

When Healthcare Becomes a Health Score

PEOPLE GET SICK FROM HEALTHCARE?

On a given day, one in 25 hospitalized patients in the United States has a healthcare-associated infection (HAI). That works out to an estimated 722,000 HAIs each year in acute care hospitals.¹ These avoidable infections lead to medical complications, increased hospital stays, death, and healthcare costs.²

To address this pressing issue, the Oregon Legislative Assembly passed House Bill 2524 in 2007, which created Oregon's HAI Program. Oregon's hospitals began reporting selected HAIs to the Oregon Health Authority in 2009. By 2015, 10 types of HAIs were reportable by hospitals, and dialysis facilities were required to report device and treatment-associated infections.

HOW OREGON COMPARES TO THE REST OF THE COUNTRY

To compare our facilities to what we predict will happen using national data from a baseline measurement period, we use what's called the standardized infection ratio (SIR).

A SIR of 1 means the facility had the same number of infections as were predicted based on national data. A SIR of <1 means the facility had fewer infections, and a SIR of >1 means the facility reported more infections than predicted.

HAIs IN OREGON

The good news: In 2016, Oregon hospitals met the reduction targets set by the U.S. Department of Health and Human Services (HHS) for 2013 for central line-associated bloodstream infections (CLABSIs) in adult and pediatric settings, and for methicillin-resistant *Staphylococcus aureus* bloodstream infections (MRSA BSIs). Oregon hospitals also did well in preventing catheter-associated urinary tract infections (CAUTIs) and surgical site infections

(SSIs) following heart (CBGB), laminectomy (LAM), colon (COLO), and hysterectomy (HYST) surgeries. Additionally, Oregon dialysis facilities saw numbers below national averages for both dialysis-related bloodstream infections (BSIs) and access-related bloodstream infections (AR-BSIs) (Table 1).

Room for improvement: Oregon hospitals did not meet national prevention targets for CLABSIs in neonatal intensive care units (NICUs), and did not meet national reduction targets for SSIs following hip (HPRO) and knee (KPRO)

replacement surgeries. Oregon hospitals also failed to meet national prevention targets for *Clostridium difficile* infections (CDI) (Table 1, *verso*).

HOW IS MY HOSPITAL PERFORMING?

Thank you for asking. The 2016 HAI report is hot off the press, and in addition to showing you how the state is doing collectively, online tables and maps illustrate how each facility is doing individually. Find them on our website: healthoregon.org/haipubs.

Table 1. HAI measures reported by Oregon's hospitals

HAI	Observed infections	SIR (95% CI)	Oregon reporting, 2016, compared to predicted	2013 HHS HAI reduction target ⁴
CLABSI: Adult and pediatric ICUs	57	0.41 (0.31–0.53)	59% fewer*	50%
CLABSI: Adult and pediatric wards	43	0.35 (0.26–0.47)	65% fewer*	50%
CLABSI: NICUs	13	0.74 (0.41–1.24)	26% fewer	50%
CAUTI: Adult and pediatric ICUs	109	0.64 (0.53–0.77)	36% fewer*	25%
CAUTI: Adult and pediatric wards	75	0.42 (0.33–0.52)	58% fewer*	25%
CDI	906	0.85 (0.79–0.90)	15% fewer*	30%
MRSA BSI	57	0.61 (0.47–0.79)	39% fewer*	25%
SSI: CBGB	7	0.27 (0.12–0.53)	73% fewer*	25%
SSI: LAM	11	0.29 (0.15–0.50)	71% fewer*	25%
SSI: HYST	12	0.45 (0.25–0.77)	55% fewer*	25%
SSI: COLO	91	0.75 (0.60–0.91)	25% fewer*	25%
SSI: HPRO	67	1.03 (0.80–1.29)	3% more	25%
SSI: KPRO	48	0.78 (0.58–1.02)	22% fewer	25%

*This difference was statistically significant.

■ Measure did not meet 2013 U.S. HHS HAI reduction target

□ Measure met 2013 U.S. HHS HAI reduction target

SIR: Standardized Infection Ratio
CI: Confidence Interval

WHAT CAN I DO?

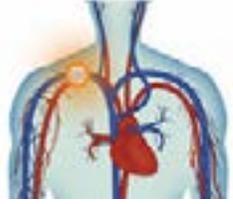
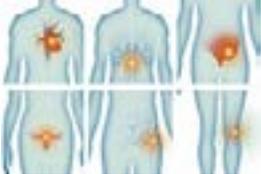
Read the HAI prevention tips (Table 2). While you're checking out the reports on the [HAI website](#), browse for information on HAs, reporting and prevention interventions. If you'd like to learn more about preventing HAs in your facility, check out these CDC resources:

- CLABSI: www.cdc.gov/HAI/bsi/CLABSI-resources.html
- CAUTI: www.cdc.gov/HAI/ca_uti/uti.html
- CDI: www.cdc.gov/hai/organisms/cdiff/Cdiff_clinicians.html
- MRSA BSIs: www.cdc.gov/HAI/organisms/mrsa-infection.html
- SSIs: www.cdc.gov/HAI/ssi/ssi.html
- BSIs and AR-BSIs: www.cdc.gov/dialysis/prevention-tools/index.html

REFERENCES

1. Magill SS, Edwards JR, Bamberg W, et al. Multistate Point-Prevalence Survey of HealthCare-Associated Infections. *NEJM* 2014;370:1198–1208. Available at [Multistate Point-Prevalence Survey of Health Care-Associated Infection](#). Accessed 4 Dec 2017.
2. Scott RD. The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention. 2009; CDC. Available at cdc.gov/hai/pdfs/hai/scott_costpaper.pdf. Accessed 4 Dec 2017.
3. HAI Data Analysis & Presentation Standardization Toolkit. Council of State and Territorial Epidemiologists. Available at: www.cste.org/general/custom.asp?page=HAIToolkit.
4. Office of Disease Prevention and Health Promotion. National Targets and Metrics. 2017. <https://health.gov/hcq/prevent-hai-measures.asp>. Accessed: 4 Dec 2017.

Table 2. HAI prevention tips³

<p>ALL HAIs</p>	<ul style="list-style-type: none"> • Assess and address the challenges to following recommended practice in your own facility. • Track infections and give feedback to your providers regularly. • Educate patients and families about how to care for themselves after returning home and recognize when to get help.
<p>DEVICE-ASSOCIATED INFECTIONS</p> 	<ul style="list-style-type: none"> • Insert devices, like central lines and indwelling urinary catheters, only when necessary. • Only trained professionals should insert medical devices, following the evidence-based practice recommendations for insertion every time. • Once the device is in place, follow guidelines regarding maintenance, and remove it as soon as it is no longer needed. • Assess staff adherence to aseptic technique during insertion, maintenance, and removal.
<p>DRUG-RESISTANT ORGANISMS</p> 	<ul style="list-style-type: none"> • Prescribe antibiotics judiciously to prevent infections with drug-resistant pathogens like MRSA and <i>C. difficile</i>. Remember: right drug, dose, and duration, and discontinue as soon as possible! • Rapidly identify patients with these infections, and notify the receiving facility when transferring a patient with a drug-resistant infection. • Assess whether a patient needs additional infection control precautions, and implement appropriate precautions as soon as possible. • Read the labels and select products for environmental cleaning and hand hygiene that are appropriate to the organism. For example, alcohol-based hand rubs will not kill <i>C. difficile</i>, so handwashing with soap and water is preferred.
<p>SURGICAL SITE INFECTIONS</p> 	<ul style="list-style-type: none"> • Provide appropriate antibiotics within 60 minutes before the surgery begins and discontinue within 24 hours after surgery. • Clean hands and arms up to elbows with an antiseptic agent before surgery, and perform vigilant hand hygiene during post-operative care. • Remove hair immediately before surgery using electric clippers, never a razor. • Wear sterile barriers during surgery. • Minimize the number of time the incision is entered and exited during surgery.

What's New with Zika?

Haven't seen Zika on the news lately and wondering what's the latest buzz? Happily, Zika incidence has been declining, from over 40,000 cases reported in 2016 to under 1,000 cases in 2017 for U.S. states and territories. However, Zika has become endemic in many countries in South America and the Caribbean, and in Puerto Rico and the U.S. Virgin Islands. Driven by hurricane-inflicted devastation in these territories, many residents from these areas are relocating to U.S. states, including Oregon; these include persons who contracted Zika before emigrating.

Zika: Recent revelations

- Zika antibodies can persist for months in some people, including pregnant women. Because of this, positive Zika antibody tests could reflect:
 - remote infections that occurred before pregnancy, or
 - false positives, given the plummeting incidence of Zika.
- Birth defects from congenital Zika infection are more varied than first realized; they include microcephaly, congenital contractures, hypertonia and visual impairment.
- Occasionally, affected infants appear normal at birth but later develop Zika-related health issues such as postnatal-onset microcephaly or eye abnormalities.

Zika: Current testing recommendations

- You need to test asymptomatic pregnant women for Zika only if they have ongoing exposure to the virus (either by visiting Zika-affected areas at least once a month, or through unprotected sex with a partner who visits Zika-affected areas with that frequency).
- Consider and test for Zika in people with characteristic symptoms and with history of recent exposure through travel or sexual contact.
- Consider and test for Zika in infants with possible *in utero* Zika virus exposure who have concerning clinical findings, such as characteristic birth anomalies (e.g., those born to women recently in Zika-affected areas).

CDC just updated its guidance on clinical management of infants borne to Zika-affected moms; see [CDC's Zika page](#).

If you need a refresher on Zika, you're in luck! Our [Zika provider page](#) has you covered. It's one-stop shopping for current recommendations, reporting instructions, and testing guidance. As always, please call your local health department if you suspect you have a patient with Zika.



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