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Appendix A-9:

RY2023 MassQEX Reports User Guide

(16.0)

Supplement to:

RY2023 EOHHS Technical Specifications Manual for MassHealth Acute Hospital Quality Measures

(Version 16.0)

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# Section 1: Introduction

The MassHealth Acute Hospital Pay-for-Performance (P4P) Program provides hospitals with various reports that contain feedback on status towards achieving quality performance in accordance with applicable EOHHS Acute RFA rateyear contract. This MassQEX Report User Guide (16.0) provides detail on how to interpret all quality report contents. Substantive updates in this document version are noted in underlined emphasis font.

1. **MassHealth Hospital Quality Measures.** the following updates to measures and data periods apply to reports.

**Table 1-1: RY23 MassHealth Acute P4P Quality Report Content**

| **Metric****ID #** | **Measure Name** | **Comparison Year Period** | **Improvement****Noted As** |
| --- | --- | --- | --- |
| MAT-4 | Cesarean Birth, NTSV  | Jan 1, 2022 – Dec 31, 2022 | Lower is better |
| NEWB-1 | Exclusive breast milk feeding | Jan 1, 2022 – Dec 31, 2022 | Higher is better |
| PMSM-1  | *Perinatal Morbidity Structural Measure* | CY2022 Activity | Met measure  |
| CCM-1 | Reconciled medication list at discharge | Jan 1, 2022 – Dec 31, 2022 | Higher is better |
| CCM-2 | Transition record with specified data elements at discharge | Jan 1, 2022 – Dec 31, 2022 | Higher is better |
| CCM-3 | Timely transmission of transition record at discharge | Jan 1, 2022 – Dec 31, 2022 | Higher is better |
| PSI-90 | Patient Safety and Adverse Events Composite  | *Oct 1,2019 – Dec 31, 2019 & Jan 1, 2021 to Dec 31, 2021*  | Lower is better |
| HAI-1 | Central Line-Associated Bloodstream Infection | Jan 1, 2021 – Dec 31, 2021 | Lower is better |
| HAI-2 | Catheter-Associated Urinary Tract Infection  | Jan 1, 2021 – Dec 31, 2021 | Lower is better |
| HAI-3 | Methicillin-Resistant Staphylococcus Aureus bacteremia  | Jan 1, 2021 – Dec 31, 2021 | Lower is better |
| HAI-4 | Clostridium Difficile Infection  | Jan 1, 2021 – Dec 31, 2021 | Lower is better |
| HAI-5 | Surgical Site Infections (colon & abdominal hysterectomy) | Jan 1, 2021 – Dec 31, 2021 | Lower is better |
| HCAHPS | Hospital Consumer Assessment of Healthcare Provider System  | Jan 1, 2021 – Dec 31, 2021 | Higher is better |

MassHealth quality reports computed by MassQEX contain detailed results on all measures listed in Table 1. *For RY23 reports, the HD-2 measure report was discontinued and new PMSM-1 measure report was added*. The “Improvement Noted as” column refers to performance direction associated with each measure result.

1. **Quality Reports Audience**
* **Hospital Key Representatives** *-* The primary audience for all reports are the two hospital key representatives (Quality and Finance executives) identified per Section 7.2 of Acute RFA contract as the EOHHS liaison for all MassHealth communication regarding contract requirements. Key RFA representatives are responsible for ensuring their MassQEX Hospital Users access and review all reports in a timely manner.
* **MassQEX Hospital Staff Users** *-* Only authorized registered users can access quality reports via the portal on the hospital’s behalf. **NOTE**: Several reports *d*isplay “protected health information” that may be disclosed only with authorized individuals within the hospital in accordance with HIPAA requirements.
* **MassHealth Notifications** – All hospitals are notified via the EOHHS business mailbox and MassQEX listserv when quality reports are posted in the secure portal.
1. **Report Posting Schedule:** Hospitals can download quality reports described in this user guide as follows:
2. Case List Request - posted within 14 calendar days following the portal close dates of quarter reporting period described in Section 1 of the EOHHS Technical Specifications Manual (16.0).
3. Year-End Validation Reports - posted after all three quarters of validation, as applicable, are completed.
4. Year-End Reports - posted for all chart-based and outcome measures by December each year.
5. Hospital Performance Score Reports – approximately 3 months after initial year-end reports were posted.
6. **Accessing Quality Reports:** Hospital staff registered users can log-in via theportal <https://massqex-portal.telligen.com/massqex/> and under the “Getting Started” header select “MassQEX Year-End Reports” link and the specific hospital folder linked to user appears. Contact the MassQEX Helpdesk at massqexhelp@telligen.com on all questions related to quality report results posted in the MassQEX portal.

## **Section 2: MassHealth Quality Report Contents**

Each MassQEX report includes a standardized header content (hospital name, provider ID, report name, data period) pertinent to facilitate Hospital access, tracking and management of documents.

1. **MassQEX Chart-Based Measure Reports**

The MassQEX portal posts various quality reports pertinent to the hospital reported chart-based measures (perinatal, care coordination) listed in Section 1 of this User Guide.

1. **Medical Record Case List Request:** Displays the list of cases identified from the hospital quarter submission data files selected for chart validation. Below is a description of this report content.

**Table 2-1: MassQEX Case List Request Content**

| **Column Name**  | **Description**  |
| --- | --- |
| Patient Name | Last and first name identified from hospital files submitted to the MassQEX portal |
| Medical Record # | 7-to-9-digit number identified from hospital files submitted to the MassQEX portal |
| Admit Date | The MM/DD/YY values in hospital files for quarter discharge period submitted  |
| Discharge Date  | The MM/DD/YY values in hospital files for quarter discharge period submitted |
| Date of Birth | The MM/DD/YY values in hospital files for quarter discharge period submitted |
| Metric ID:  | Acronym identifier for the specific MassQEX quality measure data for chart review. |
| MP Validation Control  | A unique identifier generated by the MassQEX portal for cases selected for validation. |

* 1. **Case List Posting Schedule:** Thecharts requested for validationapply to specific quarter reporting cycles defined in Section 6.A of the EOHHS Manual. Hospital case lists are posted within 14 days after each reporting cycle closes.
	2. **Hospital Notifications:** Hospitals are notified, via the MassQEX listserv system, when the case list is posted in the portal. All Hospital staff described in Section 1.B of this User Guide, are responsible for communicating chart request requirements to their Medical Records Department. IMPORTANT: The case list contains protected health information that may be disclosed only with authorized individuals within the hospital in accordance with HIPAA requirements.
	3. **Chart Submission Requirements:** Hospitals must adhere to following instructions for submitting records:
1. Hospital must submit a copy of the entire medical record for the admission/discharge dates of *each* member identified in the record case list.
2. Each medical record must also include information on MassHealth unique identifiers for “Race and Hispanic Indicator” data elements either within the record or as a screen print from the hospital’s registration system.
3. **For the CCM-2 measure**: In addition to the complete medical record submitted, hospitals can submit documentation in the form of a list of document names of what comprises the transition record given to the patient or caregiver(s) or site of care for a transfer for each case selected for validation with their submission of medical records for each quarter.
4. **Chart Submission Format:** All Hospitals must submit copies of the requested medical records via the MassQEX secure file transfer portal (SFTP) in accordance with the detailed instructions on how to prepare documents and upload records outlined in Section 6 of the EOHHS Manual (16.0).
5. **Submission Due Date:** Each posted case list includes a deadline by which MassQEX must receive all case list records. Copies of case records **not received** by the due date listed will be deemed as failing data validation**.** Refer to theEOHHS Technical Specifications Manual (Section 6.A) for detail on chart requirements.

Contact the MassQEX Helpdesk at massqexhelp@telligen.com for questions on case list submissions.

1. **Year-End Data Validation Results:** This report provides the overall agreement rate results based on three quarters of case records selected for chart validation. Below is a description of this report content.

**Table 2-2: MassQEX Year-End Validation Report Content**

| **Column Name** | **Description**  |
| --- | --- |
| Validation Period  | Identifies the applicable quarter period data reviewed |
| Scored item agreement | The EOHHS abstraction total number of scored item agreement applicable to the quarter discharge period |
| Total scored items rated  | Total number of scored items rated in each quarter discharge period |
| Agreement rate | Proportion of scored items in agreement divided by total scored items rated |
| Overall results  | This row displays the overall agreement rate for the total scored item agreement and total score items rated. |
| Upper confidence limit (UCL)  | Statement above report table displays the upper bound of the 95% confidence interval calculation and the pass/fail designation |

**Other Report Code Entry Display**

* NC = No cases were submitted by the hospital
* INC = Incomplete case data files were submitted for the measure category
* INVALID = Data completeness was not met
1. **Data Validation Record Detail:** This report provides more detail on case-level data element agreement rate across measures selected for validation by quarter discharge period. Below is a description of this report content.

**Table 2-3: MassQEX Validation Record Detail Report Content**

|  |  |
| --- | --- |
| **Column Name** | **Description**  |
| Discharge Period  | Identifies the specific quarter period that detail applies |
| Metric ID | Acronym identifier for the MassQEX quality measure data that was validated |
| Medical record # | The 7-to-9-digit number identified from submitted hospital files |
| Validation Control # | Unique identifier generated by MassQEX portal on case selected for validation  |
| Admit Date | MM/DD/YY values in hospital files for quarter discharge period submitted  |
| Discharge Date | MM/DD/YY values in hospital files for quarter discharge period submitted  |
| Data element reliability  | Scored items in agreement divided by total scored items rated for metric ID |

IMPORTANT: This report displays protected health information that may be disclosed only with authorized individuals within the hospital in accordance with HIPAA requirements.

1. **Year-End Validation Data Element Comments:** This report provides educational feedback on data element mismatches found between the hospital’s versus EOHHS abstraction standard for case records submitted for the calendar year. Below is a description of the report content.

**Table 2-4: MassQEX Validation Data Element Report Content**

| **Column Name** | **Description**  |
| --- | --- |
| Discharge Period  | Identifies the specific quarter period that comment applies |
| Validation Control # | Unique identifier generated by MassQEX portal on case selected for validation  |
| Element Label | Data element that resulted in mismatch between hospital submission and EOHHS abstracted value |
| Hospital Abstraction | Identifies the hospital data element value as submitted in the data XML data file  |
| EOHHS Abstraction Standard  | Identifies the EOHHS data element re-abstraction value  |
| Mismatch reason | Reason for mismatch as described in EHS Technical Specs Manual |
| Comments | Educational detail supporting mismatch result |

All year-end validation reports listed above should be reviewed with the hospital staff involved in data abstraction to identify opportunities for improving data reliability of hospital reported measures.

1. **Overall Year-End Measure Rate Results:** This report consists of one report that displays the overall and quarterly measure rates on two separate tables. Below is a description of this report content.

**Table 2-5: MassQEX Overall Year-End Measure Report Content**

|  |  |
| --- | --- |
| **Column Name** | **Description**  |
| Metric ID# | Acronym identifier for the specific MassQEX quality measure data. |
| Cases Submitted | Total number of cases in hospital files submitted to portal for the calendar year |
| Cases in Numerator  | Total number of cases in hospital files that met the population inclusion |
| Cases in Denominator  | Total number of cases in hospital files that met the eligible population criteria  |
| Hospital Measure Rate | Total number of cases that met the numerator inclusion specification divided by the total number of cases that met the measure eligibility criteria for denominator inclusion |

**Other Report Code Entry Display**

* NC = No cases were submitted by the hospital
* NR = No rate calculated if no cases were submitted or when no cases met denominator for the measure

Overall Results display the aggregate measure rates calculated from all calendar year reported data that met each measures numerator and denominator population. Quarterly Detail Results display measure rates calculated separately on each quarter of data submitted. Column name header, entry notes and description apply to both reports except for “Cases Submitted” column header which is displayed in overall results only.

 **PROVISIONAL CRITERIA**

1. *As published in RY23 EOHHS Manual 16.0, CY2022 hospital reported data for the care coordination measure set (CCM-1,2,3) reflect substantive changes to all measure specifications. The CY2022 data will be used to reset the baseline for benchmarking. The CY2021 results will not be displayed in the annual performance score report.*
2. *Pursuant to RY2023 Acute RFA (Section 7.E.1) incentives for the care coordination measure category will be based on pay-for-reporting contingent on passing data validation threshold.*

Hospitals should review all chart-based measure report contents with the appropriate hospital staff and/or third-party data vendors involved in MassHealth Hospital P4P measures data collection and reporting.

1. **MassQEX Safety Outcome Measures Report**

The safety outcome measures report combines results for the MassHealth PSI-90 and Healthcare-associated infection measures that are displayed on two distinct tables. Below is a description of report contents.

**1) PSI-90 Composite Results**: The top portion of safety outcome measures report displays MassHealth specific observed events, composite index and Winsor z-score values. A description of entry fields follows.

**Table 2-6: MassQEX PSI-90 Composite Report Content**

| **Column Name**  | **Description**  |
| --- | --- |
| PSI Components | Lists ten AHRQ patient safety indicators included in PSI-90 composite calculation.  |
| # Events | Number of MassHealth cases that met the numerator inclusion criteria (event outcome) for each PSI component.  |
| # Eligible Discharges | Number of MassHealth discharges that met the denominator inclusion criteria (eligible population at risk) for each PSI component.  |
| Observed Rate | Total event outcomes divided by the total eligible population at risk displayed per 1000 eligible discharges. Results are rounded to two decimals. |
| Expected Rate | Total expected events divided by total eligible population at risk displayed per 1000 eligible discharges. Results are rounded to two decimals. |
| Risk-Adjusted Rate | The observed rate divided by expected rate times the reference population rate displayed per 1000 eligible discharges. Results are rounded to two decimals. |
| Smoothed Rate | Weighted average of the hospitals risk-adjusted rate and the HCUP reference population rate using the reliability weight. The smoothed rate is the hospitals expected performance with a larger population of patients displayed per 1000 eligible discharges. Results are rounded to two decimals. |
| PSI-90 Composite Index Value  | The weighted average of all ten indicators that have been risk-adjusted and reliability-adjusted. Results are displayed to six decimals. This result is used to determine your PSI-90 Winsorized z-score.  |
| 5th Percentile  | Determined based on the distribution of all eligible hospitals with a PSI-90 composite value result. Results are displayed to six decimals. |
| 95th Percentile  | Determined based on the distribution of all eligible hospitals with a PSI-90 composite value result. Results are displayed to six decimals. |
| Winsorized Measure Result | If the PSI-90 value falls below the 5th percentile, the Winsorized result is equal to the 5th percentile value. If the PSI-90 value falls above the 95th percentile, the Winsorized result is equal to the 95th percentile value. If your hospitals PSI-90 composite value falls between the 5th and 95th percentiles, then this value is your Winsorized measure result. Winsorized results are displayed to six decimals. |
| Winsorized z-score | The z-score reflects how many standard deviations your hospitals PSI-90 composite value is away from the Mean result. A negative z-score indicates the hospitals result was below the Mean whereas a positive z-score indicates the hospitals result was above the Mean. Results are displayed to six decimals.  |

**Other Report Code Entry Display**

* Blank = No cases identified (hospital was not open for at least 12 months of measurement period)
* NRC = No result computed (less than 3 eligible discharges for the PSI component).

**PROVISIONAL CRITERIA:**

1. *The PSI-90 result reflects a shortened measurement period (15-month instead of 24-month) that removed all CY2020 discharges impacted by the initial COVID-19 pandemic. The result was calculated using the AHRQ software v2022 which applied the default model to exclude hospital-level COVID-19 discharges*.
2. Hospitals should review the PSI-90 composite results in conjunction with the PSI-90 drill-down report described in Table 2-7 below.

Refer to Section 7 of RY23 EOHHS Technical Specifications Manual (16.0) details on Medicaid PSI-90 claims working analysis file definitions. Section 3.B in this User Guide provides other detail pertinent to Winsor z score calculation methods and interpreting your PSI-90 results.

1. **PSI-90 Drill-Down Results:** This report displays the specific discharges that met the total number of observed events (numerator column) on your PSI-90 Composite Report by each component indicator. The drill-down report displays information for one indicator at a time. A description of the report content follows.

**Table 2-7: MassQEX PSI 90 Drill-Down Report Content**

| Column Name  | Description  |
| --- | --- |
| PSI Component  | Screen text above the report will indicate the specific PSI component name that the case level information is provided on. |
| Case number  | Case identifier assigned by MassQEX to each observed event. |
| Claim No.  | The 10-digit MassHealth claim account number (not same as SSN) |
| Date of Birth | Patient MM/DD/YY values in MMIS hospital claims files.  |
| Admission Date | The MM/DD/YY values in MMIS hospital claims files for measurement period. |
| Discharge Date | Patient MM/DD/YY values in MMIS hospital claims files for measurement period. |
| Trigger DXPR | Indicates which of the ICD-10 diagnoses or ICD-10 procedures were counted as PSI outcome and included in the numerator. If the MMIS hospital stay record has multiple diagnosis or procedure codes for the same PSI outcome, all the codes will be included in this field but the hospital record discharge is only counted once for the PSI measure. If a hospital stay discharge qualified for two separate PSI measures, the hospital record will be counted once for each of the PSI component indicators.  |
| MS\_DRG | The code assigned by the CMS Medicare severity diagnosis related group software version *40.1*.  |
| ICD-10-CM Diagnosis(DX\_1 to DX\_38) | Identifies ICD-10 diagnosis codes *DX1 through DX26* respectively in claims file.Additional ICD-10 external cause codes will be displayed as *DX27 to DX38* if and when identified in the claims file.  |
| ICD-10-PCS Procedure(PR\_1 to PR\_25) | Identifies ICD-10 procedure codes PR1 through PR25 respectively in claims file |
| ICD-10-PCS-Procedure Date | Identifies dates for ICD-10-PCS procedure codes PR1 to PR25 retrospectively in claims files  |
| Present on Admission (POA) | Present on Admission flag for Diagnoses 1 through 37 respectively that include:Y=Yes; N=No; U=Unknown; W=Clinically undetermined, and 1= Blank. The POA value of N or U is required to be counted as a PSI outcome and included in the numerator. N/A = Not applicable (POA flag not reported; has value other than ones listed). |

The PSI-90 drill-down report provides case-level information on numerator events to facilitate your hospital’s identification of charts for further review.

**IMPORTANT**: This report displays protected health information that may be disclosed only with authorized individuals within the hospital in accordance with HIPAA requirements The PSI-90 drill-down report is displayed in HTML web page format for viewing only and cannot be downloaded for printing.

Contact the MassQEX helpdesk via email at massqexhelp@telligen.com or phone (844) 546-1343 if you need assistance with interpreting the content of the PSI-90 drill-down results.

**3) Healthcare-Associated Infections (HAI) Results**: This report displays each HAI measure overall number of observed infections, standard infection ratio and z-score as applicable. A description of report content follows.

**Table 2-8: MassQEX HAI Measures Report Content**

| **Column Name**  | **Description**  |
| --- | --- |
| HAI Components | List MassQEX assigned metric ID and each HAI measure name. |
| # Observed Infections | Number of reported infection events for the specific NHSN ward locations applicable to the HAI measure as noted in EOHHS Technical Specifications Manual. For surgical site infections (SSI) the sum of reported infection events across colon and abdominal hysterectomy procedures performed in the hospital. Result is displayed to three decimals.  |
| # Predicted Infections | Calculated by CDC using the standard population from 2015 baseline period. All results are rounded to three decimals.For the HAI-1 (CLABSI) and HAI-2 (CAUTI) the CDC calculates predicted infections using binomial regression models that are risk-adjusted based on patient care locations. For HAI-3 (MRSA) and HAI-4 (CDI) the CDC calculates number of predicted infections based on patient days using binomial regression modelsFor the HAI-5 (SSI’s) the CDC derives the number of predicated infections for each surgical procedure using logistic regression models.  |
| SIR (Standard Infection Ratio) | The CDC calculates an SIR by dividing a hospital’s reported number of HAI’s by the predicted number of HAI’s. For the SIR to be calculated, the hospital’s number of predicted infections must be greater than or equal to one. The SIR result is displayed to three decimals.For the HAI-4 (C. Difficile) the CDC will not calculate an SIR if the CDI community-onset prevalence rate for the hospital is above the CDC designated threshold. The SIR result is used to determine each HAI measure Winsorized z-score.  |
| 5th Percentile  | Determined based on the distribution of all eligible hospitals with a given measure result. Results are displayed to three decimals. |
| 95th Percentile | Determined based on the distribution of all eligible hospitals with a given measure result. Results are displayed to three decimals. |
| Winsorized Measure Result | If the HAI measure value falls below the 5th percentile, the Winsorized result is equal to the 5th percentile value. If the HAI measure value falls above the 95th percentile, the Winsorized result is equal to the 95th percentile value. If your hospitals HAI value falls between the 5th and 95th percentiles, then this value is your Winsorized measure result. Winsorized results are displayed to six decimals. |
|  Winsorized z-score | The z-score reflects how many standard deviations your hospitals PSI-90 composite value is away from the Mean result. A negative z-score indicates the hospitals result was below the Mean whereas a positive z-score indicates the hospitals result was above the Mean. Winsorized results are displayed to six decimals.  |

**Other Report Code Entry Display**

* Blank = No data was reported in the NHSN surveillance system for the measure
* NRC = No results computed by CDC if number of predicted infections is less than 1.0 or when the hospital reported insufficient data to CDC.

 **PROVISIONAL CRITERIA:**

1. *The RY23 MassHealth HAI measure results reflect a 12 month (CY2021) instead of 24-month data period which removes all CY2020 data impacted by the initial COVID-19 surge.*
2. The MassHealth HAI report reflects a snapshot of each infection measure data extracted directly from the NHSN system database using a specific freeze date.

Refer to Section 8 of RY23 EOHHS Technical Specifications Manual (16.0) on measure extraction methods that apply to the HAI report. Section 3.B in this User Guide provides other detail pertinent to Winsor z score calculation methods and interpreting your HAI results discrepancies.

1. **MassQEX Hospital Patient Experience Measure Report**

The patient experience report summarizes the Hospital Consumer Assessment of Health Provider System (HCAHPS)survey dimension measure result values. A description of the report content follows.

**Table 2-9: MassQEX HCAHPS Measure Results Content**

| **Column Name** | **Description** |
| --- | --- |
| Metric ID # | CMS naming convention for individual HCAHPS survey dimension measures in the CMS Provider Data Catalog website archived database. |
| Survey Dimensions | Name of each HCAHPS survey dimension that is comprised of one or more survey questions. The survey dimensions include: * Nurse communication (HCOMP-1A-P)
* Doctor communication (HCOMP-2A-P)
* Hospital staff responsiveness (HCOMP-3A-P)
* Communication about medicines (HCOMP-5A-P)
* Discharge information (HCOMP-6Y-P)
* Care transition (HCOMP-7SA) and
* Overall hospital rating (HCOMP-RTG).
 |
| Top Box Response Rate | The results in this column are whole number integers. The top-box response indicates how often patients selected the most positive response when asked about their experience for each survey dimension. |
| # Completed Surveys | Number of completed surveys reported for the measurement period as posted on CMS Provider Data Catalog website database. |

**Other Report Code Entry Display**

* Blank = No survey dimension data were posted on CMS Provider Data Catalog website.
* NR = No results were calculated for top box responses.

***PROVISIONAL CRITERIA****:*

1. The RY23 MassHealth HCAHPS measure report *reflects a full CY2021 (12 months) data period* available on the public CMS Provider Catalog Data website. *Per FY23 CMS IPPS rule guidance the national posted HCAHPS data was suppressed for performance scoring purposes due to impact of continuing Covid-19 surges affecting the CY2021 period.*
2. *The RY23 MassHealth HCAHPS reports are provided for monitoring purposes and results are not used to compute benchmarks or total performance scores for the patient experience category*.
3. *Pursuant to Acute RFA23, the hospital will be eligible to receive a quality score for the comparison year data obtained from the CMS Provider Catalog Data website that met the minimum total of 100 surveys completed.*

Refer to Section 9 of the RY23 EOHHS Technical Specifications Manual (16.0) for more detail on MassQEX collection methods that apply to the HCAHPS measure report. Refer to *Section 3.C of this User Guide* for other information on how to read the MassHealth specific HCAHPS report discrepancies.

# MassHealth Perinatal Morbidity Structural Measure Report

The MassHealth Perinatal Morbidity Structural Measure (PMSM-1) report reflects the hospital’s attestation to perinatal quality collaborative (PQC) participation and hospital implementation activity for the CY2022 period.

1. **Hospital PMSM-1 Results.** The report summarizes each hospitals response on five items that include: Item 1 (PQC entity), Item 2 (PQC bundle projects), Item 3 (PQC participation level), Item 4 (PQC participation period) and Item 5 (In-Hospital practices). Below is description on how to interpret your report.

**Table 2-10: MassHealth Hospital PMSM-1 Report Content**

| **Column Name** | **Description** |
| --- | --- |
| Component Item  | The report results are displayed by two distinct groupings of PQC participation (items 1-4) and in-hospital practice implementation (item 5). |
| Hospital Response Entered | * **Items 1 to 4:** top portion displays hospital responses to PQC participation.
* **Item 5**: bottom portion displays responses entered for in-hospital practices implemented by the severe maternal morbidity areas (abbreviated in parenthesis below).
	+ Unit policy & procedure (HEM, HTN, CS, OUD, CARD)
	+ Multidisciplinary case review (HEM, HTN, CS, OUD, CARD)
	+ Case debriefs (HEM, HTN, CS, OUD, CARD)
	+ Birth unit supplies (HEM, HTN, CS, OUD, CARD)
	+ Patient, Family, Staff supports (HEM, HTN, CS, OUD, CARD)
	+ Electronic medical record integration (HEM, HTN, CS, OUD, CARD)
 |
| Data Completeness | Hospital item responses are evaluated for accuracy and completeness per criteria in Section C of RY23 EOHHS Release Notes (16.2). Completeness indicates that the hospital responses are consistent across all inter-related items.* **Items 1 to 4:** Participating in a PQC represents logical inter-related activity of action taken across whereas “none of above” response represents no action taken. If the hospital checked a response that is inconsistent across inter-related items, then it is considered incomplete. For example, if item 2 checked one or more bundle projects but item 3 or 4 checked “none of above” the inter-related responses are inconsistent. For items 1 to 4 a “MET” code indicates the hospital met the valid response criteria whereas the “INC” code indicates inconsistent response.
* **Item 5:** If the birthing hospital entered “X” to one or more component practices, then response is considered consistent and complete. If all entries were left blank, then it is considered an incomplete response that affects the overall result. For item 5 the “MET” code indicates entered a valid response and “INC” code indicates all entries were blank.
 |
| Measure Status  | Hospital item valid responses are further evaluated for measure criteria status as defined in Section D.2 of EOHHS Release Notes (16.2).Measure status indicates if met both a valid response and completeness of the valid response. * **Items 1 to 4:** Each valid itemresponse is assigned a “YES” code for measure status when the completeness criteria have been met and assigned a “NO” code when not met.
* **Item 5:** This item response is assigned a “YES” code for when hospital entered at least one valid response (“X”) under component practices listed. The “NO” code is assigned when all item entries were left blank.
 |
| Overall Result  | Indicates the status of meeting the PMSM-1 structural measure requirement as defined in Section D of the RY23 EOHHS Release Notes (16.2). To meet the structural requirement the hospital must have valid responses for both PQC Participation (item 1 and 2) and In-Hospital practice implementation (item 5).* **Data Completeness**: the “MET” code indicates the hospital had valid and complete responses for items 1, 2 and 5. The “INC code indicates hospital met partial requirement only. For non-birthing hospitals the “NDA” code indicates no data available.
* **Measure status**: The “YES” code indicates the hospital met both PQC participation and in-hospital implementation requirement. The “NO” code indicates hospital met partial requirement for structure measure. For non-birthing hospitals the “NDA” code indicates no data available.
 |

Refer to Section 3.D of this User Guide for mock examples on how to interpret the PMSM-1 report entry results. Contact the MassQEX helpdesk at massqexhelp@telligen.com for questions about your report.

# Section 3: Interpreting MassHealth Report Results

This section includes information on how to interpret your MassQEX year-end measure results and discrepancies that may arise when replicating results with internal hospital data.

1. **MassHealth Chart-Based Measures Report Discrepancy**
2. **Interpreting Validation and Rate Results**
3. *Overall Validation Report***:** Hospitals are considered to have passed validation if the overall validation results, is equal to or greater than 80 percent based on the upper confidence limit across first three quarters of calendar year data submitted.
4. *Data Completeness*: The overall validation results also provide information on data completeness reporting requirement. An “INVALID" entry indicates that overall results were adjusted when data completeness was not met across all three quarters. Incomplete reporting of measures data (e.g.: partial, missing) across three quarters provides insufficient information to determine that the data reliability standard has been met across all measures the hospital is eligible to report on. Refer to Sections 2 and 6 of the EOHHS Technical Specifications Manual for details on data completeness requirements.
5. *Requesting Re-Evaluation of Validation Results***:**  Hospitals can request review ofresults for any quarter that falls below 80 percent. Hospitals have ten (10) business days from the date of original MassQEX listserv notification to Hospital Users of portal reports availability to submit a request for re-evaluation. See the EOHHS Technical Specifications Manual (Section 6.C) details on how to request a re-evaluation.
6. *Measure Rate Report Discrepancy***:** Differences between the number of cases submitted by the hospital and number of cases in the denominator are due to application of MassQEX portal data integrity filters.
7. **MassHealth Safety Outcome Measures Reports**

The safety outcome measure report applies Winsorization methods to transform data for performance comparison scoring. Additional information on understanding discrepancies in safety measure results follows.

1. **Winsorization Methods.** Winsorization is the transformation of all eligible hospital measure data values to a standard z-score using the steps described below.
	* + 1. ***Winsorized Measure Result****:* is obtained by creating a continuous rank distribution of all eligible hospital raw measure values that are truncated at the 5th and 95th percentiles to determine the relative position of where each measures value falls in the distribution. Each hospital’s Winsor measure result is determined as follows:
2. If falls between minimum and 5th percentile, then it is equal to 5th percentile
3. If falls between 95th percentile and maximum, then it is equal to 95th percentile
4. If falls between 5th and 95th percentile then it is equal to hospital’s raw result.
	* + 1. ***Winsor Z-score (Zi):*** is calculated for each safety outcome measure as the difference between the hospital’s Winsorized measure result (Xi) and the mean of Winsor measure results across all eligible hospitals ($\overbar{X}$) divided by the standard deviation of the Winsorized measure result from all eligible hospital’s data using the following formula:

**Winsor Zi score = (Xi) – (**$\overbar{X}$**)/ SD(xi)**

The Winsor z-score (for each safety outcome measure) reflects the distance between the hospitals measure result and the Mean measure result. The z-score also tells you how many standard deviations units a case is either above or below the Mean. The Winsorized z-score ranges from -3 to 3 standard deviations. For example:

* + - If the Z-score is 0, then the value for that case is equal to the Mean.
		- If the Z-score is 3, then the value for that case is three SD above the Mean.
		- If the Z-score is -3, then the value for that case is three SD below the Mean
		- A negative Winsor z-score indicates the hospitals result was below the Mean (better).
		- A positive Winsor z-score indicates the hospitals result was above the Mean (worse).
	1. **MassHealth Safety Outcome Aggregate Results**

The following table provides the aggregate MassHealth safety outcome measure results based on all hospital data collected for report measurement period.

  **Table 3-4: RY2023 MassHealth Winsorized Z-score Results (Updated)**

| **Measure ID**  | **Mean** | **Standard Deviation** | **5th Percentile** | **95th Percentile** |
| --- | --- | --- | --- | --- |
| MassHealth PSI-90 | 0.961308 | 0.140058 | 0.803675 | 1.396530 |
| HAI-1 (CLABSI) | 0.868255 | 0.553598 | 0.000 | 1.890 |
| HAI-2 (CAUTI) | 1.226633 | 0.728109 | 0.167 | 2.478 |
| HAI-3 (MRSA) | 1.008470 | 0.588497 | 0.222 | 2.319 |
| HAI-4 (CDI) | 0.681190 | 0.360628 | 0.178 | 1.404 |
| HAI-5 (SSI) | 0.812427 | 0.628708 | 0.000 | 1.983 |

Table 3-4 displays data on mean and standard deviation based on all MassHealth hospital Winsorized z-scores for *measurement periods noted in Table 1 of this User Guide*. The data can be used to replicate your hospitals measure z-scores and overall z-score. Refer to attachment 2 of this user guide for an example of how to calculate a hospitals overall safety z-score result.

**3) MassHealth PSI-90 Measure Report Discrepancy**

The MassHealth PSI-90 measure reports are computed using a hospital stay file extracted from MMIS claims as described in Section 7 of EOHHS Technical Specifications Manual (16.0). Thus, cases identified in the PSI-90 report results may not match the hospitals internal records for the following reasons:

1. The claim submitted by the hospitals billing department differs from the Medicaid hospital stay file records, as defined in Section 7.B of the EOHHS Manual.
2. Hospital measure results only reflect changes to final action paid MMIS and encounter claims data processed six months after the end of the discharges that apply to the measurement period.
3. The claim was amended and resubmitted by the hospital billing department *after* the final action claims run-out date, as defined in Section 7.B of the EOHHS Manual.
4. The hospital should verify their discharge level reports against claims submitted to MassHealth by the hospital billing department to confirm these claims were submitted prior to the run-out periods cited above.
5. EOHHS does not permit hospitals to submit corrections related to the underlying hospital claims used to calculate the PSI measure results. Hospitals cannot add or resubmit claims or correct claims coding errors that apply to the measurement period reports.

**4) MassHealth HAI Measure Report Discrepancy**

The MassQEX results for each HAI measure is extracted from the MassHealth NHSN Group database as described in Section 8 of EOHHS Technical Specifications Manual (16.0). Thus, cases identified in the HAI report results may not match the hospitals CMS generated reports or NHSN reports for the following reasons:

1. The MassQEX report results were computed using different measurement data periods than the Hospitals CMS report or hospital internal reports extracted from NHSN surveillance system.
2. The CMS report data periods used to generate their HAI measure results may have used different criteria not available in the public domain for EOHHS vendor use (e.g.: CMS chart validation results, case minimum criteria, etc.).
3. The MassQEX report results were generated using different freeze dates than ones used in the hospitals CMS report or hospital generated results archived in the NHSN surveillance system.
4. The hospitals corrections or edits to the underlying NHSN submitted HAI data, for a given data reporting cycle, was calculated after the MassQEX vendor dataset extraction freeze date.
5. Hospitals may not request recalculation of original posted MassQEX reports based on hospital correction or edits to underlying NHSN database. EOHHS will not re-run HAI reports to factor in such corrections or edits to NHSN.
6. EOHHS recognizes that NHSN Analysis Tool software calculation errors may be identified and are beyond the MassQEX vendor control. EOHHS will notify CDC of such incidents and continue to monitor for any corrections notices posted in the public domain.
7. **MassHealth Patient Experience Measure Report Discrepancy**

The MassHealth HCAHPS measure reports are computed by the EOHHS contractor (Telligen) using the CMS Provider Data Catalog website archived data files as described in Section 9 of EOHHS Technical Specifications Manual (16.0). Thus, MassQEX report results prepared by the EOHHS contractor for the HCAHPS measure may not match the information in other CMS or national summary reports for the following reasons:

1. The MassQEX report results were generated using different data periods or different archived data file versions than the Hospital results posted on CMS Provider Data Catalog website
2. The MassHealth measurement data periods used to generate results may have used different criteria not available in the public domain for MassQEX vendor use.
3. The hospitals corrections or edits to the underlying CMS submitted HCAHPS data, for a given quarter reporting cycle, were calculated after the MassQEX year-end report run date by the EOHHS contractor.
4. The hospital may not request recalculation of original MassQEX reports mailed based on hospital corrections or edits to national HCAHPS databases. The EOHHS contractor will not re-run reports to factor in such corrections.
5. EOHHS recognizes that HCAHPS calculation errors may be identified by CMS and are beyond the EOHHS control. The EOHHS contractor (Telligen) will continue to monitor the CMS Provider Data Catalogwebsite for any corrections notices related to HCAHPS data posted in the public domain.

Contact the MassQEX Help Desk at massqexhelp@telligen.com for questions related to hospital measure report discrepancies.

1. **Interpreting the Perinatal Morbidity Structural Measure Results**

Below are examples of hospital feedback reports that provide information on data completeness and measure status that apply to various PMSM-1 response scenarios.

**Table 3-1: RY23 MassHealth Hospital PMSM-1 Year-End Result (Example #1)**

| **Component** | **Hospital Response Entered** | **Data Completeness**  | **Measure Status**  |
| --- | --- | --- | --- |
| **PQC Participation** |  |  |  |
| Item 1 | Massachusetts PQC/PNQIN | **MET** | **YES** |
| Item 2 | Severe Hypertension/Preeclampsia Safe Reduction of Primary Cesarean BirthOther Bundle (=left blank) | **MET** | **YES** |
| Item 3 | Formal data user agreement | **MET** | **YES** |
| Item 4 | Q1-2022, Q2-2022 | **MET** | **YES** |
| **In-Hospital Implementation** |  |  |  |
| Item 5 | * Unit P&P (HEM, HTN CS, OUD, CARD*)*
* MDC Review (HEM, CS)
* Case Debriefs (HEM, HTN, CARD)
* Birth Unit supplies (HEM)
* P/F/S Supports (OUD)
* EMR Integration (HEM, OUD)
 | **MET** | **YES** |
|  | **Overall Result** | **MET** | **YES** |

**Example #1 (Consistent Response):** This report illustrates feedback on each hospital item response entered that were consistent across all five inter-related items. The Overall Result shows “MET” code for completeness and “YES” code for measure status indicating the structural measure was met for PQC participation requirement (items 1 and 2) plus in-hospital practice implementation (item 5).

**Table 3-2: RY23 MassHealth Hospital PMSM-1 Year-End Result (Example #2)**

| **Component**  | **Hospital Response Entered** | **Data Completeness**  | **Measure Status**  |
| --- | --- | --- | --- |
| **PQC Participation**  |  |  |  |
| Item 1 | Massachusetts PQC/PNQIN | **MET** | **YES** |
| Item 2 | Other Bundle (bilirubin screening)  | **INC** | **NO** |
| Item 3 | Exchange data, educational event | **MET** | **YES**  |
| Item 4 | None above  | **INC** | **NO** |
| **In-Hospital Implementation** |  |  |  |
| Item 5 | * Unit P&P (HEM, CARD)
* Case Debriefs (HTN, CS)
* Birth Unit supplies (HEM)
* P/F/S supports (HEM, CS)
 | **MET** | **YES** |
|  | **Overall Result** | **INC** | **NO** |

**Example 2 (Inconsistent response):** This report illustrates feedback on hospital responses entered that were inconsistentacross PQC participation inter-related items. Item 2 response “Other Bundle” entered a project that was coded “INC” for completeness and “NO” for measure status which indicates invalid response as the project is not related to managing maternal complications of SMM. Item 4 response is coded “INC” which indicates it is not a valid response and “NO” for measure status because participation period was not identified. Item 5 “MET” code indicates that at last one valid response was entered and “YES” code for measure status to adopting select practices. The Overall Result “INC” code indicates items 1 and 2 did not provide valid responses and “NO” indicates measure status was not met. To meet PMSM-1 requirement the hospital must have a “MET” code for items 1, 2 and 5 and obtain a “YES” code on measure status.

**Table 3-3: RY23 MassHealth Hospital PMSM-1 Year-End Result (Example #3)**

| **Component** | **Hospital Response Entered** | **Data Completeness**  | **Measure Status**  |
| --- | --- | --- | --- |
| PQC Participation |  |  |  |
| Item 1 | None of Above | **INC** | **NO** |
| Item 2 | None of Above | **INC** | **NO** |
| Item 3 | None of Above | **INC** | **NO** |
| Item 4 | None of Above | **INC** | **NO** |
| In-Hospital Implementation |  |  |  |
| Item 5 | * Unit P&P (CS, HTN*)*
* Case Debriefs (HEM, HTN, CARD)
* P/F/S Supports (OUD)
 | **MET** | **YES** |
|  | **Overall Result** | **INC** | **NO**  |

**Example #3 (Partial Response)**: This report illustrates feedback on hospital responses entered that were inconsistent across all inter-related items. Items 1 to 4 did not have valid responses to PQC participation and shows the “INC” code for Incomplete and “NO” for measure status. Item 5 entered at least one or more valid responses showing a “MET” code for completeness and “YES” code for measure status. The Overall Result code of “INC” indicates partial requirement was met for In-hospital implementation but not for PQC participation. To meet PMSM-1 requirement the hospital must have a MET” code for items 1, 2 and 5 as well as obtain a “YES” code on measure status.

Please refer to EOHHS Release Notes (16.2) for more detail on PMSM-1 measure specifications and updated criteria used evaluation hospital responses.

1. **MassQEX Year-End Results Review Period**
2. **MassQEX Portal Dissemination:** the preliminary year-end report resultsare posted in the MassQEX secure portal on approximate dates described under Section 1.C of this User Guide. Hospitals are expected to download their reports and review results with their internal staff and vendors as applicable.
3. **Year-End Report Audience:** the preliminary **r**eports are intended for hospital designated quality staff described in Section 1.B of this User Guide. The MassQEX hospital staff users are responsible for reviewing results with their hospital key representatives.
4. **Data Review Period:**
	* ***Validation Results***: Hospitals have 10 (ten) calendar days from the original notice of posting of validation results to submit a Request for Reevaluation of Validation Results Form in accordance with procedures outlined in Section 6.E of RY23 EOHHS Technical Specifications Manual 16.0
	* ***Measure Rate Calculation***: Hospitals have twenty (20) calendar days, from the original notice of posting of all year-end reports to request review of their validation and individual measure results.
	* Hospitals will not be able to request review of year-end report results once final hospital performance score report is issued.

Please contact the MassQEX Help Desk at massqexhelp@telligen.com for question to interpret your reports.

# Section 4: MassHealth Hospital Performance Score Report

The MassHealth Hospital Performance Score Report (HPSR) displays the quality measure category results in three distinct tables in accordance with the performance assessment method summarized in Addendum 1 of this Guide.

1. **Perinatal, Care Coordination and Patient Experience Quality Categories.** Table 4-1 displays column header labels associated with performance improvement methods and rows display results by each measure ID applicable to the quality measure category. A description of how to interpret your results follows.

 **Table 4-1:** Interpreting RY23 Hospital Performance Score Report Content

| **Column ID** | **Description** |
| --- | --- |
| **[1.]****Measure Results** | 1. **Previous Year:** Eachindividual perinatal measure rate is computed on *CY2021 data* and rounded to nearest integer. The *coordination measure rates for CY2021 are not applicable per provisional criteria in Section 2.A.5 of this User Guide. Each HCAHPS measure result reflect six months of CY2020 posted data subject to provisional criteria in Section 3.C of this User Guide*.
2. **Comparison Year:** The individual perinatal and care coordination measure rate for *CY2022 data* is rounded to nearest integer. *The new PMSM-1 measure reflects CY2022 data and not eligible for scoring*. Each HCAHPS measure result is the *CY2021* data pulled from Care Compare website.
3. **Code Entry:** The “NR” entry indicates no result data for the measure apply. The “INVALID” code indicates calculation is void due to failed validation status or data completeness was not met.
 |
| **[2.]****Performance Thresholds** | 1. **Attainment**: Each individual perinatal measures attainment is calculated as the median (50th percentile) performance of all hospitals from the previous *provisional CY2021* data reported to MassQEX.  *Refer to Section 2.A.5 for care coordination measure criteria.*
2. **Benchmark**: Each individual perinatal measures benchmark is calculated as the mean of top decile (90th percentile) performance of all hospitals from the previous provisional CY2021 data reported to MassQEX. *Refer to Section 2.A.5 for care coordination measure criteria.* The MAT-4 benchmark is the mean of the bottom decile (better performance).
3. **Code Entry:**  The “N/A” entry *for HCAHPS measures, care coordination and* PMSM-1 *measure* indicates provisional criteria apply as described in Sections 2.A.5 and 2.C of this User Guide.
 |
| **[3.]****Quality Points Earned** | 1. **Attainment Points**: The hospital received attainment points (from 0 to 10), on each individual measure based on relative placement between the attainment and benchmark computed using the attainment points formula in attachment 1 of this guide.
2. **Improvement Points**: The hospital received improvement points (from 0 to 9), on each individual measure is based on relative placement within the improvement range computed using the improvement points formula in attachment 1 of this guide.
3. **Code Entry:** The “INVALID” entry indicates calculation is void because no eligible data for the category apply. The “N/A” entry *for HCAHPS measures and new PMSM-1 measure* indicates provisional criteria apply as described in Sections 2.A.5 and 2.C of this User Guide.
 |
| **[4.]****Category Performance Score** | 1. **Total Awarded Points:** receive the higher of the attainment or improvement points earned on each measure. It is the sum of points awarded for the quality measure category.
2. **Total Possible Points:** themaximum points that can be earned for the quality measure category. This column is adjusted when a new sub-measure for a given category is reported in the rate year it was required to begin.
3. **Total Performance Score:** is the percent computed by dividing the ‘Total Awarded Points’ by the ‘Total Possible Points’ and multiplying by 100%.
4. **Code Entry:** The “INVALID” entry in any column 4 sub-headers indicates calculation is void due to failed validation or no eligible data for category apply. *The “N/A” entry for patient experience category indicates provisional criteria apply as described in Sections 2.a.5 and 2.C of this User Guide. The NDA entry for the PMSM-1 measure indicates no data available on this measure.*

 |

*Refer to Table 1 of this User Guide for comparison year data periods and Section 7.D the Acute RFA 2023 contract for provisional criteria to performance assessment methods that apply to patient experience measure category only.*

1. **Safety Outcomes Quality Category.** Table 4-2 displays results using header labels relevant to the quartile rank performance methods (e.g.: overall z-score, performance threshold, conversion factor, category performance score) applicable to this quality category. A description on how to read the report follows.

**Table 4-2: Interpreting Safety Outcomes Category Performance Scores**

| **Colum ID**  | **Description**  |
| --- | --- |
| **[1.]****Measure Z-score** | The hospitals PSI-90 and healthcare-associated infection measure z-scores (rows 1A to 1F) are computed on *data periods for these respective measures as noted in Table 1 of this User Guide which applied* the Winsorization methods described in Section 3.B of this User Guide. The “NRC” entry indicates no result is computed due to insufficient data. |
| **[2.]****Contribution to Overall Z-score** | This value represents how much each measure z-score (rows 2A to 2F) contributes to the overall z-score. It is computed by multiplying the measure z-score by the equal weight for each measure to obtain each measures contribution to the overall z-score.Equal weights are assigned based on the total number of measures that had a z-score obtained by dividing 1.0 by the number of measures with a z-score in column 1a to 1f of your report. See attachment 1 of this guide for more detail on equal measure weights. The “NRC” entry indicates no result is computed due to insufficient data. |
| **[3.]****Overall Safety Z-score** | The hospital’s overall safety z-score is calculated as the sum of all equally weighted measure z-score contributions (PSI-90 z-score and each of the HAI z-scores). The overall z-score is rounded to six decimal places. The “NRC” entry indicates no result is computed due to insufficient data. |
| **[4.]****Performance Threshold** | The performance threshold for the overall safety z-score is the minimum level of performance that must be attained to earn incentive payments rounded to six decimals. Refer to attachment 1 in this user guide for additional detail on the minimum performance level threshold.  |
| **[5.]****Quartile Rank** | All hospital overall safety z-scores are ranked, using the quartile group system, from lowest (top quartile) to highest (bottom quartile) and rounded to six decimal places. Hospitals that had no overall z-score are excluded from quartile ranking. The “INVALID” entry indicates the criteria for sufficient data was not met. |
| **[6.]****Conversion Factor** | The conversion factor is the weight assigned to each quartile group as described in attachment 1 of this User Guide. The “INVALID” entry indicates the criteria for sufficient data was not met. |
| **[7.]****Category Performance Score** | The performance score is the assigned conversion factor multiplied by 100% as described in attachment 2 of this guide. The “INVALID” entry indicates the criteria for sufficient data was not met. |

Additional data on each safety outcome measures aggregate Mean, standard deviation and percentiles to further assist in interpreting your hospitals safety outcome measure score is provided in Section 3.B of this User Guide

1. **Performance Score Data Review Period**
2. **MassQEX Portal Dissemination:** The MassHealth Hospital Performance Score Report (HPSR) is posted in the MassQEX secure portal 3 months after the year-end results are posted. Hospitals are require to download their annual performance report from the MassQEX portal.
3. **Review and Correction Period:** Hospitals have twenty (20) calendar days, from the original notice of posting of MassHealth HPSR report in the MassQEX portal, to request recalculation of specific quality category results prior to EOHHS computing final incentive payment calculations. Hospitals will not be able to request data review or results once final hospital payment notice report is issued.
4. **Report Audience:** The MassHealth HPSR is intended for the hospital key representatives described in Section 1.B of this User Guide. The MassQEX hospital portal users are responsible for providing a copy of the annual performance report to *both* hospital key representatives.
5. **Accessible Format:** Please contact the MassQEX Help Desk at massqexhelp@telligen.com if you need assistance with accessing the HTML version.

## **Addendum 1 – RY23 MassHealth Performance Assessment Methods Summary**

Pursuant to Section 7.4 of Acute RFA2023 below is a summary of the MassHealth performance assessment methods.

1. **Improvement Methods –** applies to perinatal, care coordination and patient experience measures asfollows.

**Table A: Quality Points Assignment**

| **Type**  | **Measure Rate Criteria**  | **Quality Points Formula** |
| --- | --- | --- |
| Award Attainment Points | * If measure rate equal to or less than the attainment threshold, get zero (0) points.
* If measure rate is within attainment range (greater than attainment but less than benchmark), get 1 to 9 points.
* If measure rate is Equal to or greater than the benchmark, get 10 points.
 | (Hospital Metric Rate – Attainment) X *9 + 0.5*  (Benchmark – Attainment) *Round points to nearest whole #* (ex: 3.3 = 3.0) |
| Award Improvement Points | * If measure rate equal to or less than previous year, get zero (0) points for improvement.
* If measure rate is within improvement range (greater than previous year but less than benchmark), get 0 to 9 points for improvement.
 | (Current Rate – Prior Yr. Rate) x **10 – 0.5** (Benchmark Threshold – Prior Yr. Rate)*Round points to nearest whole #* (ex: 3.5 = 4.0) |

1. **Interquartile Rank –** applies to the transformed PSI-90 and HAI safety outcome measures.
2. **Equal Measure Weights (EMW)**: The assigned weight is based on information in following table.

**Table B: Safety Outcome Equal Measure Weights**

| **Number of safety measures** **with a z-score** | **Weight assigned to** **each measure z-score** | **Decimal equivalent of** **Weight assigned to each z-score** |
| --- | --- | --- |
| 6 | 16.7 | 0.166667 |
| 5 | 20.0 | 0.200000 |
| 4 | 25.0 | 0.250000 |
| 3 | 33.3 | 0.333333 |
| 2 | 50.0 | 0.500000 |
| 1 | 100.0 | 1.000000 |

The equal weight for each measure that has a z-score is assigned as follows:

* If hospital has a z-score for PSI-90 and **one** HAI measure, *then total safety measures with Z score is two (2) and the* weight of 50 would be assigned to each measure z-score.
* If hospital has a z-score for PSI-90 and for **three** HAI measures, then the *then total safety measures with Z score is four (4) and the* weight of 25 would be assigned to each measure z-score.
* If hospital has no z-score for PSI-90 z-but has one or more HAI measure z-scores, then weight of 100 is divided among HAI measure with z-score. If hospital has z-score for HAI and no PSI-90, then a weight of 100 is given PSI-90 measure z-score.
* If hospital has no z-scores for any safety measures, then it will not receive an overall safety z-score.
1. **Conversion Factor**: The conversion factor for each quartile group is provided in following table.

**Table C: Interquartile Range Conversion Factor**

| **Quartile Group**  | **Conversion Factor**  |
| --- | --- |
| 4th Quartile (Lower z-scores) | 1.0 |
| 3rd Quartile  | .75 |
| 2nd Quartile (Minimum attainment threshold) | .50 |
| 1st Quartile (Higher z-score) | Zero |

1. **Minimum Attainment Threshold -** to meet this threshold the hospitals overall safety z-score must be above the 1st quartile. A lower overall safety z-score represents better performance, and a higher z-score represents worse performance.

# Addendum 2 – Safety Outcome Measure Score Calculation Example

An example of mock data and the steps to calculate the hospitals safety outcome measure overall z-score follows.

**Figure 1 – Hospital A Safety Outcome Measure (Mock Results)**

| **Measure ID** | **Raw Measure****Result** | **5th****Percentile** | **95th****Percentile** | **Winsorized****Measure Result** | **Winsorized****Mean** | **Winsorized****SD** | **Winsorized****Z-score** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| PSI-90 | 0.848500 | 0.653700 | 1.297700 | 0.848500 | 0.888500 | 0.118100 | -0.338696 |
| CLABSI | 0.922 | 0 | 1.375 | 0.922 | 1.048 | 0.164 | -0.768293 |
| CAUTI | 0.112 | 0 | 1.808 | 0.112 | 0.998 | 0.481 | -1.841996 |
| MRSA | 1.366 | 0 | 2.142 | 1.366 | 1.001 | 0.515 | 0.708738 |
| CDI | 0.919 | 0 | 1.639 | 0.919 | 0.979 | 0.348 | -0.172414 |
| SSI | ***2.795*** | 0 | 2.353 | ***2.353*** | 0.965 | 0.714 | 1.943978 |

**Step 1 🡪 Compute Winsorized Z-scores** using the two step process described under Section 3.B in this guide.

1. All hospital eligible raw measure results distribution is truncated at 5th and 95th percentile. Figure 1 shows the hospitals PSI-90, CLABSI, CAUTI, MRSA and CDI are between the 5th and 95th and therefore the Winsor measure result will be equal to the raw results. The SSI measure result of 2.795 is greater than 95th percentile and equals the value of 2.353 (shown in italic bold font).
2. Following example illustrates how each measure Winsorized z-score is computed using data in Figure 1.
* PSI-90 = 0.848500 – 0.888500 **÷** 0.118100 = -0.338696
* HAI-1 (CLABSI) = 0.922 – 1.048 ÷ 0.164 = -0.768293
* HAI-2 (CAUTI) = 0.112 – 0.998 ÷ 0.481 = -1.841996
* HAI-3 (MRSA) = 1.366 – 1.001÷ 0.515 = 0.708738
* HAI-4 (CDI) = 0.919 – 0.979 ÷ 0.348 = -0.172414
* HAI-5 (SSI) = 2.353 – 0.965 ÷ 0.714 = 1.943978

**Step 2 🡪 Compute Contribution to Overall Z-score**

1. **Equal Measure Weight.** Hospital A had z-scores for all six measures (PSI-90 and five HAI’s) so each measure is weighted 0.166667 as shown in attachment 1 (Figure B) of this user guide.
2. **Contribution to Overall Z-score.** Multiply the measure z-score by the weight to obtain each measure’s contribution to the overall z-score. The following example uses Hospital A results displayed in Figure 2.

**Example:** PSI-90 (0.166667 x -0.338696) = -0.056449; CLABSI (0.166667 x -0.768293) = -0.128049;

CAUTI (0.166667 x -1.841996) = -0.306999; MRSA (0.166667 x 0.708738) = 0.118123; CDI (0.166667 x -0.172414) = -0.028736; and SSI (0.166667 x 1.943978) = 0.323996.

**Step 3 🡪 Compute Overall Safety Z-Score**

1. Figure 2 displays the overall z-score calculated as the sum of each contribution of z-scores as (-0.056449) + (-0.128049) + (-0.306999) + (0.118123) + (-0.028736) + (0.323996) = -0.078114

**Figure 2 –MassHealth HPSR Result (Mock Example)**

| **Column Label** | **[a.]****PSI-90**  | **[b.]****CLABSI** | **[c.]****CAUTI**  | **[d.]****MRSA** | **[e.]****CDI**  | **[f.]****SSI** | **[3.]**Overall Safety Z-score  | **[4.]**Minimum Threshold | **[5.]**Quartile Rank  | **[6.]**Conversion Factor | **[7.]**Category Performance score |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **[1.] Measure** **Z-score** | -0.338696 | -0.768293 | -1.841996 | 0.708738 | -0.172414 | 1.943978 |  |  |  |  |  |
| **[2.] Contribution to Overall z-score** | -0.056449 | -0.128049 | -0.306999 | 0.118123 | -0.028736 | 0.323996 | -0.078114 | 0.321654 | 3rd | .75 | 75% |

**Step 4 🡪 Interpreting Performance Threshold**

1. If worst quartile was determined above 75th percentile (e.g.: 0.3450 falls above bottom first quartile).
2. An overall z-score of -0.213617 falls below (0.3450) and therefore not in the worst performing quartile.
3. Columns 4 and 5 in Figure 2 are determined using all eligible hospital overall z-scores. The conversion factor is assigned to obtain the category performance score for use in final payment calculation.