



WISCONSIN DEPARTMENT
of **HEALTH SERVICES**

Surgical Site Infections (SSI) in Wisconsin

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To protect and promote the health and safety of the people of Wisconsin.

Wisconsin SSI Data

- National Healthcare Safety Network (NHSN) data
- Standardized infection ratio (SIR)
 - Number of observed infections
 - Number predicted (2015 national baseline)
- Risk adjustment
 - By procedure type
 - For each procedure performed

Wisconsin Progress to the 2020 National HAI Goals

Infection	Baseline Period	2020 National Goal	CY 2018 WI SIR	Percent Reduction in WI Compared to 2015 Baseline
Central line-associated bloodstream infections	2015	50% reduction (SIR = 0.50)	ACH*: 0.57 CAH: 0.53	43% reduction 47% reduction
Catheter-associated urinary tract infections	2015	25% reduction (SIR = 0.75)	ACH: 0.79 CAH: 0.65	21% reduction 35% reduction
Surgical site infections**	2015	30% reduction (SIR = 0.70)	0.89	11% reduction
C. difficile infections	2015	30% reduction (SIR = 0.70)	ACH: 0.68 CAH: 0.67	32% reduction 33% reduction
MRSA bacteremia (hospital-based)	2015	50% reduction (SIR = 0.50)	ACH: 0.46 CAH: 0.00	54% reduction 100% reduction

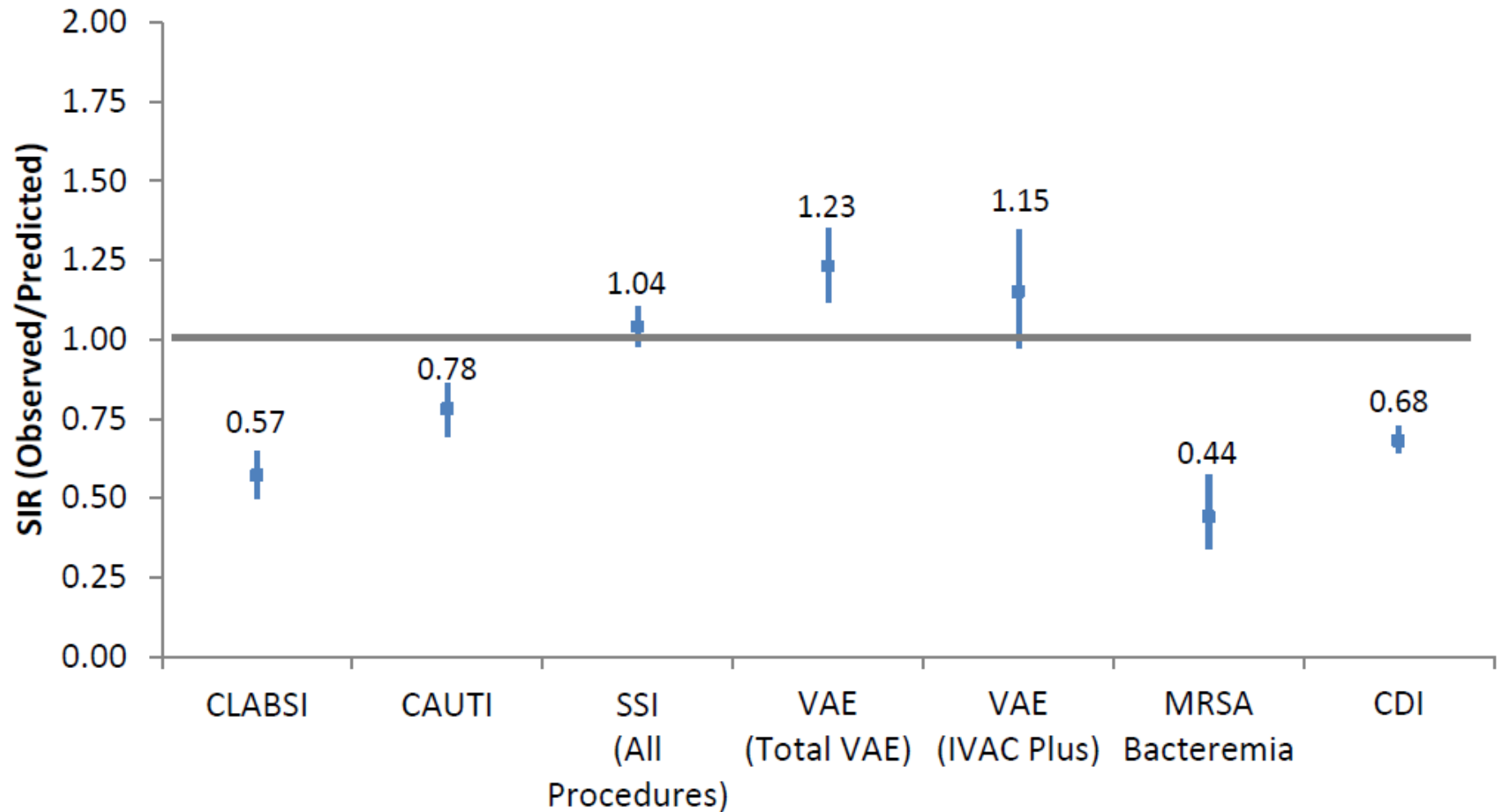
*ACH = Acute Care Hospital, CAH = Critical Access Hospital

**Deep and organ/space infections for colon, abdominal hysterectomy, knee arthroplasty, hip arthroplasty, CABG, AAA, vaginal hysterectomy, rectal, peripheral vascular bypass and other cardiac procedures.

2018 HAI Counts

Event Type	Count
<i>C. difficile</i> infection (CDI) laboratory-identified (LabID) events	5,148
SSI	1,355
MRSA bacteremia LabID events	886
Ventilator-associated events (VAE)	453
Catheter-associated urinary tract infections (CAUTI)	373
Central line-associated bloodstream infections (CLABSI)	321
Total	8,536

2018 Wisconsin Hospital Standardized Infection Ratios (SIR)



2018 Wisconsin Volumes

Procedure Volume

(count, percent of total)

1. KPRO (17,889, 21%)
2. HPRO (12,519, 15%)
3. CSEC (7,318, 9%)
4. COLO (5,961, 7%)
5. HYST (6,565, 8%)

Infection Volume

(count, percent of total)

1. COLO (324, 24%)
2. HPRO (146, 11%)
3. HYST (121, 9%)
4. CSEC (101, 7%)
5. KPRO (99, 7%)

COLO: Colon procedures

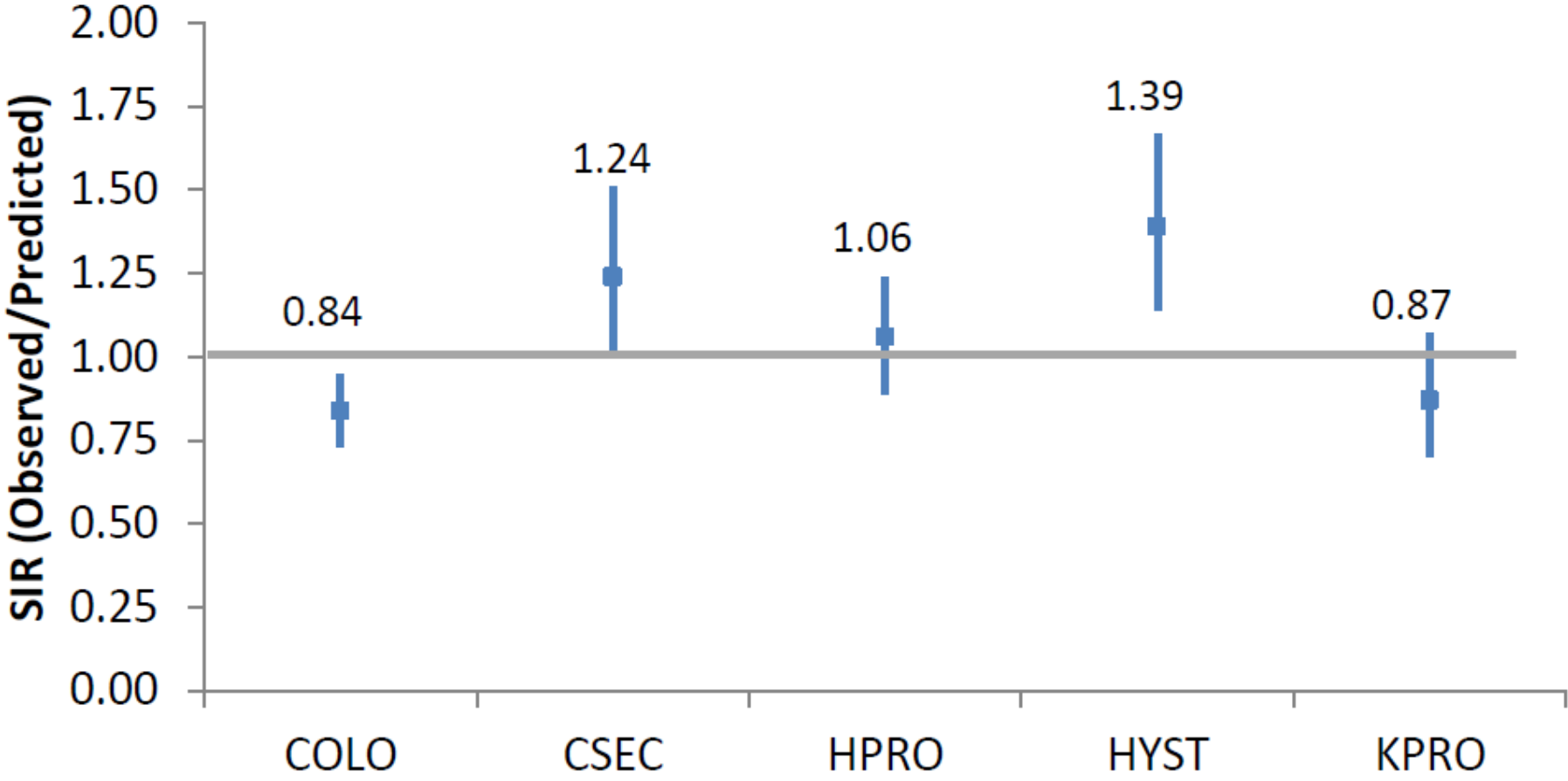
CSEC: C-sections

HPRO: Hip arthroplasties

HYST: Abdominal hysterectomies

KPRO: Knee arthroplasties

2018 Wisconsin All SSI SIRs



Deeper Dive – Inpatient HYST

	2016	2017	2018
Hospitals reporting	117	117	118
Total infection count	74 (67 in “All” SIR)	93 (89 in “All” SIR)	107 (104 in “All” SIR)
Superficial infections	40 (54%)	41 (44%)	45 (42%)
Deep infections	7 (9%)	7 (8%)	6 (6%)
Organ/space infections	27 (37%)	45 (48%)	56 (52%)
Inpatient procedures	5,135	4,936	5,377
Predicted events, all SIR	74.15	68.72	75.12
All SSIs SIR	0.90	1.30	1.39
Complex A/R SIR	0.91	1.26	1.31

Deeper Dive – Outpatient HYST

	2016	2017	2018
Hospitals reporting	35	40	35
Total infection count	4	8	14
Superficial infections	2 (50%)	4 (50%)	5 (36%)
Deep infections	0 (0%)	0 (0%)	0 (0%)
Organ/space infections	2 (50%)	4 (50%)	9 (64%)
Outpatient procedures	829	1,077	1,188
Predicted events, all SIR	3.40	3.93	4.12
All SSIs SIR	1.18	2.04	3.40

Deeper Dive – Orthopedics

	HPRO			KPRO		
	2016	2017	2018	2016	2017	2018
Hospitals reporting	90	98	102	91	100	104
Total infection count	143	136	146	91	91	99
Superficial infections	50	36	51	38	32	32
Deep infections	45	44	42	23	31	25
Organ/space infections	48	56	53	30	28	42
Procedures	10,141	11,883	12,519	15,382	18,001	17,859
Predicted events, all SIR	107.83	124.44	128.86	83.93	102.01	99.55
All SSIs SIR	1.22	1.05	1.06	1.03	0.81	0.87
Complex A/R SIR	0.89	0.94	0.92	0.75	0.72	0.63

Organ/Space Infections Rising Overall?

Year	Procedure Count	Superficial	Deep	Organ/Space	Total Infections
2016	67,739	459 (46%)	176 (18%)	364 (36%)	999
2017	80,336	563 (45%)	235 (18%)	459 (37%)	1,257
2018	84,818	575 (42%)	227 (17%)	568 (41%)	1,370
First Half 2019	39,198	213 (40%)	72 (14%)	243 (46%)	528

2018 Top Organ/Space Sites

1. Intraabdominal (IAB) (52% of all organ/space)
2. Periprosthetic joint infection (PJI) (16%)
3. Other infections of the reproductive tract (OREP) (8%)
4. Meningitis or ventriculitis (MEN) (4%)
5. Vaginal cuff (VCUF) (3%)/Osteomyelitis (BONE) (3%)

Hospital NHSN Analysis

- Assess additional NHSN procedures to track beyond requirements
- Use NHSN data to help direct prevention
- Look at trends in your facility
- Conduct internal data validation
 - Data quality reports
 - Counts
 - Case review
- Participate in external data validation when available

**Thank you to all the hospitals
reporting HAI data through
NHSN!**

Questions?

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