

EXECUTIVE SUMMARY:

A FOCUS ON PROVIDER QUALITY

Introduction

In support of its mission to provide objective data and analysis on the performance of the health care system, the Center for Health Information and Analysis (CHIA) annually reports on health care provider quality in the Commonwealth. This report examines performance measures of care safety, effectiveness, efficiency, and patient-centeredness across different health care settings, including care provided by acute hospitals and primary care physicians. As payers and providers continue to develop contracts that reward higher quality care provided at an efficient cost, statewide monitoring of quality performance is central to realizing health care value for patients and families.

The 2018 edition of *A Focus on Provider Quality* includes this summary, accompanied by a [databook](#) and—for the first time—a series of [interactive graphics](#). This executive summary focuses on statewide findings, while both aggregate and provider-specific results can be found in interactive charts on CHIA's [website](#) and the databook.*

* The Executive Summary includes thumbnails of the charts referenced throughout, which link to the full version of the chart in the interactive report for easier viewing.

Safe Care

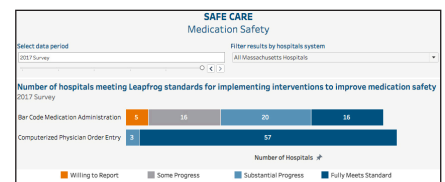
Preventable medical errors are an unintended outcome of health care that can result from a lack of adherence to clinical guidelines, a breakdown of recommended processes, or inappropriate care. In 2016, medical errors were identified as the third leading cause of death in the United States.¹ In addition, these complications are costly to patients and their families, and to the health care system. This section summarizes performance in three areas of patient safety: medication errors, health care-associated infections, and patient mortality after discharge from a hospital.

One essential approach to improving patient safety is implementing supportive technologies to reduce errors in medication prescribing and dispensing. The Leapfrog Group sets standards for providers, disseminates evaluation tools, and annually collects voluntary data on hospitals' progress in implementing these tools. The Computerized Physician Order Entry (CPOE) standard, designed to reduce prescribing errors, evaluates whether a hospital prescribes 75% or more medications through an electronic system, and whether that system successfully catches common prescribing errors. Among the 60 Massachusetts acute care hospitals who reported this data to the Leapfrog Group for 2017, 57 hospitals fully met the CPOE standard, with the remaining three making substantial progress on implementation (see [interactive Chart A](#)). This is an improvement from 2016, when 47 of 59 reporting acute care hospitals fully met the CPOE standard, and four had not made any progress.

While CPOE tools help to reduce prescribing errors, the Leapfrog Group also monitors Bar Code Medication Administration (BCMA), a supportive technology to reduce errors during medication administration. The Leapfrog standard evaluates whether hospitals have implemented a BCMA system in 100% of hospital units, have 95% compliance with patient and medication scans during administration, whether the BCMA system includes appropriate decision support tools, and whether the hospital has implemented processes to prevent working around the BCMA system. In 2017, 16 of 57 reporting acute care hospitals in Massachusetts fully met this standard ([Chart A](#)). This is a notable improvement from 2016, when six of 52 reporting hospitals fully met these standards. Similar to 2016, 20 hospitals made substantial progress toward the BCMA standard in 2017.

Another measure of patient safety in acute care hospitals is the incidence of health care-associated infections (HAI).² The Centers for Disease Control (CDC) monitors many of these infections acquired by patients while admitted to a hospital; this report focuses on the number of infections at Massachusetts hospitals relative to predicted, for the five most common HAIs. The predicted number of infections in each hospital accounts for variation in facility and patient characteristics.

A Medication Safety



[Click images to see the detailed graphic and the full interactive report.](#)

As of March 2017, Massachusetts acute care hospitals most frequently performed better than predicted on measures of Clostridium difficile (C. difficile—11 of 56 reporting hospitals) and central line-associated blood stream infections (CLABSI—8 of 41 reporting hospitals). Two out of 48 reporting hospitals had worse-than-predicted rates of catheter-associated urinary tract infections (CAUTI), and six hospitals had worse-than-predicted C. difficile infection rates. Of the 10 Massachusetts hospitals that reported rates for surgical site infections (SSI) from an abdominal hysterectomy, none performed better than predicted. Only one of the 41 hospitals reporting for SSI from colon surgery performed better than predicted (Chart B).

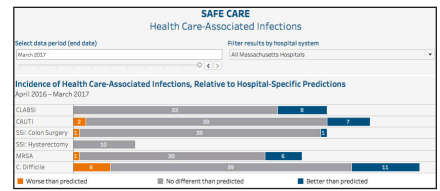
Safe care is also monitored by examining 30-day mortality rates for patients with certain conditions after they are admitted to the hospital. While the monitored conditions are severe and generally have 30-day mortality between 12% and 16% nationally, death rates at individual Massachusetts hospitals are largely at or better than national rates. Consistent with 2015, only one Massachusetts acute care hospital performed worse than acute hospitals nationally on any mortality measure in 2016.³ Among the 57 reporting acute hospitals in Massachusetts, 16 had lower mortality rates than the national median (12%) for heart failure, and 13 had lower rates for patients admitted with pneumonia (16%). Among all acute hospitals in the United States, 15% of patients died within 30 days of admission to the hospital with a diagnosis of stroke. In Massachusetts, two of 52 reporting hospitals had lower mortality rates than hospitals nationally for stroke (Chart C).

Effective & Efficient Care

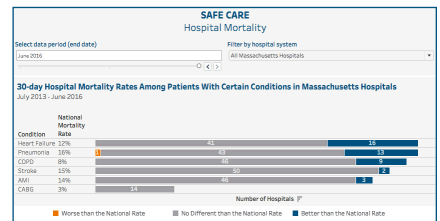
As health care spending continues to grow in the United States and in the Commonwealth, a key strategy to improving quality and reducing cost is the elimination of wasteful spending in the health care system. The promotion of effective and efficient care includes reducing potentially unnecessary services, such as certain maternity care interventions for low-risk pregnancies, and avoidable hospitalizations for patients with chronic conditions.

Similar to its efforts on medication errors, the Leapfrog Group sets standards for avoiding three potentially unnecessary maternity procedures, which align with the goals of Healthy People 2020.⁴ This standard recommends that no more than 23.9% of women with low-risk pregnancies deliver via cesarean section (C-section). In 2017, the highest C-section rate in a reporting Massachusetts hospital was 56.4%; although this exceeds the highest rate in 2016 (44.9%), 15 hospitals fully met the C-section standard in 2017 which is similar to 2016 (Chart D). To meet the Leapfrog Group standard for early elective deliveries, no more than 5% of deliveries may be performed early (between 37 and 39 weeks) without a medical reason. Among reporting Massachusetts hospitals (n=38), 37 met this target.

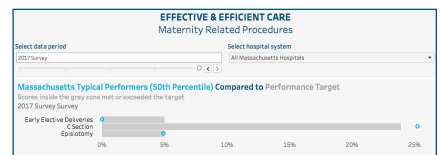
B Health Care-Associated Infections



C Mortality



D Maternity



Click images to see the detailed graphic and the full interactive report.

Finally, the Leapfrog Group identifies 5% or below as the target for the share of childbirths in which episiotomies are performed. In 2017, 20 Massachusetts hospitals met this target. In all, 11 of the 38 Massachusetts hospitals that reported on these metrics fully met all three standards for avoiding potentially unnecessary maternity procedures.

The Prevention Quality Indicators (PQIs), developed by the Agency for Healthcare Research and Quality (AHRQ), identify hospitalizations in cases where effective outpatient care could potentially have prevented the need for hospitalization. As such, while no individual provider is accountable for these admissions, PQIs are a measure of how effectively the health care system and community supports keep patients with chronic conditions healthy.⁵ In Massachusetts, prior CHIA analysis has identified geographic differences in the incidence of potentially preventable hospitalizations for asthma in younger adults, chronic obstructive pulmonary disease (COPD), and diabetes short-term complications.⁶ In 2016, Bristol County had the highest rate of potentially preventable admissions for asthma in younger adults, chronic obstructive pulmonary disease, and diabetes short-term complications (Chart E). Hampden County had the highest rate of potentially preventable admissions for congestive heart failure. These counties had similarly higher incidence rates of hospitalizations for these conditions in 2015.

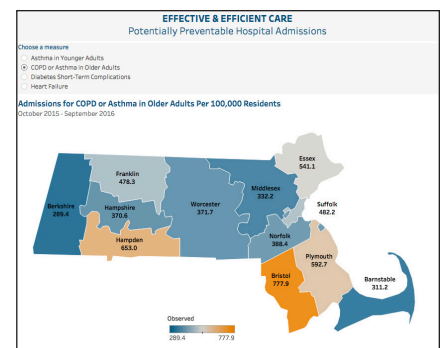
Patient-Centered Care

The redesign of health care delivery models to meet cost and quality objectives has renewed focus on ensuring that care is consistent with individual patient needs, preferences, and desired outcomes. In addition, as improvements in patient care experience have been consistently linked with better health outcomes, the standardized measurement of patient experience continues to be important to monitoring overall health system quality.⁷

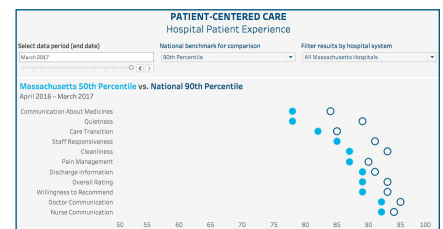
As in previous years, patients rated their experience at typical (50th percentile) Massachusetts hospitals similarly to hospitals nationwide in 2016.⁸ Massachusetts hospitals scored highest on measures of “Doctor Communication” and “Nurse Communication” (both 92 out of 100). Patients rated “Quietness” and “Communication About Medicines” lower than other dimensions of care, and “Quietness” in Massachusetts hospitals was six points below the national median (Chart F).

Comparing typical (50th percentile) Massachusetts hospital experience to the highest-performing hospitals nationwide (hospitals with scores in the 90th percentile), Massachusetts hospitals scored lower than national rates on all 11 measures of hospital patient experience in 2016. However, typical Massachusetts hospitals scored very close to top national hospitals on measures of “Nurse Communication” (92 statewide vs. 94 nationally), “Discharge

E Potentially Preventable Admissions



F Hospital Patient Experience



Click images to see the detailed graphic and the full interactive report.

Information” (91 vs. 89), “Doctor Communication” (92 vs. 95), and “Care Transition” (82 vs. 85). Typical Massachusetts hospitals scored furthest from this national benchmark on measures of “Quietness” (78 vs. 89), “Communication About Medicines” (79 vs. 84), and “Staff Responsiveness” (85 vs. 91). These scores are very similar to 2015 ratings on these measures at both the Massachusetts 50th percentile and national 90th percentile levels.

Overall, commercially insured patients in Massachusetts expressed positive experiences with their primary care providers in 2016, and experiences at a large majority of medical groups remained similar to 2015 scores (Chart G). Although improvements were small, statewide scores increased for all adult and pediatric measures for which data from 2015 was available.

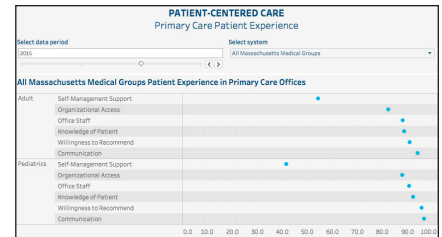
For both adult and pediatric populations, statewide scores were highest for “Communication” (94.2 and 96.9 out of 100, respectively), and “Willingness to Recommend” (91.3 and 95.9, respectively) and lowest for “Self-Management Support” (55.7 and 45.0, respectively).⁹ For the adult population, patients also gave low scores for “Adult Behavioral Health” (58.4).

Conclusion

While this summary report provides an overview of the Commonwealth’s performance on select quality metrics, a comprehensive assessment of the quality of care delivered to patients in Massachusetts should also be examined at the provider-specific level. Toward that end, CHIA has published interactive charts that illustrate the metrics examined in this report. Stakeholders can manipulate the charts using the user-friendly interface to explore the data for an individual provider organization, for a health care system, or at a statewide level. With this approach, CHIA aims to maximize the data’s value, allowing users to create charts that are actionable and relevant for a variety of different purposes. ■

For questions on this brief, please contact Joshua Manning, Senior Health Quality Data Analyst, at (617) 701-8381 or at Joshua.Manning@state.ma.us.

G Primary Care Patient Experience



Click images to see the detailed graphic and the full interactive report.

Notes

- 1** Makary Martin A, Daniel Michael. Medical error—the third leading cause of death in the US BMJ 2016; 353:i2139. Available from <http://www.bmj.com/content/353/bmj.i2139.full>. Last accessed March 27, 2018.
- 2** Health care-associated infections (HAI) are reported as a Standardized Infection Ratio (SIR), which compares the number of actual infections in a hospital to the number of predicted infections. These predictions are based on historical data and adjusted based on factors known to impact infection rates, such as patient characteristics, facility size, and facility type. CMS refers to a SIR of 1.0 as the national benchmark.
- 3** The data range for the mortality measure is three years, so performance reported in 2016 includes data from July, 2013 through June, 2016.
- 4** The Leapfrog Group. Maternity Care Report: 2017. Available at http://www.leapfroggroup.org/sites/default/files/Files/Castlight-Leapfrog%20Maternity%20Report%202017_Final.pdf. Last accessed March 27, 2018.
- 5** The PQIs are population based, and CHIA calculates them for Massachusetts using the Hospital Discharge Database (HDD).
- 6** Center for Health Information and Analysis. A Focus on Provider Quality: November 2016. Available at <http://www.chiamass.gov/assets/docs/r/pubs/16/Quality-Report-2016.pdf>. Last accessed March 27, 2018.
- 7** Doyle C, Lennox L, Bell D. (2013). A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. BMJ Open; 3(1):e001570.doi:10.1136/bmjopen-2012-001570. Available at <http://bmjopen.bmj.com/content/3/1/e001570>. Last accessed March 27, 2018.
- 8** This refers to calendar year 2016, however data through March 2017 is available in the full interactive report.
- 9** Self-Management Support reflects the patient's level of comfort with instructions on managing their own care.

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