Michigan Region 7 & 8

2018Q4 Aggregate TAP Report

Michigan Department of Health and Human Services

Surveillance for Healthcare-Associated and Resistant Pathogens (SHARP) Unit

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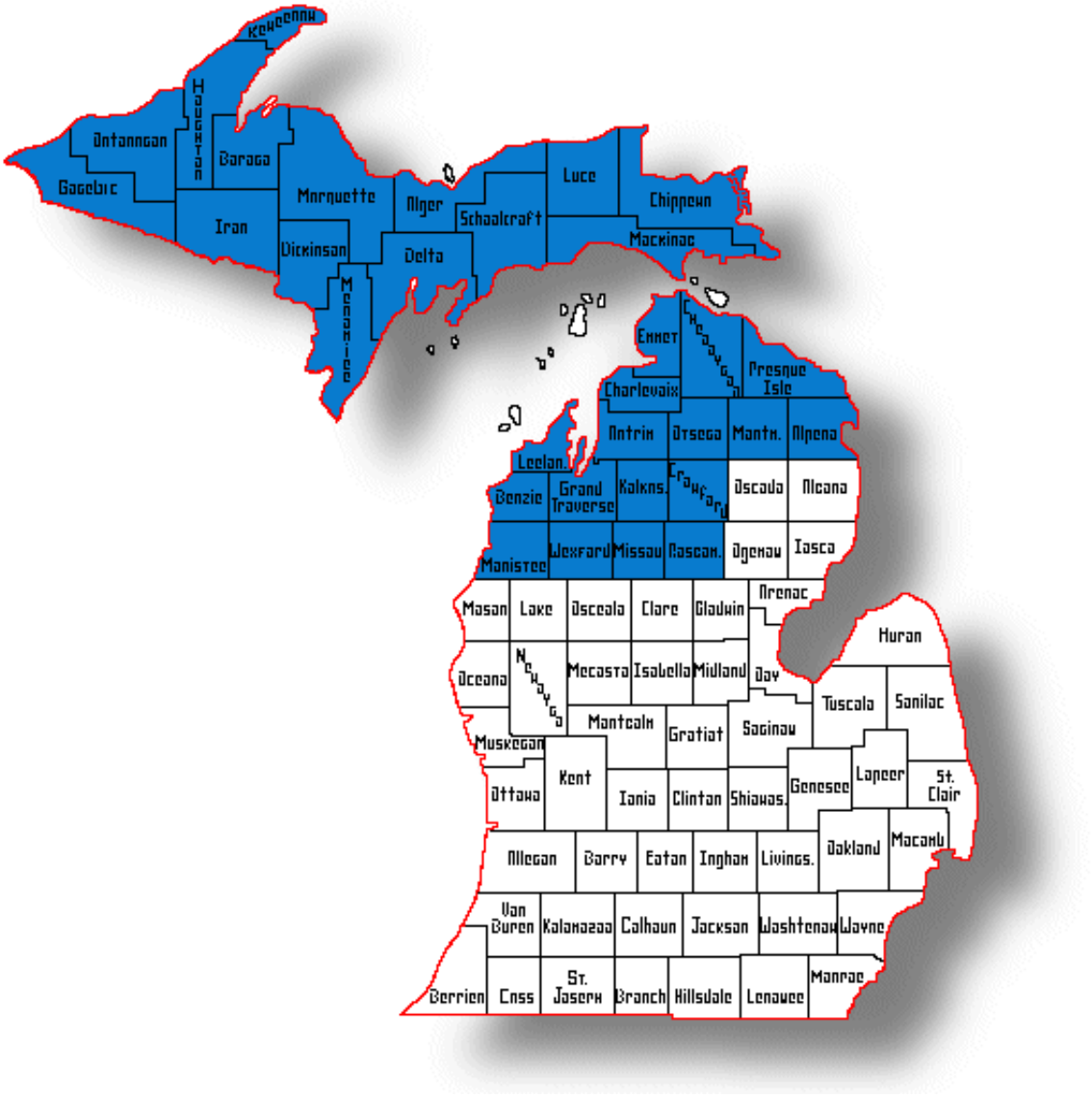
Region 7 & 8



The Michigan Department of Health and Human Services (MDHHS) Surveillance for Healthcare-Associated and Resistant Pathogens (SHARP) Unit began including the new targeted assessment for prevention (TAP) reports in the 2014 annual statewide aggregate report. Beginning with the 2015 Quarter 1 report, individual TAP reports are provided quarterly to each facility that has voluntarily shared data with the SHARP unit. Each participating facility will receive an individual, password-protected TAP report. Aggregate reports are also available for acute care hospitals in each emergency preparedness region and critical access hospitals in all regions.

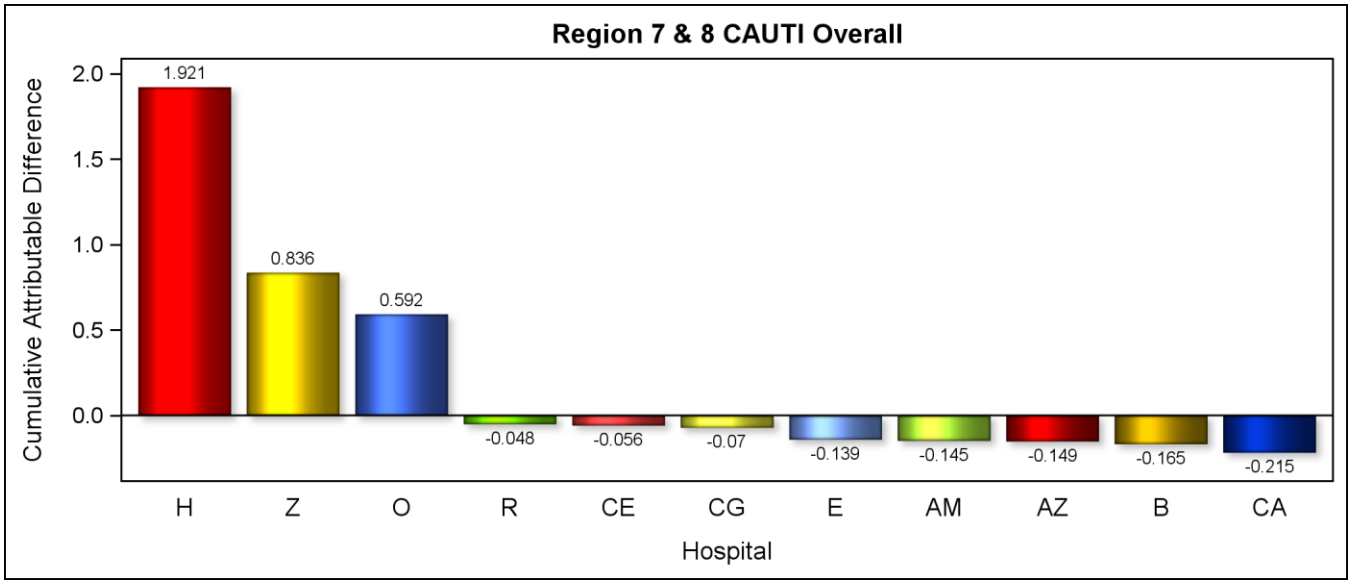
This report shows modules and locations where the specified region either needs to focus additional prevention efforts or is excelling in infection prevention. **Table 1** presents a cumulative attributable difference (CAD) determined using the 2020 HHS target standardized infection ratios (SIRs) for each module, using the NHSN 2015 Baselines, which is modeled after the data included in the CDC National and State Annual HAI Report. Numbers with "Need to Prevent" next to them show how many infections the region needs to prevent quarterly in order to reach the 2020 HHS target SIR. Numbers with "Prevented" next to them show the number of infections prevented beyond what was expected for the region according to the 2020 HHS target SIR. Corresponding SIRs for each module and location type are provided as well.

Table 1. 2018Q4 Targeted Assessment for Prevention Report

NHSN Module[1]	Hospital Type	Number of Facilities[2]	Location[3]	SIR[4]	Significant (Y/N)[5]	CAD[6]	Prevented or Need to Prevent
CAUTI	Acute	11	All	0.982	N	2.36	**Need to Prevent**
		9	ICU	1.008	N	0.768	**Need to Prevent**
		11	WARD+	0.971	N	1.592	**Need to Prevent**
CLABSI	Acute	11	All	0.309	N	-2.849	**Prevented**
		9	ICU	0	N	-1.296	**Prevented**
		11	WARD+	0.216	N	-2.465	**Prevented**
		2	NICU	.	.	.	.
CDI	Acute	11	Facility-wide	0.54	Y	-5.349	**Prevented**
MRSA Bac	Acute	11	Facility-wide	0.684	N	-0.048	**Prevented**
SSI COLO	Acute	11	----	0.991	N	1.175	**Need to Prevent**
SSI HYST	Acute	9	----		.	-0.645	**Prevented**
SSI HPRO	Acute	9	----	0.898	N	0.441	**Need to Prevent**
SSI KPRO	Acute	9	----	1.455	N	1.556	**Need to Prevent**

[1]CAUTI, catheter-associated urinary tract infection; CLABSI, central line-associated bloodstream infection; CDI, *Clostridium difficile* infection LabID; MRSA Bac, methicillin-resistant *Staphylococcus aureus* bloodstream infection LabID; SSI COLO, admission/readmission colon surgical site infection; SSI HYST, admission/readmission abdominal hysterectomy surgical site infection; SSI HPRO, admission/readmission hip arthroplasty surgical site infection; SSI KPRO, admission/readmission knee arthroplasty surgical site infection.
[2]Note: facilities in which an SIR could not be calculated with a CAD of 0 are excluded from this table. Data for locations with less than 5 facilities reporting have been suppressed.
[3]All includes all units for which in-plan data are reported; ICU includes all critical care units; WARD+ includes all WARD, WARD_ONC, SCA, STEP, or OTHER units; NICU includes all neonatal critical care units; Facility-wide includes all inpatient units.
[4]SIR: Standardized Infection Ratio: Ratio of observed events compared to the number of predicted events, accounting for unit type or other variables. An SIR of 1 can be interpreted as having the same number of events as predicted. An SIR that is between 0 and 1 represents fewer events than predicted, while an SIR of greater than 1 represents more events than predicted. SIRs were calculated using the 2015 NHSN Baselines. The SIR is only calculated if the number of predicted infections is ≥ 1.
[5]Significant (Y/N). A Y indicates that, based on the p-value and 95% Confidence Interval (CI), the SIR is statistically significantly different than 1. An N indicates that, based on the p-value and 95% CI, the SIR is not statistically significantly different than 1 (expected).
[6]CAD=Cumulative Attributable Difference. The number of infections that the region either needs to prevent to meet the 2020 HHS target or has prevented beyond the 2020 HHS target. 2020 HHS HAI Target SIRs: CAUTI = 0.75, CLABSI = 0.50, CDI = 0.70, MRSA bacteremia = 0.50, SSI = 0.70.

Bar graphs containing CAD values from all SHARP-participating hospitals in this region by module and location are available below. These graphs allow each facility to view their rank within each module and location compared to all other SHARP-participating facilities by locating their facility letter. Each participating facility will receive an individual, password-protected TAP report containing their letter. Letters may be re-assigned each quarter. The graphs are divided into quartiles. Facilities in quartile 1 have the highest number of infections that they need to prevent in order to meet the HHS HAI Target SIR goal. Facilities in quartile 4 have prevented the most infections beyond the HHS HAI Target SIR goal. Note: facilities for which an SIR could not be calculated with a CAD of 0 are excluded from the bar graphs.


Region 7 & 8 CAUTI Overall
Cumulative Attributable Difference
2.0
1.5
1.0
0.5
0.0
1.921
0.836
0.592
-0.048
-0.056
-0.07
-0.139
-0.145
-0.149
-0.165
-0.215
H
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CE
CG
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AM
AZ
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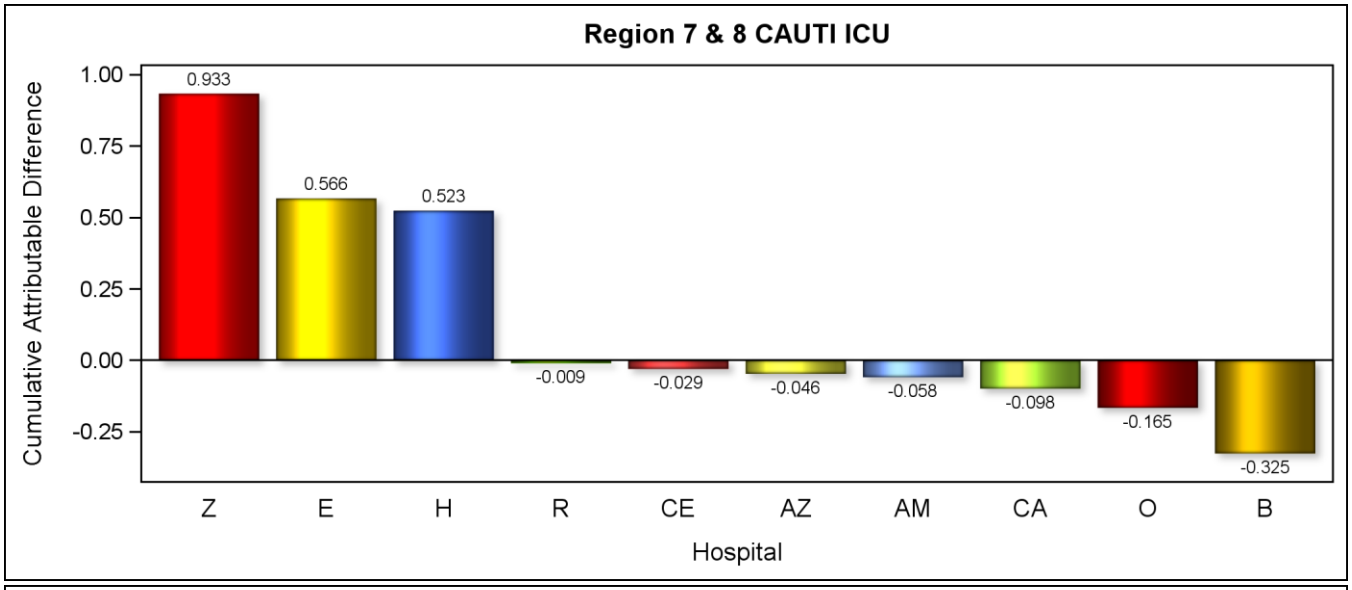
CA
Hospital


Region 7 & 8 CAUTI ICU
Cumulative Attributable Difference
1.00
0.75
0.50
0.25
0.00
-0.25
0.933
0.566
0.523
-0.009
-0.029
-0.046
-0.058
-0.098
-0.165
-0.325
Z
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H
R
CE
AZ
AM
CA
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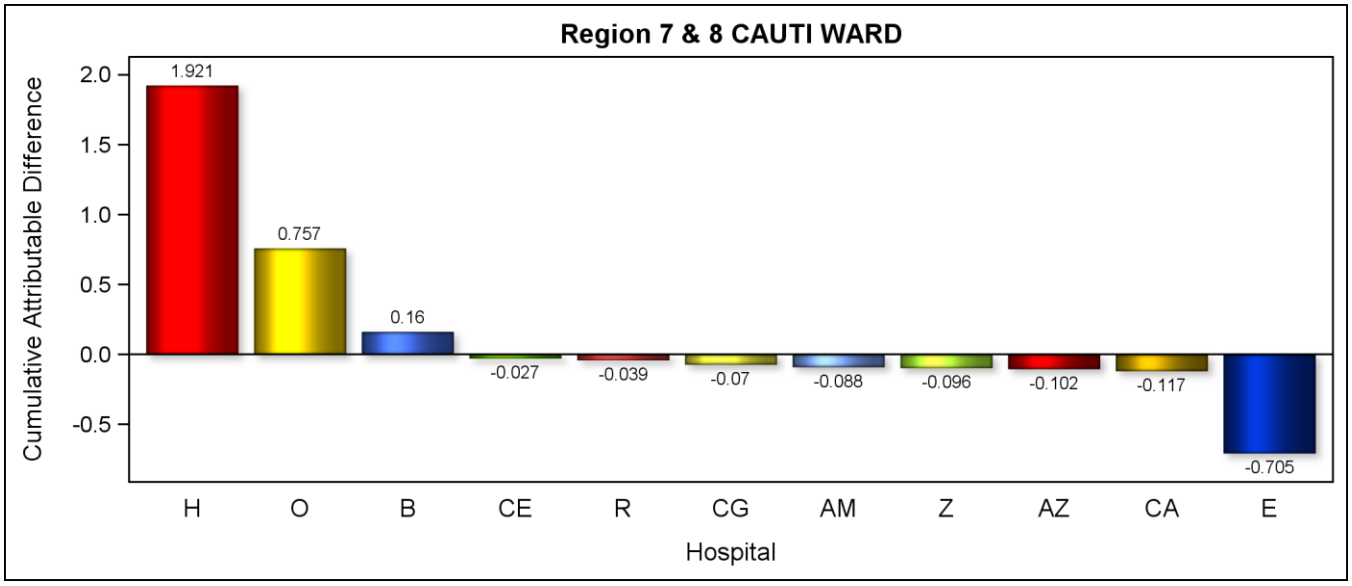
Hospital


Region 7 & 8 CAUTI WARD
Cumulative Attributable Difference
2.0
1.5
1.0
0.5
0.0
-0.5
1.921
0.757
0.16
-0.027
-0.039
-0.07
-0.088
-0.096
-0.102
-0.117
-0.705
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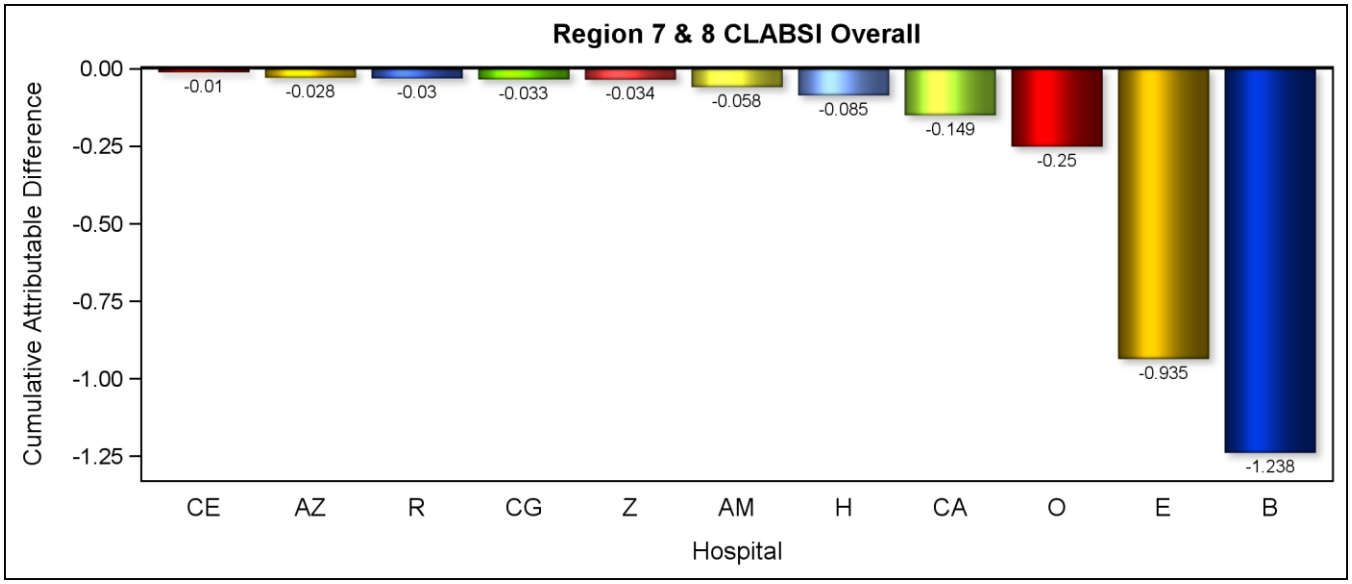
Hospital


Region 7 & 8 CLABSI Overall
Cumulative Attributable Difference
0.00
-0.25
-0.50
-0.75
-1.00
-1.25
-0.01
-0.028
-0.03
-0.033
-0.034
-0.058
-0.085
-0.149
-0.25
-0.935
-1.238
CE
AZ
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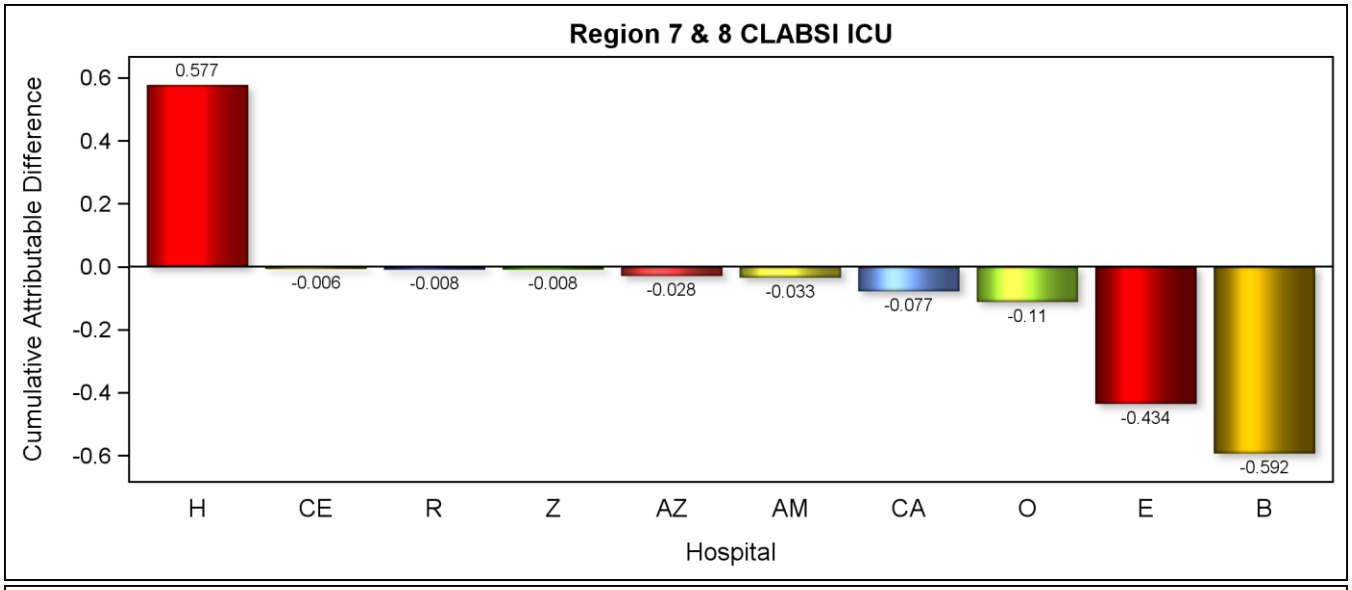
Region 7 & 8 CLABSI ICU
Cumulative Attributable Difference
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
0.577
-0.006
-0.008
-0.008
-0.028
-0.033
-0.077
-0.11
-0.434
-0.592
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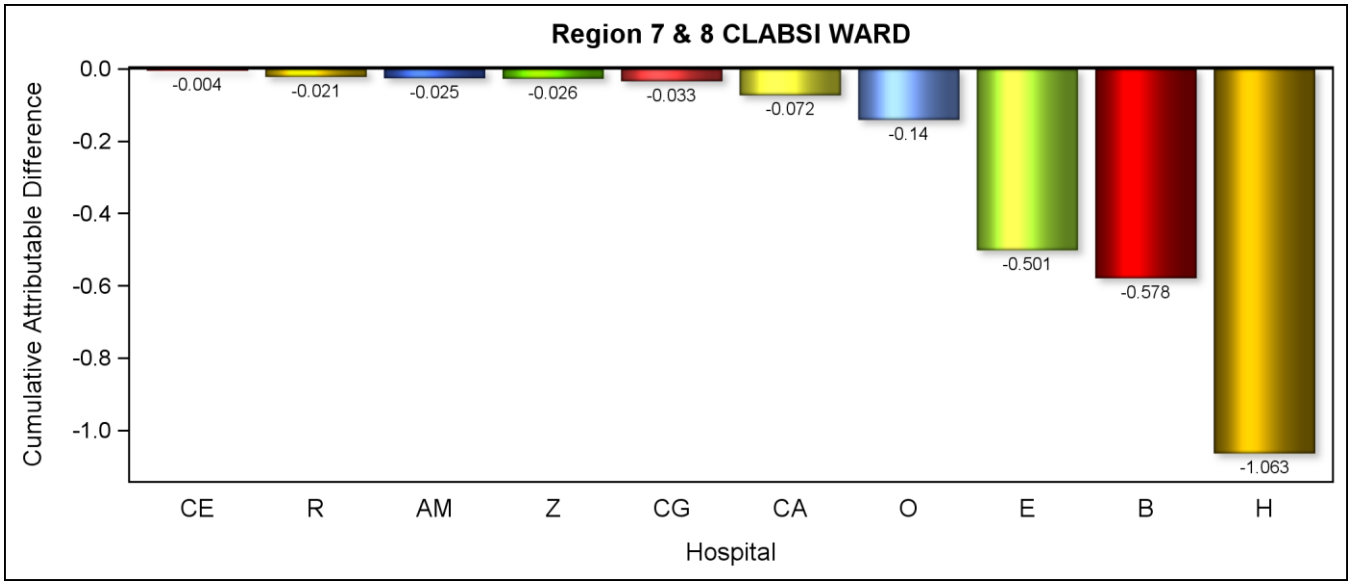
Region 7 & 8 CLABSI WARD
Cumulative Attributable Difference
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-0.004
-0.021
-0.025
-0.026
-0.033
-0.072
-0.14
-0.501
-0.578
-1.063
CE
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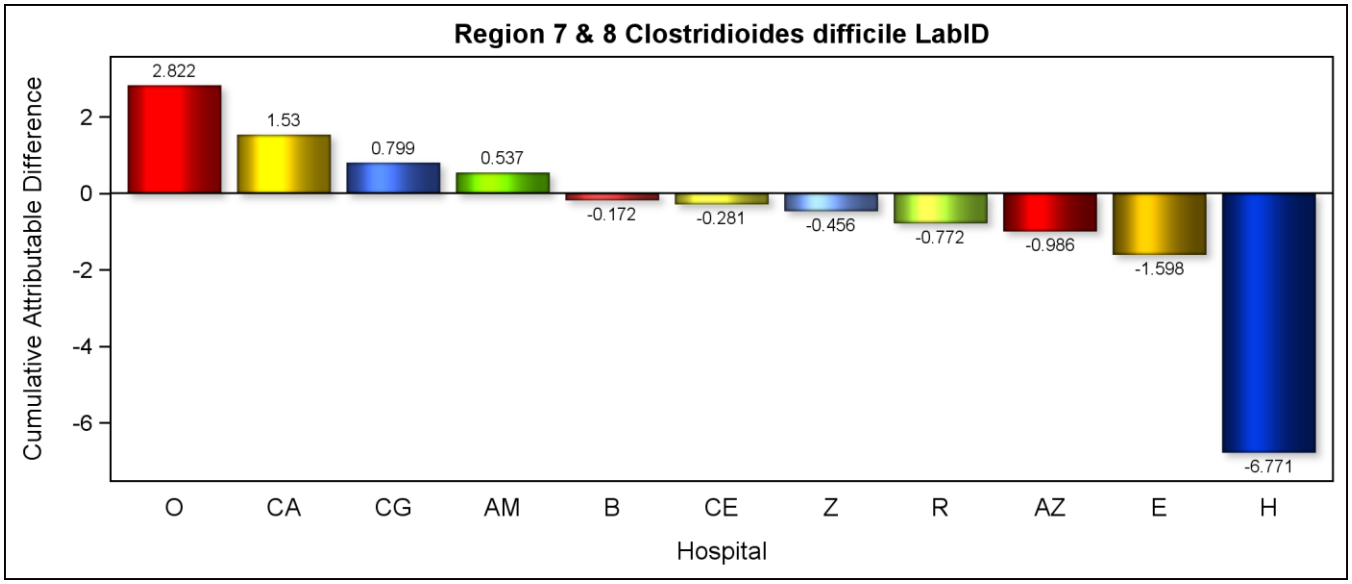
Region 7 & 8 Clostridioides difficile LabID
Cumulative Attributable Difference
2
0
-2
-4
-6
2.822
1.53
0.799
0.537
-0.172
-0.281
-0.456
-0.772
-0.986
-1.598
-6.771
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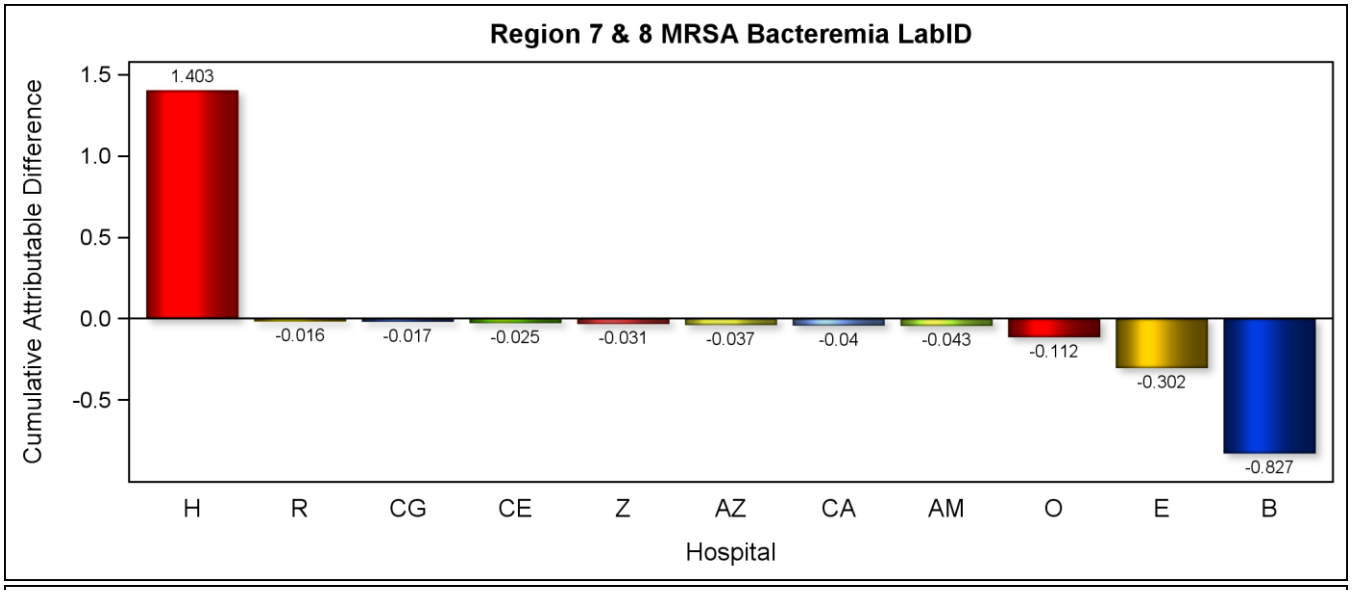
Region 7 & 8 MRSA Bacteremia LabID
Cumulative Attributable Difference
1.5
1.0
0.5
0.0
-0.5
1.403
-0.016
-0.017
-0.025
-0.031
-0.037
-0.04
-0.043
-0.112
-0.302
-0.827
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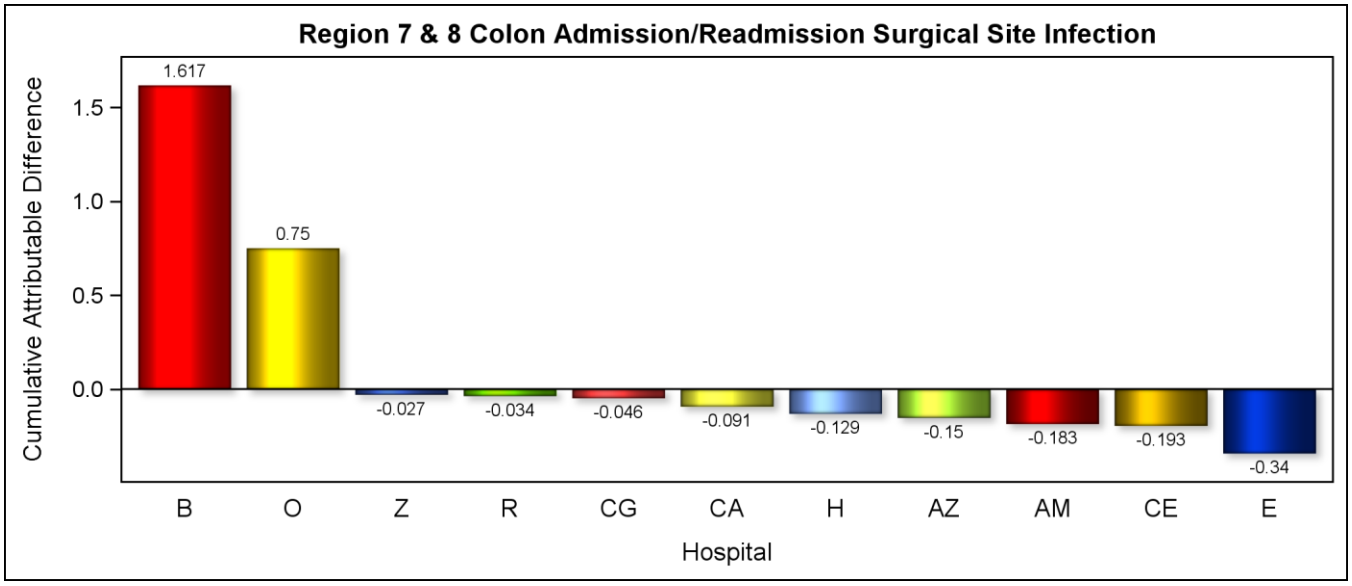
Hospital


Region 7 & 8 Colon Admission/Readmission Surgical Site Infection
Cumulative Attributable Difference
1.5
1.0
0.5
0.0
1.617
0.75
-0.027
-0.034
-0.046
-0.091
-0.129
-0.15
-0.183
-0.193
-0.34
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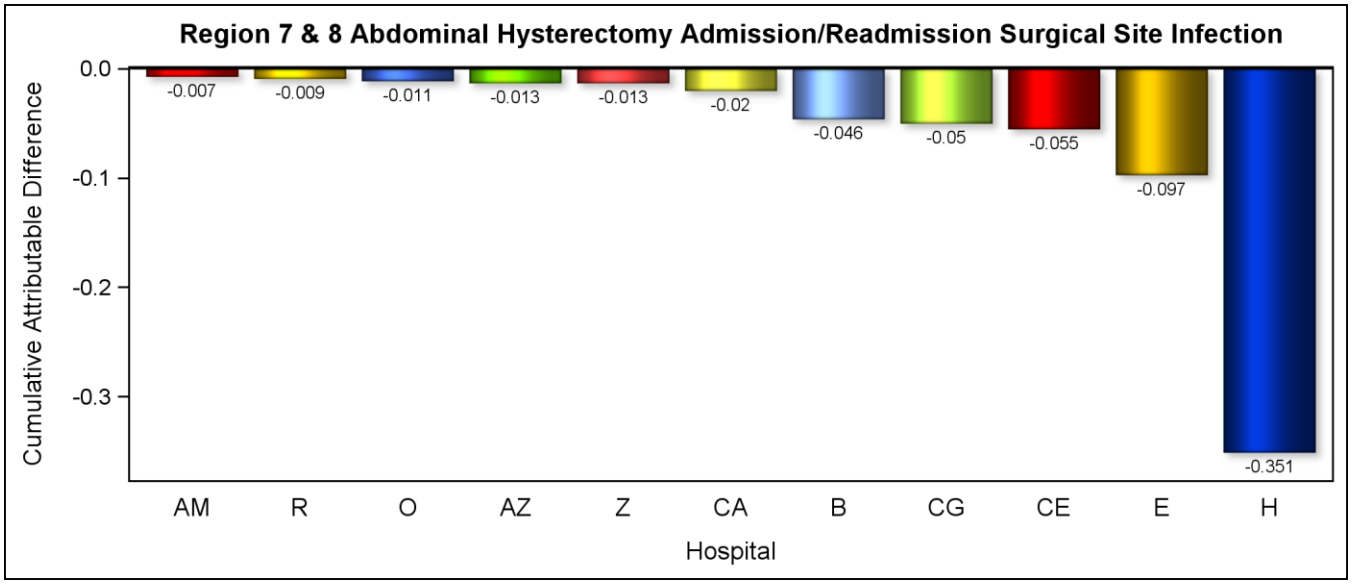
Region 7 & 8 Abdominal Hysterectomy Admission/Readmission Surgical Site Infection
Cumulative Attributable Difference
0.0
-0.1
-0.2
-0.3
-0.007
-0.009
-0.011
-0.013
-0.013
-0.02
-0.046
-0.05
-0.055
-0.097
-0.351
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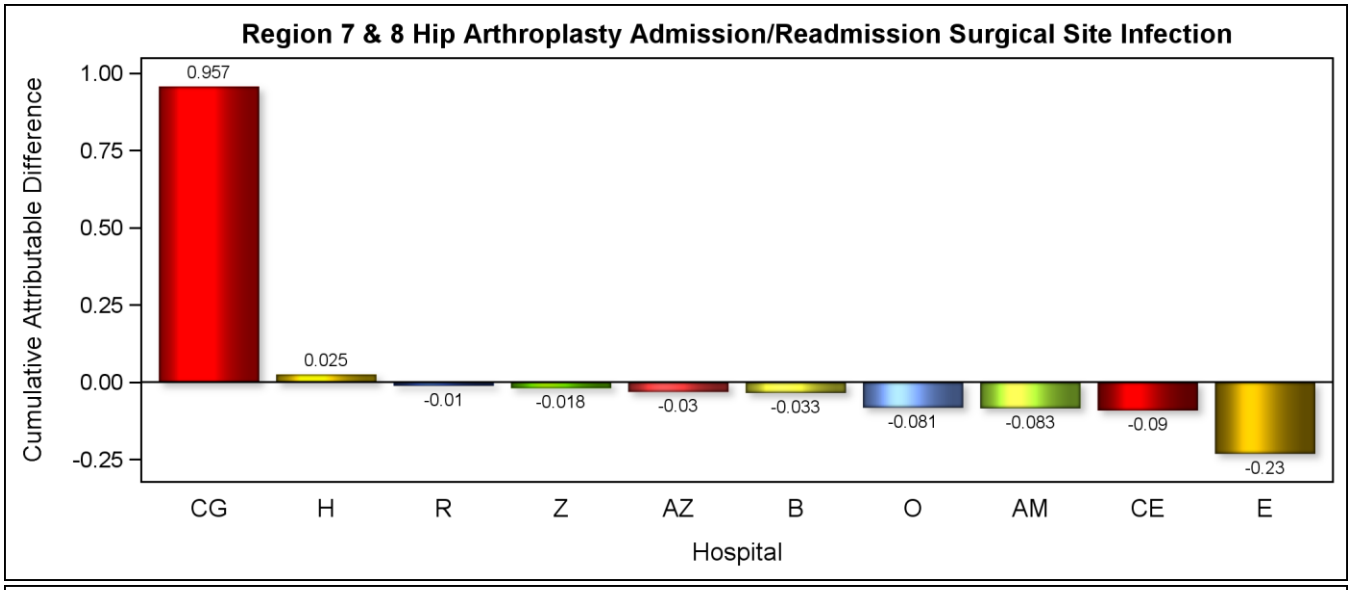
Region 7 & 8 Hip Arthroplasty Admission/Readmission Surgical Site Infection
Cumulative Attributable Difference
1.00
0.75
0.50
0.25
0.00
-0.25
0.957
0.025
-0.01
-0.018
-0.03
-0.033
-0.081
-0.083
-0.09
-0.23
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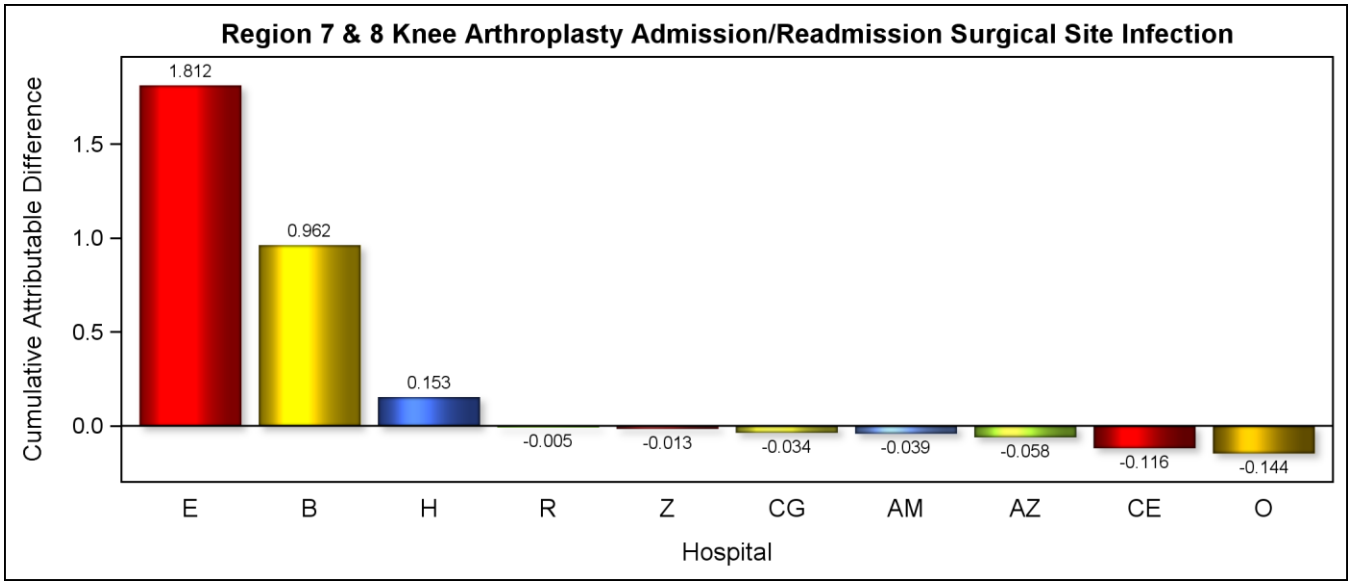
Region 7 & 8 Knee Arthroplasty Admission/Readmission Surgical Site Infection
Cumulative Attributable Difference
1.5
1.0
0.5
0.0
1.812
0.962
0.153
-0.005
-0.013
-0.034
-0.039
-0.058
-0.116
-0.144
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In addition to the NHSN modules reported above, other module data are reported to the MDHHS SHARP Unit. However, there are no corresponding HHS Target SIRs for these HAIs and therefore CAD values are not calculated. SIR values using the NHSN 2015 Baseline for these HAIs are shown in **Table 2** below.

Table 2. 2018Q4 Standardized Infection Ratios for Other HAIs

NHSN Module[1]	Hospital Type	Number of Facilities[2]	Location[3]	SIR[4]	Significant (Y/N)[5]
Total VAE	Acute	11	All	1.286	N
		8	ICU	1.033	N
		2	WARD+	.	.
IVAC	Acute	11	All	0.815	N
		8	ICU	0.59	N
		2	WARD+	.	.
MBI-CLABSI	Acute	11	All	.	.
		9	ICU	.	.
		11	WARD+	.	.

[1]Total VAE, total ventilator-associated events; IVAC Plus, infection-related ventilator-associated complication; MBI-CLABSI, mucosal barrier injury central line-associated bloodstream infection.
[2]Note: facilities for which the number of predicted infections are 0 have been excluded. Data for locations with less than 5 facilities reporting have been suppressed.
[3]All includes all units for which in-plan data are reported; ICU includes all critical care units; WARD+ includes all WARD, WARD_ONC, SCA, STEP, or OTHER units; NICU includes all neonatal critical care units; Facility-wide includes all inpatient units.
[4]SIR: Standardized Infection Ratio: Ratio of observed events compared to the number of predicted events, accounting for unit type or other variables. An SIR of 1 can be interpreted as having the same number of events as predicted. An SIR that is between 0 and 1 represents fewer events than predicted, while an SIR of greater than 1 represents more events than predicted. SIRs were calculated using the 2015 NHSN Baselines. The SIR is only calculated if the number of predicted infections is ≥ 1.
[5]Significant (Y/N). A Y indicates that, based on the p-value and 95% Confidence Interval (CI), the SIR is statistically significantly different than 1. An N indicates that, based on the p-value and 95% CI, the SIR is not statistically significantly different than 1 (expected).

Standardized utilization ratios (SURs) is a risk-adjusted comparison of the amount of indwelling device use to the amount expected to be used for each facility using the NHSN 2015 Baselines. There are currently no national or state targets for SURs. The SUR data reported to the MDHHS SHARP unit is included in **Table 3** below.

Table 3. 2018Q4 Standardized Utilization Ratios for Indwelling Device Use

Indwelling Device Type	Hospital Type	Number of Facilities[1]	Location[2]	SUR[3]	Significant (Y/N)[4]
Central Lines	Acute	11	All	0.842	Y
		9	ICU	0.911	Y
		11	WARD+	0.406	Y
		2	NICU	.	.
Urinary Catheters	Acute	11	All	0.965	Y
		9	ICU	0.863	Y
		11	WARD+	0.863	Y
Ventilators	Acute	11	All	0.526	Y
		9	ICU	0.67	Y
		5	WARD+	0.67	Y

[1]Note: facilities for which the number of predicted device days are 0 have been excluded. Data for locations with less than 5 facilities reporting have been suppressed.
[2]All includes all units for which in-plan data are reported; ICU includes all critical care units; WARD+ includes all WARD, WARD_ONC, SCA, STEP, or OTHER units; NICU includes all neonatal critical care units; Facility-wide includes all inpatient units.

[3]SUR: Standardized Utilization Ratio: Ratio of observed device days compared to the number of predicted device days, accounting for unit type or other variables. An SUR of 1 can be interpreted as having the same number of device days as predicted. An SUR that is between 0 and 1 represents fewer device days than predicted, while an SUR of greater than 1 represents more device days than predicted. SURs were calculated using the 2015 Baselines. The SUR is only calculated if the number of predicted device days is ≥ 1.
[4]Significant (Y/N). A Y indicates that, based on the p-value and 95% Confidence Interval (CI), the SUR is statistically significantly different than 1. An N indicates that, based on the p-value and 95% CI, the SUR is not statistically significantly different than 1 (expected).

Please contact Elli Ray (RayE7@michigan.gov) with questions, comments, or suggestions. All aggregate reports are posted at www.michigan.gov/hai.