## Michigan Data for CMS Reporting

1. **Elements currently required for acute care facilities only**
2. **Michigan Hospitals:** the total number of hospitals sharing data with the SHARP Unit for each infection type
3. **Michigan Observed:** Number of infections reported during the time frame overall for each module.
4. **Michigan CMS Pred:** Number of predicted events, accounting for unit type or procedure. An SIR of 1 can be interpreted as having the same number of events that were predicted. An SIR that is between 0 and 1 represents **fewer** events than predicted, while an SIR of greater than 1 represents **more**.
5. **CAH (<5):** Indicating statistically significantly lower or higher than previous quarter (respectively).

### Green Text or Red Text

- **Green Text** indicates significantly fewer or greater infections than expected (respectively).
- **Red Text** indicates significantly fewer or greater infections than expected (respectively).

### P-value

- The p-value of <0.05 is considered significantly different than expected. It can show either significantly more infections (if the SIR is greater than 1 and the p-value is <0.05) or significantly fewer (if the SIR is less than 1 and the p-value is <0.05).

### Michigan SIR: Standardized Infection Ratio

- Ratio of observed events compared to the number of predicted events, accounting for unit type or procedure. An SIR of 1 can be interpreted as having the same number of events that were predicted. An SIR that is between 0 and 1 represents **fewer** events than predicted, while an SIR of greater than 1 represents **more**.

### Michigan Observed

- Number of infections reported during the time frame overall for each module.

### Michigan CMS Pred

- Number of predicted events, accounting for unit type or procedure. An SIR of 1 can be interpreted as having the same number of events that were predicted. An SIR that is between 0 and 1 represents **fewer** events than predicted, while an SIR of greater than 1 represents **more**.

### Michigan CMS SIR

- **SIR 95% CI:** 95% confidence interval around the SIR estimate. A 95% CI indicates that 95% of the time, the actual SIR will fall within this interval.

### Michigan CMS SIR p-value

- **p-value:** An SIR p-value of <0.05 is considered significantly different than expected. It can show either significantly more infections (if the SIR is greater than 1 and the p-value is <0.05) or significantly fewer (if the SIR is less than 1 and the p-value is <0.05).

### Michigan CMS SIR 95% CI

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### Michigan Data for CMS Reporting

- **CAU1:** Catheter-Associated Urinary Tract Infection
- **CLABSI1:** Central Line-Associated Blood Stream Infection
- **ICU:** ICU: CLABSIs from ICU-only
- **NICU:** NICU: CLABSIs from NICU-only
- **SSI COLO:** Surgical Site Infection – Colon Surgery
- **SSI HYST:** Surgical Site Infection – Abdominal Hysterectomy
- **MRSA BacLabID:** MRSA BacLabID: Inpatient facility-wide MRSA bacteremia Laboratory-Identified Event
- **CDI LabID:** CDI LabID: Inpatient facility-wide Clostridium difficile Laboratory-Identified Events

This report includes Michigan NHSN data for the third quarter of the 2014 calendar year. It demonstrates aggregate results from all data provided by Michigan hospitals to the MDDHS SHARP Unit, as well as the subset of that data which are reported to the Centers for Medicare & Medicaid Services (CMS) to fulfill reporting requirements. Comprehensive Michigan Aggregate HAI Surveillance Reports can be found at [www.michigan.gov/hai](http://www.michigan.gov/hai).
**Standardized Infection Ratios (SIRs) for NHSN Modules: All Data and CMS-Required Elements**

This table provides Standardized Infection Ratios (SIRs) for the six modules required by CMS in 2014, and displays both Michigan’s aggregate quarterly and a subset of **CMS-required data (required for acute care only)** by facility type. CMS-required SIRs include adult, pediatric, and neonatal intensive care unit (ICU) data for CLABSIs and adult and pediatric ICU data for CAUTIs from acute care hospitals. CMS SSIs include only deep incisional primary and organ/space SSIs with an event date within 30 days of the procedures and use only age and American Society of Anesthesiologists (ASA) score to determine risk for colon surgeries (COLO) and abdominal hysterectomies (HYST) from acute care hospitals. CMS-required SIRs include MRSA bacteremia facility-wide Laboratory-identified data (only healthcare facility-onset events included) and *Clostridium difficile* facility-wide Laboratory-identified data (only healthcare facility-onset events included). Descriptions of terms used in the tables can be found in the table footnotes in the report.

**Graphs Comparing SIR to Baseline**

SIR graphs display a comparison of the Michigan Overall SIR and the Michigan CMS SIR to the National Baseline (0%). The percentage listed on each bar shows the percent difference each respective SIR is from the national baseline. National baseline data were collected in 2006-2008 for CLABSI and SSI, 2009 for CAUTI, and 2011 for CDI and MRSA. New baseline data for all modules will be collected in 2015.
Michigan Quarterly Overall SIR Trends

SIR trend graphs show Michigan Overall SIRs quarterly, when three or more data points are available. Each SIR is surrounded by its 95% confidence interval, and a reference line of 1 is provided. These trend graphs compare SIRs to 1 (baseline) as well as the previous quarter.

Changes in Michigan LabID SIRs vs. National Baseline

CAUTI Standardized Infection Ratios

* = Significantly different from 1
** = Significantly different from previous report

Time Period
CLABSI Standardized Infection Ratios

SSI COLO Standardized Infection Ratios

SSI HYST Standardized Infection Ratios

*=Significantly different from 1
**=Significantly different from previous report
Conclusions

This report compiled Michigan HAI data voluntarily shared via NHSN with the MDHHS SHARP Unit for the 2014 Quarter 3 reporting period. This highlight sheet presents a new format that will replace the formal quarterly reports. Semi-Annual and Annual reports will still be provided following a more traditional format.

Note that these data from participating hospitals have not been validated. Validation studies will be conducted as additional funding becomes available. This report contains data from many more facilities than in previous reports. Data will continue to become more reliable as additional Michigan hospitals participate in this surveillance initiative.

Please contact Allison Murad at MuradA@michigan.gov or at 517-335-8199 with any questions, comments, or suggestions regarding this report.