

CENTER FOR HEALTH INFORMATION AND ANALYSIS

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**PERFORMANCE OF THE  
MASSACHUSETTS  
HEALTH CARE SYSTEM**

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**QUALITY**

TECHNICAL APPENDIX 2018



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# A Focus on Provider Quality

## TECHNICAL APPENDIX

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# 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+

MEASURE NAME AND ID	DESCRIPTION	PRIMARY DATA SOURCE
Cleanliness of Hospital Environment	Patient response to the individual HCAHPS survey question about the cleanliness of their hospital room during their stay.	Patient Reported Data/Survey
Communication about Medicines	A composite of responses to HCAHPS survey questions about how providers communicated about medications during the hospital stay.	Patient Reported Data/Survey
Communication with Doctors	A composite of responses to HCAHPS survey questions about how doctors communicated during the hospital stay.	Patient Reported Data/Survey
Communication with Nurses	A composite of responses to HCAHPS survey questions about how nurses communicated during the hospital stay.	Patient Reported Data/Survey
Discharge Information	A composite of responses to HCAHPS survey questions about the care instructions given to them by a provider at discharge.	Patient Reported Data/Survey
Overall Hospital Rating	Overall patient rating of the hospital, based on the recent admission, on a scale from 0 (lowest) to 10 (highest).	Patient Reported Data/Survey
Recommend the Hospital	Would the patient recommend the hospital, based on the recent admission.	Patient Reported Data/Survey
Quietness of Hospital Environment	Patient response to the individual HCAHPS survey question about the quietness of their hospital room at night.	Patient Reported Data/Survey
Responsiveness of Hospital Staff	A composite of responses to HCAHPS survey questions about if help was provided when it was needed during the hospital stay.	Patient Reported Data/Survey
Care Transition	A composite of responses to HCAHPS survey questions about how patients understood the care instructions they received at discharge.	Patient Reported Data/Survey

## Definition:

All HCAHPS scores 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. For more information on CMS's methods, see: [http://www.hcahponline.org/Files/October\\_2016\\_Star%20Ratings\\_Tech%20Notes.pdf](http://www.hcahponline.org/Files/October_2016_Star%20Ratings_Tech%20Notes.pdf)

The accompanying databook also includes HCAHPS "top-box" scores for 2011, 2012 and 2013. These scores reflect the percentage of respondents that gave the most positive response to HCAHPS survey items. Higher scores indicate better patient-reported experiences. For more information on CMS's methods, see: <http://www.hcahponline.org/SummaryAnalyses.aspx>

## Metrics: Consumer Assessment of Healthcare Providers and Systems Clinician and Group Patient Centered Medical Home Survey (CG CAHPS) – Primary Care (Adult and Pediatrics)

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

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

**Population:** Commercially insured members of five 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 patients' ages 18+, pediatric patients age 0 to 17.

### Adult Primary Care and Pediatric Patient Experience Survey Measures

MEASURE NAME	DESCRIPTION	PRIMARY DATA SOURCE
Organizational Access	Survey respondents' scoring of satisfaction with their ability to get timely appointments, care, and information.	Patient Reported Data/Survey
Office Staff	Survey respondents' scoring of their interactions with office staff.	Patient Reported Data/Survey
Integration of Care	Survey respondents' scoring of their satisfaction with their providers' integration of their care.	Patient Reported Data/Survey
Shared Decision-Making	Survey respondents' scoring of their satisfaction with their involvement in decisions about their care.	Patient Reported Data/Survey
Communication	Survey respondents' scoring of their satisfaction with their patient-providers' communication.	Patient Reported Data/Survey
Knowledge of Patient	Survey respondents' scoring of their satisfaction with how well doctors know them.	Patient Reported Data/Survey

MEASURE NAME	DESCRIPTION	PRIMARY DATA SOURCE
Coordination	Survey respondents' scoring of how well their doctors and other care providers coordinate care.	Patient Reported Data/Survey
Adult Behavioral Health – Adult Only	Survey respondents' scoring of whether doctors talked to them about their mental health.	Patient Reported Data/Survey
Self-Management Support	Survey respondents' scoring of whether healthcare providers talked with them and their family about goals for good health and ways to meet these goals.	Patient Reported Data/Survey
Willingness to Recommend	Survey respondents reported YES, they would definitely recommend their doctor to family and friends.	Patient Reported Data/Survey
Child Development – Pedi Only	Survey respondents' scoring of whether doctors talked to them about how well their child was growing, moving, speaking, learning, and getting along with others.	Patient Reported Data/Survey
Pediatric Preventive Care – Pedi Only	Survey respondents' scoring of whether doctors gave advice about keeping their child safe and healthy.	Patient Reported Data/Survey

All scores for measures of patient experience in medical groups 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 and a statewide score.

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 five commercial carriers in the Commonwealth: BCBSMA, Fallon Community Health Plan, Harvard Pilgrim Health Care, Health New England, and Tufts Health Plan. This sample represents approximately 70% of the commercial population. The nine Provider Group Networks measured are those serving the five carriers' commercial members. These groups are: Atrius Health, Inc., Baycare Health Partners, Berkshire Health Systems, Beth Israel Deaconess Care Organization LLC, Lahey Health, 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.

# Metrics: The Leapfrog Group

**Steward:** Varied

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

**Population:** All Payers, All Ages

MEASURE NAME	DESCRIPTION	PRIMARY DATA SOURCE
NTSV Cesarean Section	Percent of cesarean sections for first-time pregnancy (nulliparous) that has reached 37th week or later (term) and consists of one fetus (singleton) in the head-down position (vertex).	Hospital Survey derived from health records
	Fully Meets Standard < = 23.9%	
	Substantial Progress > 23.9% and < = 27.0%	
	Some Progress > 27.0% and < = 33.3%	
	Willing to Report > 33.3%	
Elective Delivery Prior to 39 Completed Weeks Gestation	Percent of deliveries that were elective and not medically necessary prior to 39 completed weeks gestation.	Hospital Survey derived from health records
	Fully Meets Standard < = 5%	
	Substantial Progress > 5% and < = 10%	
	Some Progress > 10% and < = 15%	
	Willing to Report > 15%	
Rate of Episiotomy	Percent of vaginal deliveries (excluding those coded with shoulder dystocia) during which an episiotomy is performed.	Hospital Survey derived from health records
	Fully Meets Standard < = 5%	
	Substantial Progress > 5% and < = 10%	
	Some Progress > 10% and < = 15%	
	Willing to Report > 15%	
Computerize d Physician Order Entry (CPOE)	<ul style="list-style-type: none"> <li>The percentage of medication orders entered electronically via a computer system that includes decision support software to reduce prescribing errors.</li> <li>Electronic system checks medication orders for common prescribing errors, such as incorrect dosage, incorrect medication, and drug interactions, and catches at least 50% of errors.</li> <li>For complete description of measure scoring, see: <a href="http://www.leapfroggroup.org/sites/default/files/Files/2016ScoringAlgorithm_Final_Updated100316.pdf">http://www.leapfroggroup.org/sites/default/files/Files/2016ScoringAlgorithm_Final_Updated100316.pdf</a></li> </ul>	Hospital Survey derived from health records

MEASURE NAME	DESCRIPTION	PRIMARY DATA SOURCE
Bar Code Medication Administration (BCMA)	<ul style="list-style-type: none"> <li>Percentage of applicable units in which BCMA is implemented.</li> <li>Compliance with scanning patients and medications during administration.</li> <li>BCMA system includes decision support checks.</li> <li>Structures are in place to monitor and reduce workarounds.</li> <li>For complete description of measure scoring, see: <a href="http://www.leapfroggroup.org/sites/default/files/Files/2016ScoringAlgorithms_Final_Updated100316.pdf">http://www.leapfroggroup.org/sites/default/files/Files/2016ScoringAlgorithms_Final_Updated100316.pdf</a></li> </ul>	Hospital Survey derived from health records

**Definition:**

Quality performance data were received from The Leapfrog Group as pre-calculated scores, including comparisons to standards defined by The Leapfrog Group. Participation in the Leapfrog Hospital survey is voluntary; where a hospital does not complete the survey or report on certain items in the survey, the data for that entity is also not included in the report. For more information on Leapfrog’s scoring methods, see:

[http://www.leapfroggroup.org/sites/default/files/Files/2016ScoringAlgorithms\\_Final\\_Updated100316.pdf](http://www.leapfroggroup.org/sites/default/files/Files/2016ScoringAlgorithms_Final_Updated100316.pdf)

## Metrics: Health Care-Associated Infections (HAI)

**Measure Steward:** Centers for Disease Control and Prevention

**CHIA Data Source:** CMS Hospital Compare

**Population:** All Payers, All Ages

MEASURE NAME	DESCRIPTION	PRIMARY DATA SOURCE
Catheter-Associated Urinary Tract Infections (CAUTI)	Standardized Infection Ratio (SIR) of healthcare-associated, catheter-associated urinary tract infections (UTI) among patients in bedded inpatient care locations, except level II or level III neonatal intensive care units (NICUs).	Health record
Central-Line Associated Bloodstream Infection (CLABSI)	Standardized Infection Ratio (SIR) of healthcare-associated, central line-associated bloodstream infections (CLABSI) among patients in bedded inpatient care locations.	Health record
Hospital-Onset <i>C. difficile</i>	Standardized infection ratio (SIR) of hospital-onset CDI Laboratory-identified events (LabID events) among all inpatients in the facility, excluding well-baby nurseries and neonatal intensive care units (NICUs).	Health record

MEASURE NAME	DESCRIPTION	PRIMARY DATA SOURCE
Hospital-Onset Methicillin-Resistant <i>Staphylococcus Aureus</i> (MRSA)	Standardized infection ratio (SIR) of hospital-onset unique blood source MRSA Laboratory-identified events (LabID events) among all inpatients in the facility.	Health record
SSI Surgical Site Infection: SSI Colon Surgery, SSI Abdominal Hysterectomy	Facility adjusted standardized infection ratio (SIR) of deep incisional and organ/space Surgical Site Infections (SSI) at the primary incision site among adult patients aged >= 18 years as reported through the CDC National Health and Safety Network (NHSN). This single prototype measure is applied to two operative procedures, colon surgeries and abdominal hysterectomies, and the measure yields separate SIRs for each procedure.	Health record

### Definition:

Performance on these measures is reported as a standardized infection ratio (SIR), or the ratio of the observed number of infections to the expected number of infections at a particular facility. The CDC adjusts the SIR for risk factors associated with differences in a facility's infection rates, like hospital type, medical school affiliation, and bed size for CLABSI and CAUTI, and patient and procedural differences for SSI. The pre-calculated SIRs for health care-associated infections were retrieved from CMS Hospital Compare. 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 data is not included in the report.

The expected number of infections is calculated based on a national baseline rate from historical data. The baseline is from 2015.

## Metrics: Readmissions

Please refer to the Hospital-Wide Adult All-Payer Readmissions Report (published in May 2018) Technical Appendix for information on methodology for these calculations. The Technical Appendix is available at:

<http://www.chiamass.gov/assets/docs/r/pubs/18/Readmissions-Tech-Appendix-2018-05.pdf>

## Hospital System Affiliations

HOSPITAL SYSTEM	SYSTEM ABBREVIATED NAME	HOSPITAL
Baystate Health	Baystate	Baystate Medical Center
Baystate Health	Baystate	Baystate Franklin Medical Center
Baystate Health	Baystate	Baystate Mary Lane Hospital
Baystate Health	Baystate	Baystate Wing Memorial Hospital
Baystate Health	Baystate	Noble Hospital



<b>HOSPITAL SYSTEM</b>	<b>SYSTEM ABBREVIATED NAME</b>	<b>HOSPITAL</b>
Berkshire Health Systems	Berkshire	Fairview Hospital
Berkshire Health Systems	Berkshire	Berkshire Medical Center
Beth Israel Deaconess Medical Center and Member Affiliated Hospitals	BIDMC & Affiliates	Beth Israel Deaconess Medical Center - Needham
Beth Israel Deaconess Medical Center and Member Affiliated Hospitals	BIDMC & Affiliates	Beth Israel Deaconess Hospital – Plymouth
Beth Israel Deaconess Medical Center and Member Affiliated Hospitals	BIDMC & Affiliates	Beth Israel Deaconess Medical Center - Milton
Beth Israel Deaconess Medical Center and Member Affiliated Hospitals	BIDMC & Affiliates	Beth Israel Deaconess Medical Center
WellForce	WellForce	Lowell General Hospital - Saints Medical Campus
Cape Cod Health Care	Cape Cod	Cape Cod Hospital
Cape Cod Health Care	Cape Cod	Falmouth Hospital
Heywood Health	Heywood	Athol Memorial Hospital
Heywood Health	Heywood	Heywood Hospital
Lahey Health Systems	Lahey	Winchester Hospital
Lahey Health Systems	Lahey	Northeast Hospital
Lahey Health Systems	Lahey	Lahey Clinic
Non-Affiliated	Non-Affiliated	Anna Jaques Hospital
Non-Affiliated	Non-Affiliated	Signature Healthcare Brockton
Non-Affiliated	Non-Affiliated	Boston Children's Hospital
Non-Affiliated	Non-Affiliated	Dana Farber Cancer Institute
Non-Affiliated	Non-Affiliated	Emerson Hospital
Non-Affiliated	Non-Affiliated	Harrington Memorial Hospital
Non-Affiliated	Non-Affiliated	Holyoke Medical Center
Non-Affiliated	Non-Affiliated	Lawrence General Hospital
WellForce	WellForce	Lowell General Hospital
Non-Affiliated	Non-Affiliated	Massachusetts Eye and Ear Infirmary
Non-Affiliated	Non-Affiliated	Milford Regional Medical Center
Non-Affiliated	Non-Affiliated	Mt. Auburn Hospital
Non-Affiliated	Non-Affiliated	New England Baptist Hospital
WellForce	WellForce	Tufts Medical Center
Non-Affiliated	Non-Affiliated	South Shore Hospital
Non-Affiliated	Non-Affiliated	Sturdy Memorial Hospital
Non-Affiliated	Non-Affiliated	Boston Medical Center
Non-Affiliated	Non-Affiliated	Cambridge Health Alliance
Non-Affiliated	Non-Affiliated	Hallmark Health
Non-Affiliated	Non-Affiliated	Southcoast Hospitals Group

HOSPITAL SYSTEM	SYSTEM ABBREVIATED NAME	HOSPITAL
Non-Affiliated	Non-Affiliated	Mercy Medical Center
Non-Affiliated	Non-Affiliated	Taunton State Hospital
Non-Affiliated	Non-Affiliated	BourneWood Hospital
Non-Affiliated	Non-Affiliated	Dr John C Corrigan Mental Health Center
Non-Affiliated	Non-Affiliated	Cape Cod & Islands Community Mental Health Center
Non-Affiliated	Non-Affiliated	Worcester State Hospital
Non-Affiliated	Non-Affiliated	Baldpate Hospital
Non-Affiliated	Non-Affiliated	Walden Behavioral Care, Llc
Non-Affiliated	Non-Affiliated	Dr Solomon Carter Fuller Mental Health Center
Partners HealthCare System	Partners	Brigham and Women's Hospital
Partners HealthCare System	Partners	Cooley Dickinson Hospital
Partners HealthCare System	Partners	Brigham and Women's Faulkner Hospital
Partners HealthCare System	Partners	Martha's Vineyard Hospital
Partners HealthCare System	Partners	Massachusetts General Hospital
Partners HealthCare System	Partners	Nantucket Cottage Hospital
Partners HealthCare System	Partners	Newton-Wellesley Hospital
Partners HealthCare System	Partners	North Shore Medical Center
Partners HealthCare System	Partners	McLean Hospital Corporation
Steward Health Care Systems	Steward	Steward Norwood Hospital
Steward Health Care Systems	Steward	Steward Carney Hospital
Steward Health Care Systems	Steward	Steward Nashoba Valley Medical Center
Steward Health Care Systems	Steward	Steward Holy Family Hospital at Merrimack Valley
Steward Health Care Systems	Steward	Steward Holy Family Hospital
Steward Health Care Systems	Steward	Steward Morton Hospital and Medical Center
Steward Health Care Systems	Steward	Steward St. Anne's Hospital
Steward Health Care Systems	Steward	Steward St. Elizabeth's Medical Center
Steward Health Care Systems	Steward	Steward Good Samaritan Medical
Tenet Healthcare	Tenet	St. Vincent Hospital
Tenet Healthcare	Tenet	MetroWest Medical Center
UMass Memorial Health Care	UMass	Health Alliance Hospital
UMass Memorial Health Care	UMass	Clinton Hospital
UMass Memorial Health Care	UMass	Marlborough Hospital
UMass Memorial Health Care	UMass	UMass Memorial Medical Center

## Parent Provider Group Affiliations

Source: Massachusetts Health Quality Partners

NETWORK NAME	MEDICAL GROUP NAME
Partners Healthcare System	Brigham And Women's Physicians Organization
Partners Healthcare System	Charles River Medical Associates, P.C.
Partners Healthcare System	Emerson Hospital And Emerson PHO
Partners Healthcare System	Tri-County Medical Associates
Partners Healthcare System	Massachusetts General Hospital Physicians Organization
Partners Healthcare System	North Shore Health System, Inc.
Partners Healthcare System	Pentucket Medical Associates (PMA)
Partners Healthcare System	Newton-Wellesley PHO, Inc.
Partners Healthcare System	Hallmark Melrose Wakefield
Partners Healthcare System	PMG Physician Associates, P.C.
Partners Healthcare System	Hallmark, Lawrence Memorial Hospital
Lahey Health	Lahey Health Primary Care
Atrius Health	Dedham Medical Associates
Atrius Health	Granite Medical
Atrius Health	Harvard Vanguard Medical Associates
Baycare Health Partners	Springfield Medical Associates, Inc.
Baycare Health Partners	Chestnut Medical Associates, Inc.
Baycare Health Partners	Valley Medical Associates, P.C.
Baycare Health Partners	Baycare Health Partners - Other
Baycare Health Partners	Baystate Medical Practices
Baycare Health Partners	West Brookfield Family Practice
Baycare Health Partners	Endocrine Associates Of Western Mass
Baycare Health Partners	Orchard Medical Associates, LLC
Baycare Health Partners	Baystate Wing Hospital Corporation
Baycare Health Partners	Mercy Medical Group
Baycare Health Partners	Cardiology & Internal Medicine Associates
Baycare Health Partners	Valley Pulmonary & Medical Associates
Baycare Health Partners	Westfield Medical Corporation, dba Noble Medical Group
UMass Memorial Health Care, Inc.	UMass Memorial Community Medical Group
UMass Memorial Health Care, Inc.	UMass Independent Practices
UMass Memorial Health Care, Inc.	UMass Memorial Medical Center-Based Practices
UMass Memorial Health Care, Inc.	Edward M. Kennedy Community Health Center
Steward Health Care Network	Prima CARE, PC
Steward Health Care Network	Hawthorn Medical Associates
Steward Health Care Network	Compass Medical, P.C.
Steward Health Care Network	Cape Cod Preferred Physicians

<b>NETWORK NAME</b>	<b>MEDICAL GROUP NAME</b>
Steward Health Care Network	Steward Health Care Network
Steward Health Care Network	Steward Medical Group
Beth Israel Deaconess Care Organization LLC	Whittier IPA
Beth Israel Deaconess Care Organization LLC	Cambridge Health Alliance
Beth Israel Deaconess Care Organization LLC	Beth Israel Deaconess Medical Center
Beth Israel Deaconess Care Organization LLC	Affiliated Physicians Inc., Groups
Beth Israel Deaconess Care Organization LLC	Beth Israel Deaconess Affiliated Community Health Centers
Beth Israel Deaconess Care Organization LLC	Beth Israel Deaconess Healthcare
Beth Israel Deaconess Care Organization LLC	Milton
Beth Israel Deaconess Care Organization LLC	Jordan Physician Associates
Beth Israel Deaconess Care Organization LLC	PMG Physician Associates, P.C.
New England Quality Care Alliance	Highland Healthcare Associates IPA - NEQCA
New England Quality Care Alliance	Merrimack Valley IPA - NEQCA
New England Quality Care Alliance	Tufts Medical Center Physicians - NEQCA
New England Quality Care Alliance	Southwest Boston Primary Care - NEQCA
New England Quality Care Alliance	Primary Care Medical Assoc. of Norwood - NEQCA
New England Quality Care Alliance	Plymouth Bay Primary Care - NEQCA
New England Quality Care Alliance	Milton Primary Care - NEQCA
New England Quality Care Alliance	Mass Bay Primary Care - NEQCA
New England Quality Care Alliance	Cape Physicians, LLC - NEQCA
New England Quality Care Alliance	Brockton Area Medical Associates - NEQCA
New England Quality Care Alliance	Southcoast Physicians Network
New England Quality Care Alliance	MetroWest Accountable Health Care Organization, LLC - NEQCA
New England Quality Care Alliance	PediSouth LCO, LLC - NEQCA
New England Quality Care Alliance	Healthcare South, PC - NEQCA
Berkshire Health Systems	Williamstown Medical Associates
Berkshire Health Systems	Berkshire Faculty Services
Partners Healthcare System	Affiliated Pediatric Practices (APP)
Baycare Health Partners	Holyoke Pediatric Associates
Baycare Health Partners	Fairview Pediatrics
Baycare Health Partners	George F. Vitek, M.D. , & Assoc. P.C.
Baycare Health Partners	Ludlow Pediatrics, Inc.
Baycare Health Partners	Pediatric Associates of Hampden County
Baycare Health Partners	Pediatric Services of Springfield
Baycare Health Partners	Pioneer Valley Pediatrics, Inc.
Baycare Health Partners	Redwood Pediatric & Adolescent Medicine
Baycare Health Partners	Sumner Pediatrics
New England Quality Care Alliance	Woburn Pediatric Associates, LLP - NEQCA



For more information, please contact:

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