

State of Michigan
2019Q3 Aggregate TAP Report

Michigan Department of Health and Human Services

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



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. Aggregate reports are 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 State of Michigan 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 state 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 state according to the 2020 HHS target SIR. Corresponding SIRs for each module and location type are provided as well.

Table 1. 2019Q3 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	89	All	0.640	Y	-20.546	Prevented
		77	ICU	0.664	Y	-8.456	Prevented
		89	WARD+	0.615	Y	-12.089	Prevented
	Critical Access	18	All	0.912	N	0.178	Need to Prevent
		5	ICU	.	.	-0.090	Prevented
		18	WARD+	.	.	0.268	Need to Prevent
CLABSI	Acute	89	All	0.611	Y	-22.480	Prevented
		77	ICU	0.718	Y	-1.932	Prevented
		89	WARD+	0.558	Y	-16.820	Prevented
		18	NICU	0.463	Y	-0.485	Prevented
	Critical Access	18	All	.	.	-0.121	Prevented
		5	ICU	.	.	-0.014	Prevented
		18	WARD+	.	.	-0.106	Prevented
		.	NICU
CDI	Acute	91	Facility-wide	0.687	Y	-10.132	Prevented
	Critical Access	18	Facility-wide	1.410	N	2.517	Need to Prevent
MRSA Bac	Acute	91	Facility-wide	0.601	Y	8.077	Need to Prevent
	Critical Access	18	Facility-wide	.	.	-0.170	Prevented
SSI COLO	All	86	----	0.928	N	15.990	Need to Prevent
SSI HYST	All	79	----	1.278	N	10.406	Need to Prevent
SSI HPRO	All	69	----	1.280	N	14.041	Need to Prevent
SSI KPRO	All	68	----	0.928	N	3.688	Need to Prevent

¹CAUTI, 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.

²Note: facilities in which an SIR could not be calculated with a CAD of 0 were excluded from this table. Data for locations with less than 5 facilities reporting have been suppressed.

³All 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.

⁴SIR: 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.

⁵Significant (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).

⁶CAD=Cumulative Attributable Difference. The number of infections that the state 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.

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. 2019Q3 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	78	All	1.254	Y
		68	ICU	1.263	Y
		43	WARD+	1.061	N
	Critical Access	15	All	.	.
5		ICU	.	.	
13		WARD+	.	.	
IVAC	Acute	78	All	1.450	Y
		68	ICU	1.472	Y
		43	WARD+	0.933	N
MBI-CLABSI	Acute	89	All	1.377	N
		77	ICU	0.000	N
		89	WARD+	1.516	N

¹Total VAE, total ventilator-associated events; IVAC Plus, infection-related ventilator-associated complication; MBI-CLABSI, mucosal barrier injury central line-associated bloodstream infection.

²Note: 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.

³All 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.

⁴SIR: 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.

⁵Significant (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. 2019Q3 Standardized Utilization Ratios for Indwelling Device Use					
Indwelling Device Type	Hospital Type	Number of Facilities¹	Location²	SUR³	Significant (Y/N)⁴
Central Lines	Acute	89	All	0.744	Y
		77	ICU	0.844	Y
	Critical Access	89	WARD+	0.844	Y
		18	NICU	0.805	Y
		18	All	0.862	Y
Urinary Catheters	Acute	5	ICU	0.774	Y
		18	WARD+	0.774	Y
	Critical Access	89	All	0.766	Y
		77	ICU	0.921	Y
		89	WARD+	0.921	Y
Ventilators	Acute	18	All	0.725	Y
		5	ICU	0.731	Y
	Critical Access	18	WARD+	0.731	Y
		78	All	0.803	Y
		68	ICU	0.968	Y
Critical Access	43	WARD+	0.968	Y	
	15	All	1.002	N	
	5	ICU	1.112	N	
	13	WARD+	1.112	N	

¹Note: 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.

²All 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.

³SUR: 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.

⁴Significant (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 Stier (RayE7@michigan.gov) with questions, comments, or suggestions. All aggregate reports are posted at www.michigan.gov/hai.