adult ICU CLABSIs in 2013.



2013 OHA Annual Report: Dialysis Event and Flu Vaccination Rates

Figure 21: Hospital overall influenza vaccination percentages, 2012–2013 season.



Fifty-two percent (31/60) of hospitals met the 75% overall vaccination goal for Healthy People 2015 (Figure 21). In addition, 5% (3/60) of hospitals met the 90% overall vaccination goal for 2020.

Facility

- Blue Mountain Kidney Center
- Coos Bay
- Eugene Dialysis Service
- FMC Maywood Dialysis
- FMC Milton Freewater
- Four Rivers Dialysis
- Fresenius Medical Care Dialysis Services - Oregon, LLC - Corvallis
- Fresenius Medical Care Dialysis Services - Oregon, LLC - Mt. Hood
- Fresenius Medical Care Florence Dialysis
- Grants Pass II
- Gresham Dialysis Center
- Hermiston Dialysis Center
- Hillsboro Dialysis Center
- Klamath Falls Dialysis
- Lake Road Dialysis
- Lebanon Dialysis
- McMinnville Dialysis
- Meridian Park Dialysis
- Newport Oregon

Fistula				
Bloodstream infection	Patient Months	Pooled Mean	NHSN bloodstream infection pooled mean	Above or Below
1	163	0.61	0.48	▲
2	676	0.30	0.48	▼
5	901	0.55	0.48	▲
1	130	0.77	0.48	▲
0	102	0.00	0.48	▼
2	406	0.49	0.48	▲
0	0	--	0.48	▼
3	754	0.40	0.48	▼
0	72	0.00	0.48	▼
0	24	0.00	0.48	▼
1	614	0.16	0.48	▼
0	266	0.00	0.48	▼
0	84	0.00	0.48	▼
1	411	0.24	0.48	▼
0	838	0.00	0.48	▼
1	451	0.22	0.48	▼
0	262	0.00	0.48	▼
0	419	0.00	0.48	▼
0	373	0.00	0.48	▼

- Facility with percent of healthcare workers vaccinated above 90%
- Facility with percent of healthcare workers vaccinated above 75%
- Facility with percent of healthcare workers vaccinated above 50%
- Facility with percent of healthcare workers vaccinated below 50%

2013 OHA Annual Report: Surgical Care Improvement Project

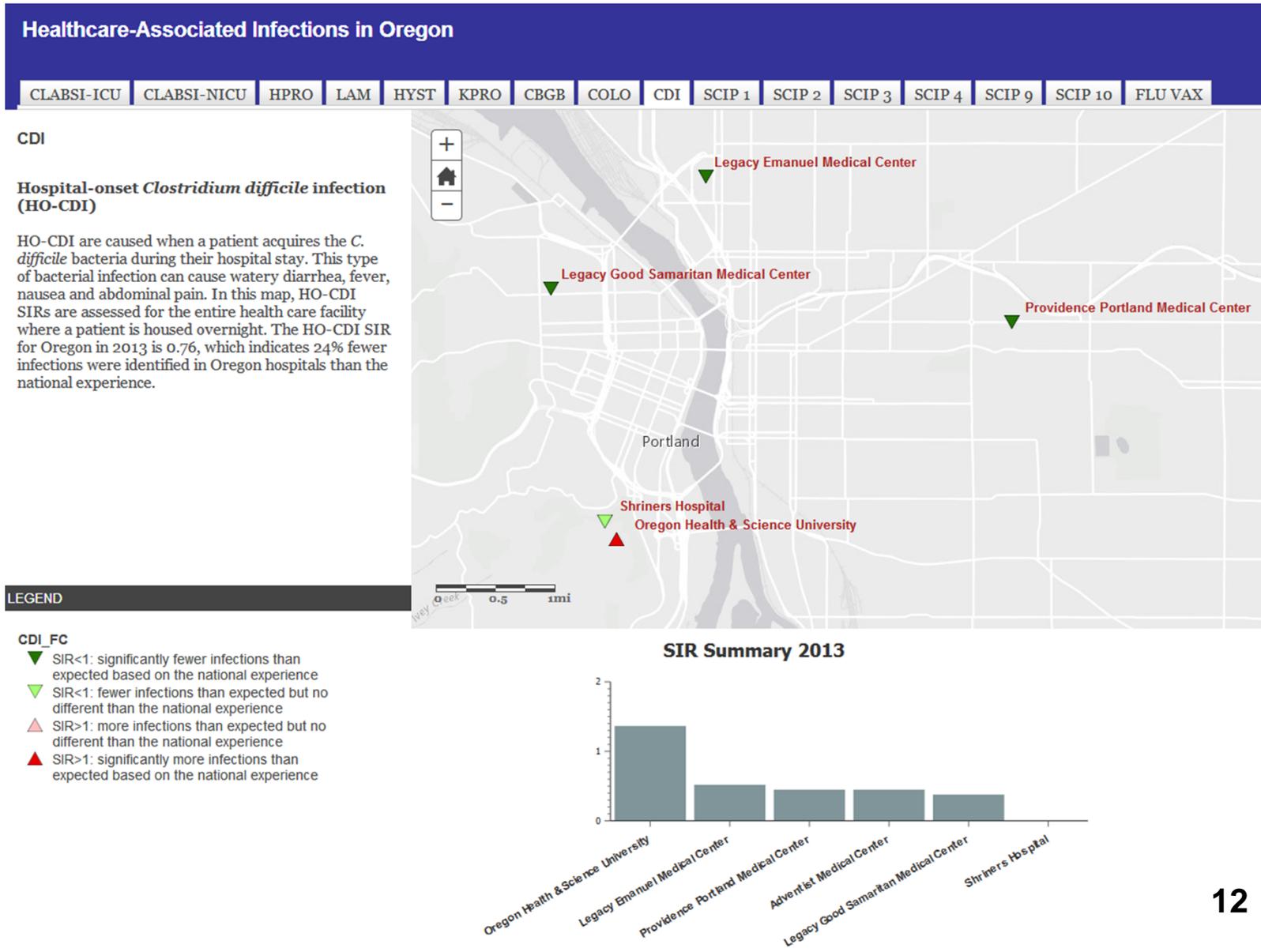
Surgical Care Improvement Project (SCIP) Scores

The SCIP scores summarize the percent of times that a hospital gave patients the correct care for preventing infection in surgical patients in 2013. The overall score is a composite of the six surgical care improvement

Hospital Name	Overall %	Preoperative antibiotic started %	Appropriate antibiotic received %	Preoperative antibiotic stopped %	Controlled blood sugar %	Urinary catheter removed %	Temp. managed %
Mercy Medical Center	100%	100%	100%	100%	--	100%	100%
McKenzie-Willamette Medical Center	100%	100%	100%	100%	100%	100%	100%
Willamette Valley Medical Center	100%	100%	100%	100%	--	99%	100%
Kaiser Permanente Sunnyside Medical Center	99%	99%	99%	99%	100%	100%	100%
Ashland Community Hospital	99%	100%	100%	98%	--	98%	100%
Providence Hood River Memorial Hospital	99%	100%	100%	98%	--	95%	100%
Legacy Good Samaritan Medical Center	99%	97%	100%	99%	98%	99%	100%
Tillamook County Hospital	99%	97%	98%	100%	--	100%	100%
Providence Newberg Medical Center	99%	98%	98%	100%	--	98%	100%
Asante Three Rivers Medical Center	99%	100%	98%	99%	--	94%	100%
Peace Harbor Hospital	99%	96%	100%	100%	--	96%	100%
Sky Lakes Medical Center	99%	99%	100%	98%	--	98%	99%
Adventist Medical Center	99%	99%	99%	97%	97%	99%	100%
Legacy Meridian Park Medical Center	99%	97%	100%	98%	--	96%	100%
Providence Willamette Falls Medical Center	99%	97%	99%	99%	--	93%	100%
Providence Portland Medical Center	98%	99%	99%	98%	97%	96%	100%
Asante Rogue Regional Medical Center	98%	99%	100%	99%	97%	91%	100%
Providence Medford Medical Center	98%	98%	98%	100%	--	91%	99%
Samaritan Albany General Hospital	98%	95%	100%	98%	--	98%	100%
Tuality Community Hospital	98%	96%	99%	98%	93%	99%	100%
Salem Hospital	98%	98%	100%	98%	100%	94%	100%
Good Samaritan Regional Medical Center	98%	97%	99%	98%	93%	98%	100%

SCIP-INF
measures no
longer required
by CMS

OHA-Generated Clickable Map: Infection counts, rates, SIRs embedded



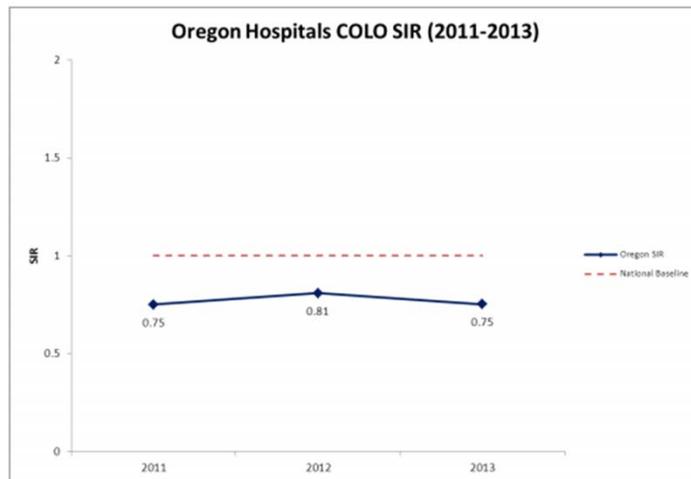
2013 OHA Annual Report: Presentation of SIRs in Multiple Ways

Overall Information: Aggregate SIRs over the years

The SIR for Oregon in 2013 is $181 \div 240.84 = 0.75$.

In 2013, 25% fewer SSIs associated with COLO procedures were identified in Oregon hospitals than the national experience.

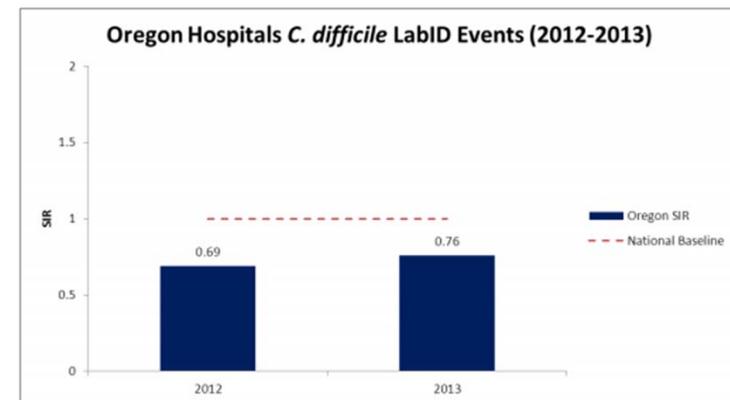
Figure 8. Oregon COLO SSI SIRs for calendar years 2011 through 2013.



The SIR for Oregon in 2013 is $717 \div 941.8 = 0.76$.

In 2013, Oregon had 24% less HO-CDIs than the national baseline.

Figure 18. Oregon HO-CDI SIRs for calendar years 2012 through 2013.





Healthcare-associated infections (HAIs) are infections patients can get while receiving medical treatment in a healthcare facility. Working toward the elimination of HAIs is a CDC priority. The standardized infection ratio (SIR) is a summary statistic that can be used to track HAI prevention progress over time; lower SIRs are better. The infection data are collected through CDC's National Healthcare Safety Network (NHSN). HAI data for nearly all U.S. hospitals are published on the Hospital Compare website.

CLABSIs

↓ 70% LOWER COMPARED TO NAT'L BASELINE*

CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS

When a tube is placed in a large vein and not put in correctly or kept clean, it can become a way for germs to enter the body and cause deadly infections in the blood.

□ Oregon hospitals reported no significant change in CLABSIs between 2012 and 2013.

4% Among the 23 hospitals in Oregon with enough data to calculate an SIR, 4% had an SIR significantly worse than the national SIR of 0.54.

CAUTIs

↑ 16% HIGHER COMPARED TO NAT'L BASELINE*

CATHETER-ASSOCIATED URINARY TRACT INFECTIONS

When a urinary catheter is not put in correctly, not kept clean, or left in a patient for too long, germs can travel through the catheter and infect the bladder and kidneys.

■ Oregon hospitals reported a significant decrease in CAUTIs between 2012 and 2013.

14% Among the 28 hospitals in Oregon with enough data to calculate an SIR, 14% had an SIR significantly worse than the national SIR of 1.06.

MRSA Bacteremia

↓ 38% LOWER COMPARED TO NAT'L BASELINE*

LABORATORY IDENTIFIED HOSPITAL-ONSET BLOODSTREAM INFECTIONS

Methicillin-resistant *Staphylococcus aureus* (MRSA) is bacteria usually spread by contaminated hands. In a healthcare setting, such as a hospital, MRSA can cause serious bloodstream infections.

0% Among the 19 hospitals in Oregon with enough data to calculate an SIR, 0% had an SIR significantly worse than the national SIR of 0.92.

SSIs

SURGICAL SITE INFECTIONS

When germs get into an area where surgery is or was performed, patients can get a **surgical site infection**. Sometimes these infections involve only the skin. Other SSIs can involve tissues under the skin, organs, or implanted material.

SSI: Abdominal Hysterectomy ↑ 12% HIGHER COMPARED TO NAT'L BASELINE

- Oregon hospitals reported a significant increase in SSIs related to abdominal hysterectomy surgery between 2012 and 2013.
- Not enough data to report how many hospitals had an SIR significantly worse than the national SIR of 0.86.

SSI: Colon Surgery ↓ 25% LOWER COMPARED TO NAT'L BASELINE*

- Oregon hospitals reported no significant change in SSIs related to colon surgery between 2012 and 2013.
- Several changes to the NHSN 2013 SSI protocol likely contributed to an increase in the national and some state-specific colon surgery SIRs compared to 2012.
- 0% Among the 23 hospitals in Oregon with enough data to calculate an SIR, 0% had an SIR significantly worse than the national SIR of 0.92.

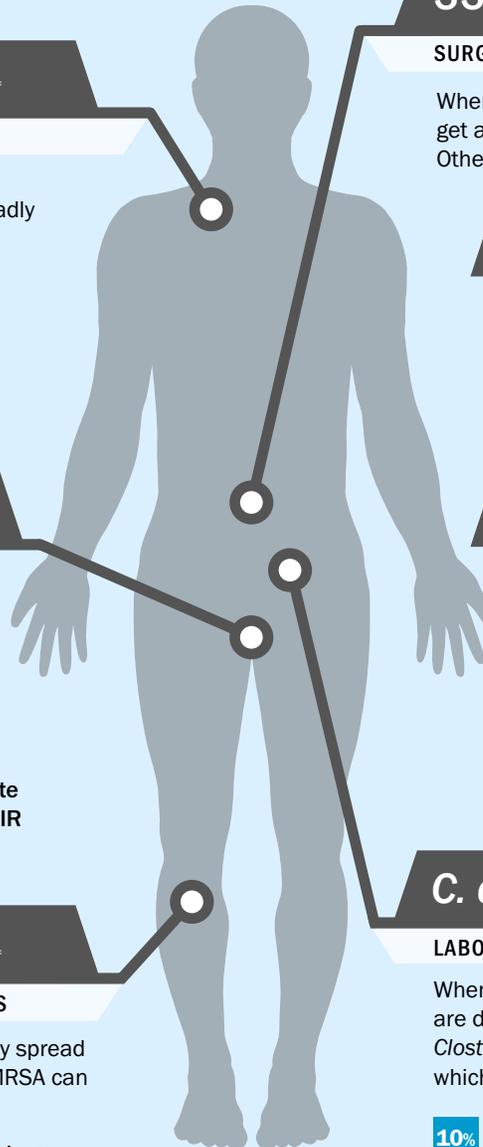
C. difficile Infections

↓ 24% LOWER COMPARED TO NAT'L BASELINE*

LABORATORY IDENTIFIED HOSPITAL-ONSET C. DIFFICILE INFECTIONS

When a person takes antibiotics, good bacteria that protect against infection are destroyed for several months. During this time, patients can get sick from *Clostridium difficile* (*C. difficile*), bacteria that cause potentially deadly diarrhea, which can be spread in healthcare settings.

10% Among the 49 hospitals in Oregon with enough data to calculate an SIR, 10% had an SIR significantly worse than the national SIR of 0.90.



* Statistically significant.





OREGON

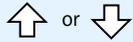
HEALTHCARE ASSOCIATED INFECTIONS PROGRESS



LEGEND



2013 state SIR is significantly lower (better) than comparison group in column header



Change in 2013 state SIR compared to group in column header is not statistically significant



2013 state SIR is significantly higher (worse) than comparison group in column header



2013 state SIR cannot be calculated

Learn how your hospital is performing: www.medicare.gov/hospitalcompare
For additional information:

- 2013 HAI Progress Report: www.cdc.gov/hai/progress-report/
- NHSN: www.cdc.gov/nhsn
- HAIs and prevention activities in Oregon: public.health.oregon.gov/DiseasesConditions/CommunicableDisease/HAI/Pages/index.aspx
- Oregon validation efforts: www.cdc.gov/hai/pdfs/state-progress-landscape.pdf



HEALTHCARE-ASSOCIATED INFECTION (HAI) DATA give healthcare facilities and public health agencies knowledge to design, implement, and evaluate HAI prevention efforts.

HAI TYPE	# OF OREGON HOSPITALS THAT REPORTED DATA TO CDC'S NHSN, 2013 Total Hospitals in State: 64 ⁺	2013 STATE SIR vs. 2012 State SIR [‡]	2013 STATE SIR vs. 2013 Nat'l SIR	2013 STATE SIR vs. Nat'l Baseline [‡]	2013 STATE SIR	2013 NAT'L SIR
CLABSI Nat'l Baseline: 2008	49	↓ 23%	↓ 44%	↓ 70%	0.30	0.54
CAUTI Nat'l Baseline: 2009	50	↓ 18%	↑ 9%	↑ 16%	1.16	1.06
SSI, Abdominal Hysterectomy Nat'l Baseline: 2008	46	↑ 164%	↑ 30%	↑ 12%	1.12	0.86
SSI, Colon Surgery Nat'l Baseline: 2008	50	↓ 5%	↓ 18%	↓ 25%	0.75	0.92
MRSA Bacteremia Nat'l Baseline: 2011	49	2012 SIR not available	↓ 33%	↓ 38%	0.62	0.92
C. difficile Infections Nat'l Baseline: 2011	59	2012 SIR not available	↓ 16%	↓ 24%	0.76	0.90

⁺Not all hospitals are required to report these infections; for example, some hospitals do not use central lines or urinary catheters, or do not perform colon or abdominal hysterectomy surgeries.

[‡]The state's 2012 SIR can be found in the data tables of this report.

[‡]Nat'l baseline time period varies by infection type. See first column of this table for specifics.

WHAT IS THE STANDARDIZED INFECTION RATIO?

The **standardized infection ratio (SIR)** is a summary statistic that can be used to track HAI prevention progress over time; lower SIRs are better. The SIR for a 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, the type of patients a hospital serves, and surgery and patient characteristics.

WHAT IS OREGON DOING TO PREVENT HEALTHCARE-ASSOCIATED INFECTIONS?

Oregon has a state mandate to publicly report at least one HAI to NHSN. Oregon is one of 10 state health departments participating in CDC's Emerging Infections Program, which allows for extra surveillance and research of HAIs.

Prevention efforts to reduce specific HAIs:

- Central line-associated bloodstream infections
- Catheter-associated urinary tract infections

- Surgical site infections
- Multidrug-resistant infections (MRSA, *C. difficile*, CRE, and others)
- Long-term care facilities
- Hand hygiene
- Antibiotic stewardship

***Clostridium difficile* (C.diff.) Laboratory-identified Events (Intestinal infections)**

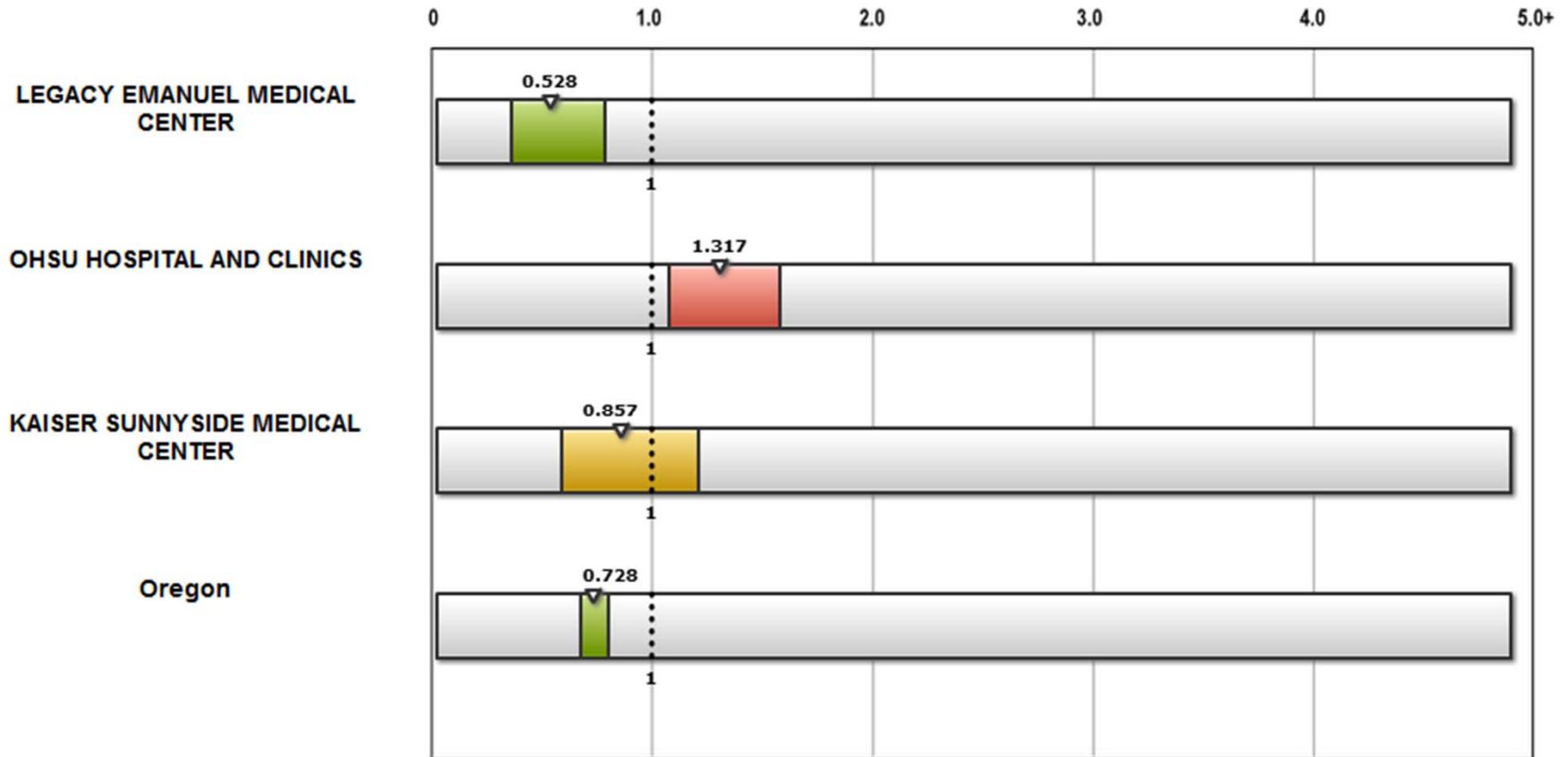
[Why is this important?](#)

[Hide Graph](#)

From Hospital Compare: <http://www.medicare.gov/hospitalcompare>

← Lower Numbers are Better ←

Hover over the caret to view interval estimate range

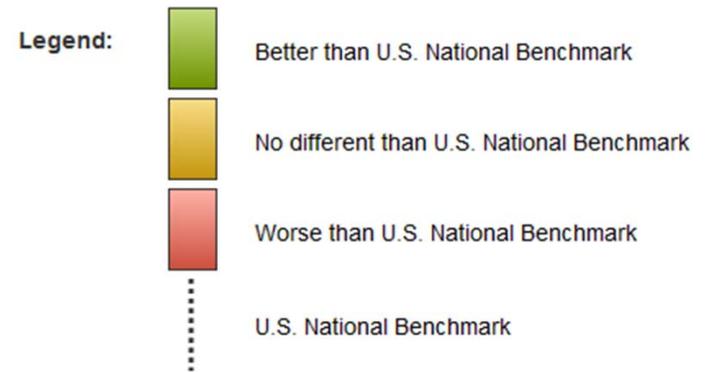
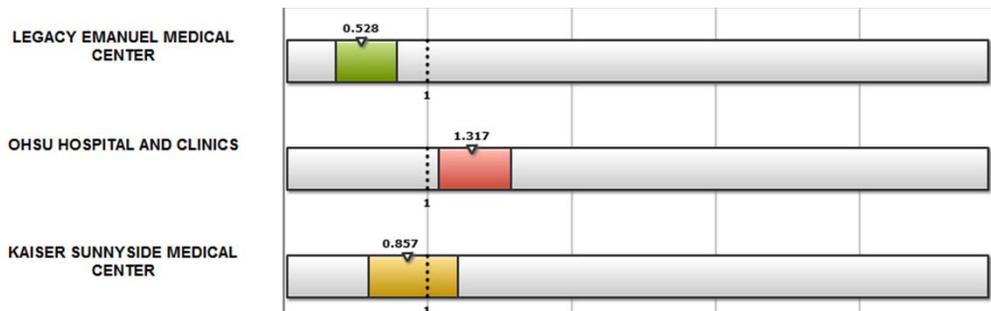


Thoughts on Presentation of SIRs?

Hospital-Onset <i>Clostridium difficile</i> Laboratory Identification (HO-CDI) 2013			
Hospital Name	Observed # of HO-CDI	Expected # of HO-CDI	HO-CDI SIR
Providence Medford Medical Center	21	18.84	1.11
Providence Milwaukie Hospital	3	6.39	0.47
Providence Newberg Medical Center	3	5.14	0.58
Providence Portland Medical Center	37	84.50	0.44
Providence Seaside Hospital	2	2.69	0.74
Providence St. Vincent Medical Center	40	90.74	0.44

- ▼ SIR is < 1.0 and is less than the national baseline
- ▼ SIR is ≤ 1.0 and is no different than the national baseline
- ▲ SIR is > 1.0 and is no different than the national baseline
- ▲ SIR is > 1.0 and is greater than the national baseline

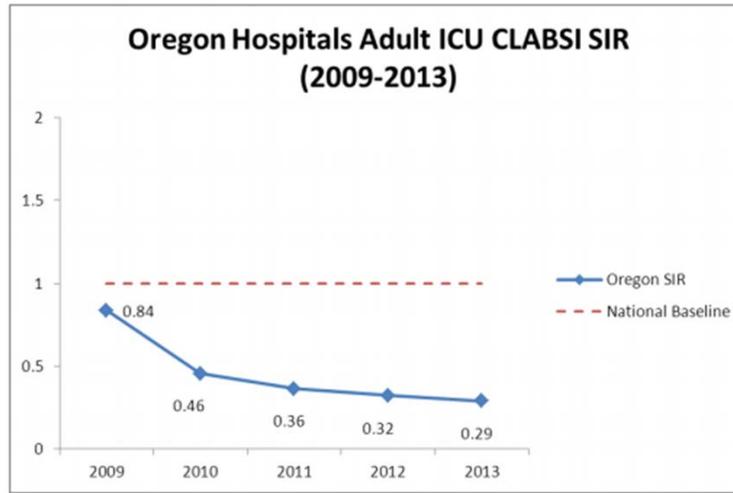
...versus...



Tennessee Example: SIR presentation

HOSPITAL	OBS	PRED	PATD	SIR	SIR AND 95% CONFIDENCE INTERVAL COMPARED TO NHSN 2010-2011
Parkridge East Hospital	1	5.1	8508	0.2	
Parkridge Medical Center^^	6	14.5	20739	0.4	
Parkwest Medical Center- Knoxville^^	15	30.7	41213	0.5	
Perry Community Hospital	1	1.2	2715	0.8	
Physician's Regional Medical Center^^	17	29.6	41929	0.6	
Regional Hospital of Jackson	5	8.2	12939	0.6	
Regional One Health (Reg. Med.Ctr Memphis)	20	29.4	35078	0.7	
River Park Hospital	5	3.2	6106	1.6	
Roane Medical Center	5	2.9	4376	1.7	
SkyRidge Medical Center	6	9.8	18851	0.6	
Skyline Medical Center**	27	14.6	27884	1.9	
Southern Hills Medical Center	8	8.1	11724	1.0	

Thoughts on Aggregate Trends?



Trends over time
using all data

...versus...

HAI TYPE	# OF OREGON HOSPITALS THAT REPORTED DATA TO CDC'S NHSN, 2013 Total Hospitals in State: 64*	2013 STATE SIR vs. 2012 State SIR [‡]	2013 STATE SIR vs. 2013 Nat'l SIR	2013 STATE SIR vs. Nat'l Baseline [‡]	2013 STATE SIR	2013 NAT'L SIR
CLABSI Nat'l Baseline: 2008	49	↓ 23%	↓ 44%	↓ 70%	0.30	0.54

Focus on year immediately prior

Cumulative Attributable Difference (CAD)

Introduction of a New Metric for Assessing Burden

Standardized Infection Ratio (SIR): Review

- SIR compares the number of infections reported to NHSN to the number of infections that would be predicted based on national baseline data

$$\text{SIR} = \frac{\text{Observed \# of HAIs}}{\text{Predicted \# of HAIs}}$$

Basic

More Complicated

Predicted Values: CLABSI

- Components of predicted values
 - Exposure: # of central line days
 - Rates from national baseline period (2006-08)
- Adjustment Factors (non-modifiable risk factors)
 - Patient location
 - Bed size
 - Medical school affiliation
- Predicted CLABSIs: (# CL days) x 2006-2008 rate given adjustment factors

Predicted Values: CAUTI

- Components of predicted values
 - Exposure: # of urinary catheter days
 - Rates from national baseline period (2009)
- Adjustment Factors (non-modifiable risk factors)
 - Patient location
 - Bed size
 - Medical school affiliation
- Predicted CAUTIs: (# catheter days) x 2009 rate given adjustment factors

Predicted Values: CDI LabID (FacWide)

- Components of predicted values
 - Exposure: patient days (excluding NICU, well-baby)
 - Rates from baseline national period (2011)
- Adjustment Factors
 - Facility Bed Size
 - Hospital affiliation with medical school
 - Number of patients admitted to the facility who already have CDI (prevalence)
 - Type of test lab uses to identify CDI
- Predicted CDI for facility: # patient days (excluding NICU/well baby) x 2011 rate given adjustment factors

Predicted Values: SSI

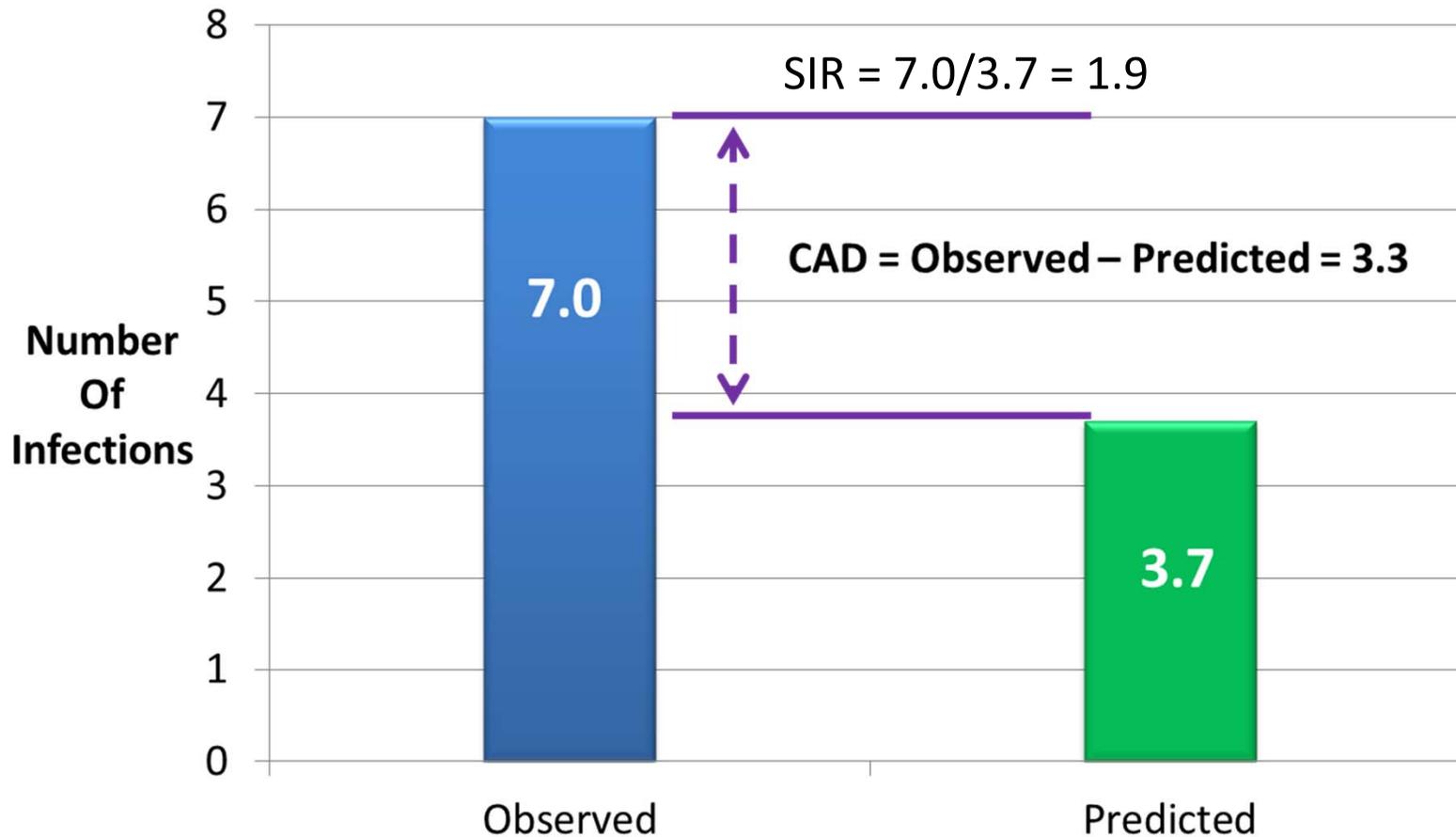
- Components of predicted values
 - Exposure: # of procedures
 - Rates from national baseline period (2006-2008)
- Adjustment Factors (individual level)
 - Duration of surgery
 - Surgical wound class
 - Use of endoscopes
 - Re-operation status
 - Patient age
 - Patient assessment at time of anesthesiology (ASA)
- Predicted SSI: sum of modeled probabilities of infection given patient risk factors

SIR Pros & Cons

- SIR = Ratio of Observed to Expected
 - SIR of 1 = same # infections as predicted
 - SIR >1 = more infections than predicted
 - SIR <1 = fewer infections than predicted
- Pros
 - Accounts for non-modifiable risk factors
 - Good for benchmarking over time
 - Serves as basis for national HAI reduction goals
- Cons
 - Ratio does not convey information about burden
 - SIRs unreliable for small facilities

Cumulative Attributable Difference

New Metric for Burden



Slide courtesy of Jonathan Edwards

CAD Examples

Hospital #1	Hospital #2
40,000 Urinary Catheter-Days	2,000 Urinary Catheter-Days
$SIR_1 = \frac{122}{96.7} = 1.26$	$SIR_2 = \frac{7}{1.7} = 4.12$
$CAD_1 = 122 - 96.7 = 25.3$	$CAD_2 = 7 - 1.7 = 5.3$

Infections Prevented If Hospital SIR = 1.0

Slide courtesy of Jonathan Edwards

Targeting Prevention with the CAD

- CAD helps prioritize the facilities (locations) where greatest prevention impact could be achieved
- Consider HHS goal for a national CAUTI SIR of 0.75
 - Targeting prevention at hospitals with SIRs significantly >1 (n=165) would not result in goal
 - Targeting prevention at hospitals with highest device days would require 600 hospitals to reach goal
 - Targeting prevention at hospitals with highest CAD would require 154 hospitals to reach goal

Consider CDI in Oregon (2013 data)

Current Presentation Format

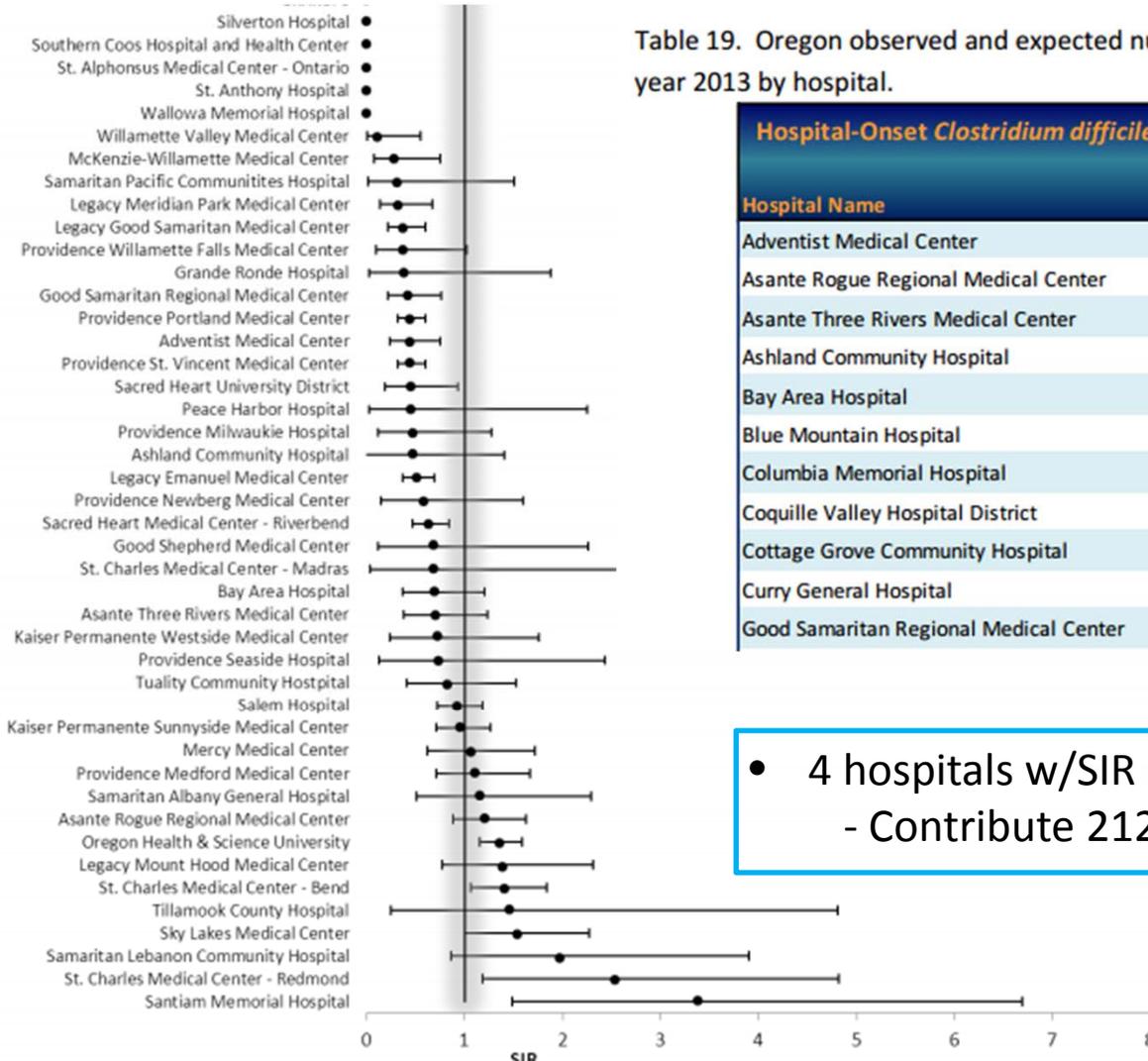
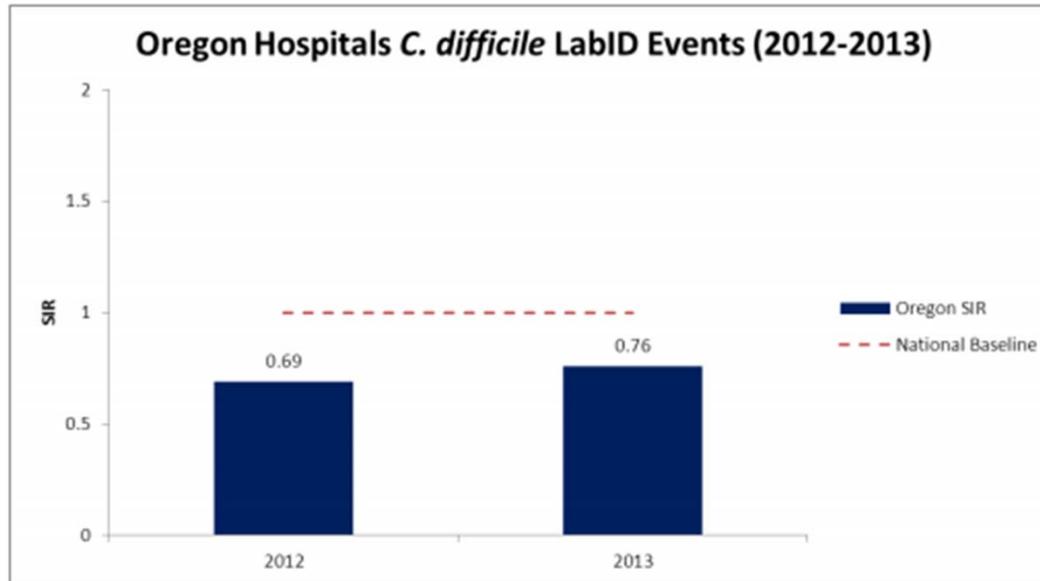


Table 19. Oregon observed and expected number of HO-CDI with associated SIR for calendar year 2013 by hospital.

Hospital-Onset <i>Clostridium difficile</i> Laboratory Identification (HO-CDI) 2013				
Hospital Name	Observed # of HO-CDI	Expected # of HO-CDI	HO-CDI SIR	
Adventist Medical Center	12	27.41	0.44	▼
Asante Rogue Regional Medical Center	40	33.11	1.21	▲
Asante Three Rivers Medical Center	11	15.53	0.71	▼
Ashland Community Hospital	1	2.10	0.48	▼
Bay Area Hospital	11	15.92	0.69	▼
Blue Mountain Hospital	0	0.49	0.00	▼
Columbia Memorial Hospital	0	1.68	0.00	▼
Coquille Valley Hospital District	0	1.68	0.00	▼
Cottage Grove Community Hospital	0	0.81	0.00	▼
Curry General Hospital	0	0.15	0.00	▼
Good Samaritan Regional Medical Center	10	23.46	0.43	▼

• 4 hospitals w/SIR significantly higher than 1
 - Contribute 212/718 (26%) observed CDI

Setting Goals for Prevention: CDI in Oregon 2013 Example



- State SIR below 1, but still 718 HO-CDIs in OR
- SIR of 1 reflects equivalence to baseline
 - HHS 2013 prevention target: 30% reduction from baseline
 - What is our target in OR? Same or more aggressive?

Setting Goals for Prevention: CDI in Oregon 2013 Example

- If goal was to match national baseline (SIR=1.0)
 - Goal Met: 718 observed; 944 expected, SIR = 0.76
 - CAD is -226 (prevented 226 more infections than expected)
- If goal was HHS target (30% reduction, SIR 0.7)
 - Goal *not* met: 718 observed; 661 expected
 - CAD is 57 (would need to prevent 57 more to reach goal)
- More aggressive goals (SIRs of 0.5 or 0.25)
 - 50% reduction, would need to prevent 246 infections
 - 75% reduction, would need to prevent 482 infections

Using the CAD to Target Prevention

- Say state goal is an SIR of 0.7 (per HHS target)
- How do we target prevention resources to reach goal of preventing 57 infections?
 - Hospitals with highest SIRs?
 - Top 7 hospitals would need to get SIR to 0.7
 - Hospitals w/highest CAD?
 - Top 1 hospital would need to get SIR to 0.7
 - Hospital with highest CAD of 70.5 (rank=1), SIR of 1.35 (rank=7)

CDI Ranks by CAD (High to Low)

CAD = Observed – Expected(0.7)*

FACILITY RANK	NAME	PATIENT DAYS	COHCFA PREVALENCE RATE	HOSPITAL ONSET CDI EVENTS	EXPECTED EVENTS	CAD	SIR	SIR TEST
1	Target for Prevention ?	152552	0.14	146	107.88	70.5	1.35	SIG
2		58518	0.17	51	36.14	25.7	1.41	SIG
3		64240	0.14	40	33.12	16.8	1.21	NS
4		89646	0.15	62	67.09	15	0.92	NS
5		20658	0.14	23	14.95	12.5	1.54	NS
6		58704	0.15	46	50.58	10.6	0.91	NS
7		28221	0.14	21	18.9	7.8	1.11	NS
8		19825	0.12	13	9.39	6.4	1.39	NS
9		6216	0.12	8	3.15	5.8	2.54	SIG
10		2935	0.6	7	2.07	5.6	3.38	SIG

Highest burden of preventable infections

51	Target for Recognition?	20794	0.12	3	10.84	-4.6	0.28	NS
52		14201	0.05	1	9.08	-5.4	0.11	NS
53		33886	0.08	10	23.46	-6.4	0.43	NS
54		29024	0.07	6	18.72	-7.1	0.32	NS
55		43759	0.06	12	27.41	-7.2	0.44	NS
56		51224	0.11	15	40.72	-13.5	0.37	NS
57		87376	0.06	37	72.87	-14	0.51	NS
58		106483	0.11	37	84.5	-22.2	0.44	NS
59		115245	0.07	40	90.74	-23.5	0.44	NS

Highest # of infections prevented

Oregon CLABSI 2013: SIR = 0.29

2013 OR CLABSI SIR = 0.29

HHS Goal = 50% reduction (SIR of 0.50)

CAD = Observed – Expected(0.50)*

RANK	ORGID	NAME	STATE	EVENTS	CAD	SIR	SIR TEST
1	13402	St. Charles Medical Cente	OR	6	3.7	1.3	NS
2	13488	Mckenzie Willamette Medic	OR	2	1.1	1.2	NS
3	14288	SKY LAKES MEDICAL CENTER	OR	2	1	1	NS
4	10997	Peace Harbor Hospital	OR	1	0.9		NS
5	13618	St. Anthony Hospital	OR	1	0.8		NS

} Fewer than 1 expected infection

Potential to highlight success story w/CLABSI, focus attention on maintaining low rates and addressing other infections

RANK	ORGID	NAME	STATE	EVENTS	CAD	SIR	SIR TEST
42	10400	Kaiser Sunnyside Medical	OR	0	-1.4	0	NS
43	10095	Providence St. Vincent Me	OR	1	-3.1	0.1	NS
44	12648	Sacred Heart Medical Cent	OR	2	-4	0.09	SIG
45	10598	Legacy Emanuel Hospital a	OR	3	-4.4	0.3	SIG
46	10074	Oregon Health & Science U	OR	3	-12	0.05	SIG

} Highlight these facilities in report?

Ideas for Using CAD in Report

- Emphasize Oregon's performance relative to HHS target reductions, rather than SIR=1
 - Use the CAD to show the number of infections needed to prevent to reach HHS target reductions
- Focus on Prevention
 - Display hospitals with highest burden of infection & recommend prevention measures
 - Look for “Positive Deviants” and recognize top performers

Your Thoughts...



- Scope & Organization of the Annual Report
 - All infections, all metrics, comprehensive report?
 - Executive summary style report, detailed data elsewhere?
 - Separate reports for different settings, infections, audiences?
- Content and intended use of report
 - Should we encourage comparisons of facilities by SIR?
 - Should we encourage intra-facility comparison over time?
 - Should we incorporate validation findings/efforts into report?
 - How do we highlight facilities doing BETTER than expected?
 - How do we help facilities doing WORSE than expected?

Oregon Health Authority