**CENTER FOR HEALTH  
INFORMATION AND ANALYSIS**

**PERFORMANCE ON**

**THE MASSACHUSETTS HEALTH CARE SYSTEM: A FOCUS ON PROVIDER QUALITY**

**TECHNICAL APPENDIX**

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**CENTER FOR HEALTH**

**INFORMATION AND ANALYSIS**

**Performance on the Massachusetts Health Care System: A Focus on Provider Quality**

**TECHNICAL APPENDIX**

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# Acute Hospital Quality

## Metrics: Hospital Process Measures

**Measure Steward:** Centers for Medicare & Medicaid Services

**CHIA Data Source:** CMS Hospital Compare

**Populations:** All Payers, Ages 18+

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| Hospital Process | Statin prescribed at discharge for AMI (AMI 10) | Percentage of acute myocardial infarction (AMI) patients who are prescribed a statin at hospital discharge. | Health record | 4/1/2011 | 3/31/2013 |
| Hospital Process | Aspirin prescribed at discharge for AMI (AMI 2) | Percentage of acute myocardial infarction (AMI) patients who are prescribed aspirin at hospital discharge. | Health record | 4/1/2011 | 3/31/2013 |
| Hospital Process | Primary percutaneous coronary intervention (PCI) received within 90 minutes of hospital arrival (AMI 8a) | Percentage of acute myocardial infarction (AMI) patients with ST-segment elevation or LBBB on the ECG closest to arrival time receiving primary percutaneous coronary intervention (PCI) during the hospital stay with a time from hospital arrival to PCI of 90 minutes or less. | Health record | 4/1/2011 | 3/31/2013 |
| Hospital Process | Heart failure patients given ACE Intervention or ARB for left ventricular systolic dysfunction (LVSD) (HF 3) | Percentage of heart failure (HF) patients with left ventricular systolic dysfunctions (LVSD) that are prescribed an ACEI or ARB at hospital discharge. For purposes of this measure, LVSD is defined as chart documentation of a left ventricular ejection fraction (LVEF) less than 40% or a narrative description of left ventricular systolic (LVS) function consistent with moderate or severe systolic dysfunction. | Health record | 4/1/2011 | 3/31/2013 |
| Hospital Process | Heart failure patients given an evaluation of left ventricular systolic function (LVS) (HF 2) | Percentage of heart failure patients with documentation in the hospital record that left ventricular systolic (LVS) function was evaluated before arrival, during hospitalization, or is planned for after discharge. | Health record | 4/1/2011 | 3/31/2013 |
| Hospital Process | Heart failure patients given discharge instructions (HF 1) | Percentage of heart failure patients discharged home with written instructions or educational material given to patient or caregiver at discharge or during the hospital stay addressing all of the following: activity level, diet, discharge medications, follow-up appointment, weight monitoring, and what to do if symptoms worsen. | Health record | 4/1/2011 | 3/31/2013 |
| Hospital Process | Pneumonia patients whose initial Emergency Room blood cultures were performed t prior to initial antibiotic received in hospital (PN 3b) | Percentage of Immunocompetent patients with Community-Acquired Pneumonia who receive an initial antibiotic regimen during the first 24 hours that is consistent with current guidelines |  |  |  |
| Hospital Process | Pneumonia patients given the most appropriate initial antibiotic(s) (PN 6) | Percentage of pneumonia patients 18 years of age or older selected for initial receipts of antibiotics for community-acquired pneumonia (CAP). | Health Record | 4/1/2011 | 3/31/2013 |
| Surgical Care Improvement Project | Prophylactic antibiotic received within 1 hour prior to surgical incision (SCIP-Inf-1a) | Surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision. Patients who received vancomycin or a fluoroquinolone for prophylactic antibiotics should have the antibiotics initiated within two hours prior to surgical incision. The extended window is due to the longer infusion time required for these antibiotics. | Health record | 4/1/2011 | 3/31/2013 |
| Surgical Care Improvement Project | Prophylactic antibiotic selection for surgical patients (SCIP-Inf-2a) | Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure). | Health record | 4/1/2011 | 3/31/2013 |
| Surgical Care Improvement Project | Prophylactic antibiotics discontinued within 24 hours after surgery end time (SCIP-Inf-3a) | Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after Anesthesia End Time. The Society of Thoracic Surgeons (STS) Practice Guideline for Antibiotic Prophylaxis in Cardiac Surgery (2006) indicates that there is no reason to extend antibiotics beyond 48 hours for cardiac surgery and very explicitly states that antibiotics should not be extended beyond 48 hours even with tubes and drains in place for cardiac surgery. | Health record | 4/1/2011 | 3/31/2013 |
| Surgical Care Improvement Project | Surgery Patients with Perioperative Temperature Management (SCIP-Inf-10) | Surgery patients for whom either active warming was used intraoperatively for the purpose of maintaining normothermia or who had at least one body temperature equal to or greater than 96.8° F/36° C recorded within the 30 minutes immediately prior to or the 15 minutes immediately after Anesthesia End Time. | Health record | 4/1/2011 | 3/31/2013 |
| Surgical Care Improvement Project | Urinary catheter removed on Postoperative Day 1 (POD1) or Postoperative Day 2 (POD2) with day of surgery being day zero (SCIP-Inf-9) | Surgical patients with urinary catheter removed on Postoperative Day 1 or Postoperative Day 2 with day of surgery being day zero. | Health record | 4/1/2011 | 3/31/2013 |
| Surgical Care Improvement Project | Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery (SCIP-VTE-2) | Surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 hours prior to Surgical Incision Time to 24 hours after Surgery End Time. | Health record | 4/1/2011 | 3/31/2013 |
| Surgical Care Improvement Project | Surgery patients on beta-blocker therapy prior to arrival who received a beta-blocker during the perioperative period (SCIP-Card-2) | Surgery patients on beta-blocker therapy prior to admission who received a beta-blocker during the perioperative period. The perioperative period for the SCIP Cardiac measures is defined as 24 hours prior to surgical incision through discharge from post-anesthesia care/recovery area. | Health record | 4/1/2011 | 3/31/2013 |
| Surgical Care Improvement Project | Cardiac Surgery Patients with Controlled Postoperative Blood Glucose (SCIP-Inf-4) | Cardiac surgery patients with controlled postoperative blood glucose (less than or equal to 180 mg/dL) in the timeframe of 18 to 24 hours after Anesthesia End Time. | Health record | 4/1/2011 | 3/31/2013 |

**Definition:**

All process measure scores in the *Performance on the Massachusetts Health Care System:* *A Focus on Provider Quality* were retrieved from CMS Hospital Compare as pre-calculated percentages. Where a hospital’s performance is not included on Hospital Compare because of small numbers, missing data, or because the measure does not apply, the measure is also not included in the report.

## Metrics: Hospital-wide All-Cause Unplanned Readmissions (HWR) Measure

**Steward:** Centers for Medicare & Medicaid

**CHIA Data Sources:**

**Medicare Fee-for-Service Measure:** CMS Hospital Compare

**All-Payer Measure:** CHIA Hospital Discharge Database

**Populations:**

**Medicare Fee-for-Service (FFS) Measure:** Medicare FFS patients, Ages 65+

**All-Payer Measure:**All Payers, Ages 18+

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| Readmission Rates | Hospital-Wide All-Cause Unplanned Readmission Measure (HWR) (Medicare Fee-for-Service Measure) | This measure estimates the hospital-level, risk-standardized rate of unplanned, all-cause readmission rate (RSRR) after admission for any eligible condition within 30 days of hospital discharge for patients 65 years and older using Medicare fee-for-service (FFS) claims. The measure reports a single summary RSRR, derived from the volume-weighted results of five different models, one for each of the following specialty cohorts (groups of discharge condition categories or procedure categories): surgery/gynecology, general medicine, cardiorespiratory, cardiovascular, and neurology. Results are significant at the 95% confidence level. | Administrative Records | 7/1/2011 | 6/30/2012 |
| Readmission Rates | Hospital-Wide All-Cause Unplanned Readmission Measure (HWR) (All-Payer Measure) | This measure estimates the hospital-level, risk-standardized rate of unplanned, all-cause readmission rate (RSRR) after admission for any eligible condition within 30 days of hospital discharge for patients aged 18 and older. The measure reports a single summary RSRR, derived from the volume-weighted results of five different models, one for each of the following specialty cohorts (groups of discharge condition categories or procedure categories): surgery/gynecology, general medicine, cardiorespiratory, cardiovascular, and neurology. | Administrative Records | 10/1/2011 | 9/30/2012 |

**Calculation/Definition:**

The risk standardized readmission rates for Medicare fee-for-service (FFS) patients (65+ years of age) data were retrieved from CMS Hospital Compare.

The all-payer risk standardized readmission rates for patients 18+ years of age were calculated according to the measure specifications adopted from CMS, as submitted by the Center for Outcomes Research and Evaluation, Yale New Haven Health Services Corporation. CHIA’s Hospital Discharge Database (HDD) was used for this analysis. These rates are preliminary results.

## Metrics: Patient Safety Indicators (PSIs)

**Steward:** Agency for Health Research and Quality

**CHIA Data Source:** CHIA Hospital Discharge Database

**Population:** All Payers, Ages 18+

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| Patient Safety Indicators | Pressure Ulcer Rate (PSI 3) | Percentage of stage III or IV pressure ulcers (secondary diagnosis) per 1,000 discharges among patients ages 18 years and older. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Iatrogenic Pneumothorax (risk adjusted) (PSI 6) | Percentage of medical and surgical discharges, 18 years and older, with ICD-9-CM code of iatrogenic pneumothorax in any secondary diagnosis field. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Central Venous Catheter-Related Blood Stream Infection Rate (PSI 7) | Percentage of central venous catheter-related bloodstream infections (secondary diagnosis) per 1,000 medical and surgical discharges for patients ages 18 years and older or obstetric cases. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Postoperative Hip Fracture Rate (PSI 8) | Percentage of postoperative hip fracture (secondary diagnosis) per 1,000 surgical discharges for patients ages 18 years and older. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Postoperative Respiratory Failure Rate (PSI 11) | Postoperative respiratory failure (secondary diagnosis), mechanical ventilation, or reintubation cases per 1,000 elective surgical discharges for patients ages 18 years and older. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Postoperative Pulmonary Embolism or Deep Vein Thrombosis Rate (PSI 12) | Perioperative pulmonary embolism or deep vein thrombosis (secondary diagnosis) per 1,000 surgical discharges for patients ages 18 years and older. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Accidental Puncture or Laceration Rate (PSI 15) | Percentage of medical and surgical discharges, 18 years and older, with ICD-9-CM code denoting accidental cut, puncture, perforation, or laceration in any secondary diagnosis field. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Birth Trauma Rate - Injury to Neonate (PSI 17) | Percentage of neonates with specific birth trauma per 1000 births. Exclude preterm infants with a birth weight less than 2,000 grams, infants with injury to skeleton and osteogenesis imperfecta, subdural or cerebral hemorrhage in preterm infant. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Obstetric Trauma Rate – Vaginal Delivery With Instrument (PSI 18) | Percentage of third and fourth degree obstetric traumas per 1,000 instrument-assisted vaginal deliveries. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Obstetric Trauma Rate – Vaginal Delivery Without Instrument (PSI 19) | Third and fourth degree obstetric traumas per 1,000 vaginal deliveries. Excludes cases with instrument-assisted delivery. | Administrative Records | 10/1/2010 | 9/30/2013 |
| Patient Safety Indicators | Patient Safety for Selected Indicators (PSI 90) | The weighted average of the reliability-adjusted observed-to-expected ratios (indirect standardization of the smoothed rates) for the following component indicators:  • PSI 03 Pressure Ulcer Rate  • PSI 06 Iatrogenic Pneumothorax Rate  • PSI 07 Central Venous Catheter-Related Blood Stream Infection Rate • PSI 08 Postoperative Hip Fracture Rate  • PSI 09 Perioperative Hemorrhage or Hematoma Rate  • PSI 10 Postoperative Physiologic and Metabolic Derangement Rate  • PSI 11 Postoperative Respiratory Failure Rate  • PSI 12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate  • PSI 13 Postoperative Sepsis Rate  • PSI 14 Postoperative Wound Dehiscence Rate  • PSI 15 Accidental Puncture or Laceration Rate | Administrative Records | 10/1/2010 | 9/30/2013 |

**Calculation:**

Patient safety measures were calculated according to the measure specifications from the Agency for Healthcare Research and Quality (AHRQ), using data from CHIA’s Hospital Discharge Database (HDD) for three fiscal years (2010-2011, 2011-2012 and 2012-2013) and AHRQ software versions 4.5 and 4.5A.

Except for “Birth Trauma Rate – Injury to Neonate,” “Obstetric Trauma Rate – Vaginal Delivery with Instrument,” and “Obstetric Trauma Rate – Vaginal Delivery without Instrument,” the reported PSIs were risk-adjusted according to AHRQ specifications to remove the confounding effect of patient case mix. The three measures that were not risk-adjusted were also calculated according to AHRQ specifications. If a hospital had fewer than 30 cases in the denominator the PSI rates were not reported.

## Metrics: Leapfrog Measures

**Steward:** The Leapfrog Group

**CHIA Data Source:** The Leapfrog Group Hospital Survey

**Population:** All Payers, All Ages

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| Leapfrog | Computerized Physician Order Entry | Percent of all inpatient medication orders ordered through CPOE System | Hospital Survey | 1/1/2011 | 6/30/2013 |
| Leapfrog | Elective Delivery Prior to 39 Completed Weeks Gestation | Elective Delivery Prior to 39 Completed Weeks Gestation | Hospital Survey | 1/1/2011 | 6/30/2013 |

**Definition:**

All Leapfrog measure scores in the *Performance on the Massachusetts Health Care System:* *A Focus on Provider Quality* were received from The Leapfrog Group as pre-calculated percentages. Participation in the Leapfrog survey is voluntary; where a hospital does not complete the survey or report on certain items in the survey, the measure is also not included in the report.

These measures capture the Massachusetts commercially insured, Medicare and Medicaid populations.

## Metrics: Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

**Steward:** Agency for Healthcare Research and Quality

**CHIA Data Source:** CMS Hospital Compare

**Populations:** All Payers, Ages 18+

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| HCAHPS | % of patients reporting that room was 'always' clean | The percentage of patients responding to the HCAHPS survey who reported that their room and bathroom were "Always" clean. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients who reported that staff 'always' explained about medicines | The percentage of patients responding to the HCAHPS survey who reported that staff "Always" explained about medicines before giving it to them. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients reporting that doctors 'always' communicated well | The percentage of patients responding to the HCAHPS survey who reported that their doctors "Always" communicated well. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients reporting that nurses 'always' communicated well | The percentage of patients responding to the HCAHPS survey who reported that their nurses "Always" communicated well. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients who reported that they were given information about what to do during their recovery at home | The percentage of patients responding to the HCAHPS survey at each hospital who reported that YES, they were given information about what to do during their recovery at home. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients who gave their hospital a rating of 9 or 10 (highest) | The percentage of patients responding to the HCAHPS survey who gave their hospital a rating of 9 or 10 on a scale from 0 (lowest) to 10 (highest). | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients who would definitely recommend the hospital | Percentage of patients who reported YES, they would definitely recommend the hospital. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients who reported that their pain was 'always' well controlled. | The percentage of patients responding to the HCAHPS survey who reported that their pain was "Always" well controlled. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients who reported that the area around their room was 'always' quiet at night | The percentage of patients responding to the HCAHPS survey who reported that the area around their room was "Always" quiet at night. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |
| HCAHPS | % of patients who reported that they 'always' received help as soon as they wanted | The percentage of patients responding to the HCAHPS survey who reported that they "Always" received help as soon as they wanted. | Patient Reported Data/Survey | 7/1/2011 | 3/31/2013 |

**Definition:**

All HCAHPS scores in the *Performance on the Massachusetts Health Care System:* *A Focus on Provider Quality* were retrieved from CMS Hospital Compare as pre-calculated percentages. Where a hospital’s performance is not included on Hospital Compare because of small numbers, missing data, or because the measure does not apply, the measure is also not included in the report.

These measures capture the Massachusetts commercially insured, Medicare and Medicaid populations.

# Quality of Primary Care in Medical Groups

## Metrics: Healthcare Effectiveness Data and Information Set (HEDIS)

### Adult Clinical Quality Measures

**Measure Steward:** Agency for Healthcare Research and Quality

**CHIA Data Source:** Massachusetts Health Quality Partners, 2012 Clinical Quality Data

**Population:** Commercially insured patients from the five largest health plans in Massachusetts (Blue Cross Blue Shield of Massachusetts, Tufts Health Plan, Harvard Pilgrim Health Care, Fallon Community Health Plan, and Health New England), Adult Measures: Ages 18+, Pediatric Measures: Ages 2-21

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| HEDIS Women's Health | Breast Cancer Screening | This measure looks at women between 40 to 69 years of age. It shows the percent of those patients who had a mammogram at least once in the past two years. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Women's Health | Cervical Cancer Screening | This measure looks at women who are between 21 and 64 years old. It shows the percent of those patients who had a Pap test at least once in the past three years. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Diabetes Care | Comprehensive Diabetes Care - HbA1c Testing | This measure looks at adult patients, age 18-75, who have Type 1 or Type 2 diabetes. It shows the percent of those patients who had at least one Hemoglobin A1c (HbA1c) blood test during the past year. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Diabetes Care | Comprehensive Diabetes Care - LDL-C Screening | This measure looks at adult patients, age 18-75, who have Type 1 or Type 2 diabetes. It shows the percent of those patients who had a serum cholesterol level (LDL-C) screening test during the past year. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Diabetes Care | Comprehensive Diabetes Care - Medical Attention for Nephropathy | The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received a nephropathy screening test or had evidence of nephropathy during the measurement year. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Adult Diagnostic and Preventative Care | Colorectal Cancer Screening | This measure looks at adult patients (ages 50 to 75), who have had screening for colorectal cancer. This screening is done using one of three tests: colonoscopy, fecal occult blood test (FOBT), or flexible sigmoidoscopy. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Adult Diagnostic and Preventative Care | Use of Imaging Studies for Low Back Pain | This measure looks at the percent of adult patients (18 to 50 years old) who get imaging tests within 28 days after being diagnosed with lower back pain. Imaging tests include X-rays, MRIs, and CT-scans. A higher score means that more patients did not get imaging tests during this time and is the positive outcome. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Appropriate Use of Medications in Adults | Annual Monitoring for Patients on Persistent Medications - Total rate | This measure assesses the percentage of patients 18 years of age and older who received a least 180 treatment days of ambulatory medication therapy for a select therapeutic agent during the measurement year and at least one therapeutic monitoring event for the therapeutic agent in the measurement year. This measure can be used to assess annual monitor of four medications (angiotensin converting enzyme (ACE) inhibitors or  angiotensin receptor blockers (ARBs), digoxin, diuretics and anticonvulsants)m as well as a total rate (the sum of the numerators divided by the sum of the denominators).This report includes performance on the Total Rate measure only. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Antidepressant Medication Management | Antidepressant Medication Management - Effective Continuation Phase Treatment | The percentage of members 18 years of age and older with a diagnosis of major depression and were treated with antidepressant medication and who remained on an antidepressant medication for at least 180 days (6 months). | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Women's Health | Chlamydia Screening in Women Ages 21 to 24 | This measure looks at women 21 to 24 years of age who are sexually active. It shows the percent of those patients who had a chlamydia screening test during the past year. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Appropriate Use of Medications in Adults | Annual Monitoring for Patients on Persistent Medications - ACE Inhibitors or ARBs | This measure shows the percent of all patients, age 18 or older, who are on long-term ACE (angiotensin converting enzyme) inhibitors or ARBs (angiotensin receptor blockers) for at least six months, and have had at least one lab test in the past year to monitor for unwanted side effects. This measure looks at how often doctors follow up with patients who take either of these types of medications, which are used to treat heart disease, kidney disease, and high blood pressure. | Claims and clinical records | 1/1/2012 | 12/31/2012 |
| HEDIS Cardiovascular Disease and Cholesterol Management | Cholesterol Management for Patients with Cardiovascular Conditions--LDL-C Screening | This measure looks at adult patients, age 18-75, who have Type 1 or Type 2 diabetes. It shows the percent of those patients who had a serum cholesterol level (LDL-C) screening test during the past year. | Claims and clinical records | 1/1/2012 | 12/31/2012 |

### Pediatric Clinical Quality Measures

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| HEDIS: Women's Health | Chlamydia Screening in Women Ages 16 to 20 | The percentage of women 16–20 years of age who were identified as sexually active and who had at least  one test for chlamydia during the measurement year. | Claims and Clinical Records | 1/1/2012 | 12/31/2012 |
| HEDIS: Well-Child Visits | Well-Child Visits in the first 15 Months of Life | The percentage of members who turned 15 months old during the measurement year and have 6 or more well-child visits with a PCP during their first 15 months of life. | Claims and Clinical Records | 1/1/2012 | 12/31/2012 |
| HEDIS: Well-Child Visits | Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life | The percentage of members 3–6 years of age who received one or more well-child visits with a PCP during the measurement year. | Claims and Clinical Records | 1/1/2012 | 12/31/2012 |
| HEDIS: Well-Child Visits | Well Care Visits for Adolescents Ages 12 to 21 | The percentage of enrolled members 12–21 years of age who had at least one comprehensive well-care visit  with a PCP or an OB/GYN practitioner during the measurement year | Claims and Clinical Records | 1/1/2012 | 12/31/2012 |
| HEDIS: Pediatric Medications and Testing | Appropriate Treatment for Children with Upper Respiratory Infection (URI) | Appropriate treatment for children with upper respiratory infection (URI): percentage of children 3 months to 18 years of age who were given a diagnosis of upper respiratory infection (URI) and were not dispensed an antibiotic prescription. | Claims and Clinical Records | 1/1/2012 | 12/31/2012 |
| HEDIS: Pediatric Medications and Testing | Appropriate Testing for Children with Pharyngitis | The percentage of children 2–18 years of age who were diagnosed with pharyngitis, dispensed an antibiotic and received a group A streptococcus (strep) test for the episode. A higher rate represents better performance (i.e., appropriate testing). | Claims and Clinical Records | 1/1/2012 | 12/31/2012 |
| HEDIS: Pediatric Medications and Testing | Follow-up of Care of Children Prescribed ADHD Medications - Initiation Phase | The percentage of members 6–12 years of age as of the IPSD with an ambulatory prescription dispensed for ADHD medication, who had one follow-up visit with practitioner with prescribing authority during the 30-day Initiation Phase. | Claims and Clinical Records | 1/1/2012 | 12/31/2012 |
| HEDIS: Asthma Medication | Use of Appropriate Medications for People with Asthma: Children Ages 5 to 11 | The measure assesses the percentage of members 5-11 years of age during the measurement year who were identified as having moderate to severe persistent asthma and who were appropriately prescribed medication during the measurement year. | Claims and Clinical Records | 1/1/2012 | 12/31/2012 |

**Definition:**

All scores for HEDIS measures reported in *Performance on the Massachusetts Health Care System:* *A Focus on Provider Quality* were pre-calculated by and received from the Massachusetts Health Quality Partners (MHQP).

MHQP does not report scores for practices or groups with insufficient sample size, but individuals from these small practices or groups are counted at more aggregated levels, once sufficient sample size is reached.

These measures reflect the care provided to adult and child, commercially insured members from the five largest commercial carriers: BCBSMA, Fallon Community Health Plan, Harvard Pilgrim Health Care, Health New England and Tufts Health Plan. This sample represents approximately 80% of the commercial population in Massachusetts.

The eight Provider Group Networks measured are those serving the five carriers’ commercial members. These groups are: Atrius Health, Inc., Baycare Health Partners, Beth Israel Deaconess Care Organization LLC, Lahey Hospital and Medical Center, New England Quality Care Alliance, Partners Community Health Care, Steward Health Care Network, and UMass Memorial Health Care, Inc.

## Metrics: Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS)

**Steward:** Agency for Healthcare Research and Quality

**CHIA Data Source:** Massachusetts Health Quality Partners, 2013 Patient Experience Survey (PES), Adult PES Measures

**Population:** Commercially insured patients from the five largest health plans in Massachusetts (Blue Cross Blue Shield of Massachusetts, Tufts Health Plan, Harvard Pilgrim Health Care, Fallon Community Health Plan, and Health New England), Adult Measures: Ages 18+, Pediatric Measures: Ages 17 and younger

### Adult Patient Experience Survey Measures

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| Patient Experience Survey | Organizational Access | The percentage of patients who responded to the CG-CAHPS survey who were satisfied with their ability to get timely appointments, care, and information. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Office Staff | The percentage of patients who responded to the CG-CAHPS survey who were satisfied that they received quality care from staff in the doctor’s office. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Integration of Care | The percentage of patients who responded to the CG-CAHPS survey who were satisfied with how well doctors coordinate care. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Communication | The percentage of patients who responded to the CG-CAHPS survey who were satisfied with how well doctors communicate with patients. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Knowledge of Patient | The percentage of patients who responded to the CG-CAHPS survey who were satisfied with how well doctors know their patients. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Willingness to Recommend | Percent of patients who responded to the CG-CAHPS survey and reported YES, they would definitely recommend their doctor to family and friends. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |

### Pediatric Patient Experience Survey Measures

| **Set** | **Measure Name and ID** | **Description** | **Measure Steward & Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| Patient Experience Survey | Communication | The percentage of parents and caregivers who responded to the CG-CAHPS survey who were satisfied with how well doctors communicate with patients. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Knowledge of Patient | The percentage of parents and caregivers who responded to the CG-CAHPS survey who were satisfied with how well doctors know their patients. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Organizational Access | The percentage of parents and caregivers who responded to the CG-CAHPS survey who were satisfied with their ability to get timely appointments, care, and information. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Office Staff | The percentage of parents and caregivers who responded to the CG-CAHPS survey who were satisfied that they received quality care from staff in the doctor’s office. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |
| Patient Experience Survey | Willingness to Recommend | Percent of parents and caregivers who responded to the CG-CAHPS survey and reported YES, they would definitely recommend their doctor to family and friends. | Patient Reported Data/Survey | 1/1/2013 | 12/31/2013 |

**Definition:**

All scores for measures of patient experience in medical groups reported in *Performance on the Massachusetts Health Care System:* *A Focus on Provider Quality* were pre-calculated by and received from the Massachusetts Health Quality Partners (MHQP).

Patient Experience measures scores are rated on a scale from 0 to 100. Each survey response is converted to numeric format, with 100 as the most favorable response. Related questions are averaged to create a respondent-level score for each measure. The respondents’ measure scores are then case mix adjusted before aggregating to the medical group level.

These measures reflect the experience of the adult or a parent or caregiver of a child who received care and who is a commercially insured member of one of the five largest commercial carriers: BCBSMA, Fallon Community Health Plan, Harvard Pilgrim Health Care, Health New England and Tufts Health Plan. This sample represents approximately 80% of the commercial population. The eight Provider Group Networks measured are those serving the five carriers’ commercial members. These groups are: Atrius Health, Inc., Baycare Health Partners, Beth Israel Deaconess Care Organization LLC, Lahey Hospital and Medical Center, New England Quality Care Alliance, Partners Community Health Care, Steward Health Care Network, and UMass Memorial Health Care, Inc.

MHQP does not report scores for practices or groups with insufficient sample size, but individuals from these small practices or groups are counted at more aggregated levels, once sufficient sample size is reached.

# Quality of Post-Acute Care

## Metrics: Skilled Nursing Facilities

**Steward:** Centers for Medicare & Medicaid Services

**CHIA Data Source:** CMS Nursing Home Compare

**Population:** All Payers, All Ages

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| CMS – Minimum Data Set (MDS) | Percent of Residents Who Self-Report Moderate to Severe Pain (Short-Stay) | This measure captures the percentage of short stay residents, with at least one episode of moderate/severe pain or horrible/excruciating pain of any frequency, in the last 5 days. | Electronic clinical data | 4/1/2011 | 12/31/2013 |
| CMS– Minimum Data Set (MDS) | Percent of Residents Who Self-Report Moderate to Severe Pain (Long-Stay) | This measure captures the percentage of long-stay residents who report either (1) almost constant or frequent moderate to severe pain in the last 5 days or (2) any very severe/horrible in the last 5 days. | Electronic clinical data | 4/1/2011 | 12/31/2013 |
| CMS– Minimum Data Set (MDS) | Percent of Residents with Pressure Ulcers That Are New or Worsened (Short-Stay) | This measure captures the percentage of short-stay residents with new or worsening Stage II-IV pressure ulcers. | Electronic clinical data | 4/1/2011 | 12/31/2013 |
| CMS– Minimum Data Set (MDS) | Percent of High Risk Residents with Pressure Ulcers (Long Stay) | This measure captures the percentage of long-stay, high-risk residents with Stage II-IV pressure ulcers. | Electronic clinical data | 4/1/2011 | 12/31/2013 |

**Definition:**

All SNF scores in the *Performance on the Massachusetts Health Care System:* *A Focus on Provider Quality* were retrieved from CMS Nursing Home Compare as pre-calculated percentages. Where a facility’s performance is not included on Nursing Home Compare because of small numbers, missing data, or because the measure does not apply, the measure is also not included in the report.

The measures for SNFs reflect the experience of all residents in Medicare or Medicaid certified facilities and are used by providers to create care plans***.***

## Metrics: Home Health Agencies

**Steward:** Centers for Medicare & Medicaid Services

**CHIA Data Source:** CMS Home Health Compare

**Population:**

**Administrative Claims Measures:** Medicare Part A and B beneficiaries

**Clinical Measures:** Medicare, Medicaid, and Medicare or Medicaid Managed Care patients, All Ages

| **Set** | **Measure Name and ID** | **Description** | **Primary Data Source** | **Measure start date** | **Measure end date** |
| --- | --- | --- | --- | --- | --- |
| OASIS | Acute Care Hospitalization During the First 60 Days of Home Health | Percentage of home health stays in which patients were admitted to an acute care hospital during the 60 days following the start of the home health stay. | Administrative Records | 1/1/2012 | 12/31/2013 |
| OASIS | Emergency Department Use without Hospitalization During the First 60 Days of Home Health | Percentage of home health stays in which patients used the emergency department but were not admitted to the hospital during the 60 days following the start of the home health stay. | Administrative Records | 1/1/2012 | 12/31/2013 |
| OASIS | Timely Initiation of Care | Percentage of home health episodes of care in which the start or resumption of care date was either on the physician-specified date or within 2 days of the referral date or inpatient discharge date, whichever is later. | Administrative Records | 4/1/2012 | 3/31/2014 |

**Definition:**

All HHA scores in the *Performance on the Massachusetts Health Care System:* *A Focus on Provider Quality* were retrieved from CMS Home Health Compare as pre-calculated percentages. Where an agency’s performance is not included on Home Health Compare because of small numbers, missing data, or because the measure does not apply, the measure is also not included in the report.

The measures for HHAs reflect the experience of Medicare and Medicaid patients only and are drawn from theOutcome and Assessment Information Set (OASIS) and combine process and outcome measures.

# 2013 Multi-Acute Hospital Systems

| **HOSPITAL SYSTEM** | **Hospital** |
| --- | --- |
| Baystate Health (Baystate) | Baystate Medical Center |
| Baystate Franklin Medical Center |
| Baystate Mary Lane Hospital |
| Berkshire Health Systems (Berkshire) | Fairview Hospital |
| Berkshire Medical Center |
| Beth Israel Deaconess Medical Center and Member Affiliated Hospitals (BIDMC) | Beth Israel Deaconess Medical Center -Needham |
| Beth Israel Deaconess Medical Center - Milton |
| Beth Israel Deaconess Medical Center |
| Cape Cod Health Care (Cape Cod) | Cape Cod Hospital |
| Falmouth Hospital |
| Circle Health | Lowell General Hospital |
| Saints Medical Center |
| Lahey Health Systems (Lahey Health) | Northeast Hospital |
| Lahey Clinic |
| Partners HealthCare System (Partners) | Brigham and Women's Hospital |
| Cooley Dickinson Hospital |
| Brigham and Women's Faulkner Hospital |
| Martha's Vineyard Hospital |
| Massachusetts General Hospital |
| Nantucket Cottage Hospital |
| Newton-Wellesley Hospital |
| North Shore Medical Center |
| Shriners | Shriners Hospitals for Children Boston |
| Shriners Hospitals for Children Springfield |
| Steward Health Care Systems (Steward) | Steward Norwood Hospital |
| Steward Carney Hospital |
| Steward Nashoba Valley Medical Center |
| Steward Merrimack Valley Hospital |
| Steward Holy Family Hospital |
| Steward Morton Hospital and Medical Center |
| Steward Quincy Medical Center |
| Steward St. Anne's Hospital |
| Steward St. Elizabeth's Medical Center |
| Steward Good Samaritan Medical |
| Tenet/Vanguard | St. Vincent Hospital |
| MetroWest Medical Center |
| UMass Memorial Health Care (UMass) | Health Alliance Hospital |
| Clinton Hospital |
| Marlborough Hospital |
| Wing Memorial Hospital |
| UMass Memorial Medical Center |
| Non-Affiliated | Anna Jaques Hospital |
| Athol Memorial Hospital |
| Signature Healthcare Brockton |
| Boston Children's Hospital |
| Dana Farber Cancer Institute |
| Emerson Hospital |
| Harrington Memorial Hospital |
| Heywood Hospital |
| Holyoke Medical Center |
| Jordan Hospital |
| Lawrence General Hospital |
| Massachusetts Eye and Ear Infirmary |
| Milford Regional Medical Center |
| Mt. Auburn Hospital |
| New England Baptist Hospital |
| Tufts Medical Center |
| Noble Hospital |
| North Adams Regional Hospital |
| South Shore Hospital |
| Sturdy Memorial Hospital |
| Winchester Hospital |
| Boston Medical Center |
| Cambridge Health Alliance |
| Hallmark Health |
| Southcoast Hospitals Group |
| Mercy Medical Center |

# Hospital Affiliations by Year

Affiliations are determined based on Hospital Financial Reports, which are submitted to CHIA on an annual basis.

| **Hospital** | **Hospital System 2011** | **Hospital System 2012** | **Hospital System 2013** |
| --- | --- | --- | --- |
| Anna Jaques Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Athol Memorial Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Baystate Medical Center | BAYSTATE | BAYSTATE | BAYSTATE |
| Baystate Franklin Medical Center | BAYSTATE | BAYSTATE | BAYSTATE |
| Baystate Mary Lane Hospital | BAYSTATE | BAYSTATE | BAYSTATE |
| Fairview Hospital | BERKSHIRE | BERKSHIRE | BERKSHIRE |
| Brigham and Women's Hospital | PARTNERS | PARTNERS | PARTNERS |
| Signature Healthcare Brockton | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Cape Cod Hospital | CAPE COD | CAPE COD | CAPE COD |
| Falmouth Hospital | CAPE COD | CAPE COD | CAPE COD |
| Steward Norwood Hospital | STEWARD | STEWARD | STEWARD |
| Steward Carney Hospital | STEWARD | STEWARD | STEWARD |
| Boston Children's Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Cooley Dickinson Hospital | NON AFFILIATED | NON AFFILIATED | PARTNERS |
| Dana Farber Cancer Institute | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Steward Nashoba Valley Medical Center | STEWARD | STEWARD | STEWARD |
| Beth Israel Deaconess Medical Center -Needham | BIDMC | BIDMC | BIDMC |
| Emerson Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Brigham and Women's Faulkner Hospital | PARTNERS | PARTNERS | PARTNERS |
| Harrington Memorial Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Steward Merrimack Valley Hospital | STEWARD | STEWARD | STEWARD |
| Health Alliance Hospital | UMASS | UMASS | UMASS |
| Heywood Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Steward Holy Family Hospital | STEWARD | STEWARD | STEWARD |
| Holyoke Medical Center | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Jordan Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Lawrence General Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Lowell General Hospital | NON AFFILIATED | CIRCLE HEALTH | CIRCLE HEALTH |
| Martha's Vineyard Hospital | PARTNERS | PARTNERS | PARTNERS |
| Massachusetts Eye and Ear Infirmary | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Massachusetts General Hospital | PARTNERS | PARTNERS | PARTNERS |
| Milford Regional Medical Center | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Beth Israel Deaconess Medical Center - Milton | NON AFFILIATED | BIDMC | BIDMC |
| Steward Morton Hospital and Medical Center | STEWARD | STEWARD | STEWARD |
| Mt. Auburn Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Nantucket Cottage Hospital | PARTNERS | PARTNERS | PARTNERS |
| New England Baptist Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Tufts Medical Center | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Newton-Wellesley Hospital | PARTNERS | PARTNERS | PARTNERS |
| Noble Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| North Adams Regional Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Steward Quincy Medical Center | STEWARD | STEWARD | STEWARD |
| Steward St. Anne's Hospital | STEWARD | STEWARD | STEWARD |
| Saints Medical Center | NON AFFILIATED | CIRCLE HEALTH | CIRCLE HEALTH |
| South Shore Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Steward St. Elizabeth's Medical Center | STEWARD | STEWARD | STEWARD |
| St. Vincent Hospital | TENET/VANGUARD | TENET/VANGUARD | TENET/VANGUARD |
| Sturdy Memorial Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Clinton Hospital | UMASS | UMASS | UMASS |
| Marlborough Hospital | UMASS | UMASS | UMASS |
| Winchester Hospital | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Wing Memorial Hospital | UMASS | UMASS | UMASS |
| North Shore Medical Center | PARTNERS | PARTNERS | PARTNERS |
| Boston Medical Center | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Cambridge Health Alliance | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| MetroWest Medical Center | TENET/VANGUARD | TENET/VANGUARD | TENET/VANGUARD |
| Hallmark Health | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Northeast Hospital | LAHEY HEALTH | LAHEY HEALTH | LAHEY HEALTH |
| Southcoast Hospitals Group | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| UMass Memorial Medical Center | UMASS | UMASS | UMASS |
| Berkshire Medical Center | BERKSHIRE | BERKSHIRE | BERKSHIRE |
| Lahey Clinic | LAHEY HEALTH | LAHEY HEALTH | LAHEY HEALTH |
| Mercy Medical Center | NON AFFILIATED | NON AFFILIATED | NON AFFILIATED |
| Shriners Hospitals for Children Boston | SHRINERS | SHRINERS | SHRINERS |
| Steward Good Samaritan Medical | STEWARD | STEWARD | STEWARD |
| Beth Israel Deaconess Medical Center | BIDMC | BIDMC | BIDMC |
| Shriners Hospitals for Children Springfield | SHRINERS | SHRINERS | SHRINERS |