



MASSACHUSETTS

# HEALTH EQUITY REPORT

2019 measure data stratified by Blue Cross Blue Shield of Massachusetts member-reported race and ethnicity data (when available), supplemented by imputed data using a multinomial implementation of Bayesian Additive Regression Trees (BART). This approach flexibly combines data from the RAND Bayesian Improved First Name, Surname, and Geocoding (BIFSG) method, the Massachusetts Immunization Information System (MIIS), and other member-level information (race/ethnicity data version 5). Relative to traditional multinomial logistic regression-based approaches, BART improves imputation accuracy by more flexibly learning the shapes of relationships (e.g., linear, quadratic, logarithmic) and the interactions between data sources.

At Blue Cross, we have a deep commitment to quality, affordable health care, and that includes equity. As part of our commitment, each year we gather and publish data for more than 1.3 million of our commercial Massachusetts members, using measures widely leveraged by health plans and clinicians to monitor health care quality.

## CHRONIC CONDITIONS

Measure	Asian	Black	Hispanic	White
<b>Asthma medication ratio</b> % of members with persistent asthma who took appropriate medications (age 5-64)	76.10%	69.20%	68.70%*	74.40%
<b>Comprehensive diabetes care - BP control</b> % of adult diabetic members with blood pressure controlled (age 18-75)	85.50%*	71.40%*	78.30%*	82.60%
<b>Comprehensive diabetes care - HbA1c poor control (lower rates indicate higher quality care)</b> % of adult diabetic members with uncontrolled HbA1c (diabetes) (age 18-75)	15.90%*	24.30%*	27.80%*	19.00%
<b>Comprehensive diabetes care - HbA1c testing</b> % of adult diabetic members who had HbA1c (diabetes) testing (age 18-75)	94.50%*	92.90%	92.50%	92.50%
<b>Comprehensive diabetes care - medical attention for nephropathy</b> % of adult diabetic members who were screened for kidney disease (age 18-75)	91.00%	89.70%	88.10%*	90.10%
<b>Comprehensive diabetes care - retinal eye exam</b> % of adult diabetic members who had eye exams performed (age 18-75)	68.40%*	67.10%	59.60%*	66.20%
<b>Controlling high blood pressure</b> % of adult hypertensive members who keep their blood pressure controlled (age 18-85)	77.80%	66.20%*	71.90%*	79.20%

## CHRONIC CONDITIONS

Measure	Asian	Black	Hispanic	White
<b>Medication management for people with asthma – 50%</b> % of members with persistent asthma who took appropriate medications at least 50% of the time (age 5–64)	54.60%*	55.70%*	60.40%*	71.80%
<b>Medication management for people with asthma – 75%</b> % of members with persistent asthma who took appropriate medications at least 75% of the time (age 5–64)	33.10%*	34.80%*	33.80%*	51.50%
<b>Statin therapy for patients with cardiovascular disease – adherence 80%</b> % of adult members with cardiovascular disease who took their statin medication at least 80% of the time (age 21–75 male, 40–75 female)	76.10%*	60.50%*	71.60%*	83.60%
<b>Statin therapy for patients with cardiovascular disease – received statin</b> % of adult members with cardiovascular disease who received statin therapy (age 21–75 male, 40–75 female)	91.50%	83.00%	85.80%	88.40%
<b>Statin therapy for patients with diabetes – adherence 80%</b> % of adult members with diabetes who took their statin medication at least 80% of the time (age 40–75)	69.90%*	58.90%*	57.90%*	79.60%
<b>Statin therapy for patients with diabetes – received statin</b> % of adult members with diabetes who received statin therapy (age 40–75)	72.20%	62.90%*	64.50%*	70.00%
<b>Use of spirometry testing in the assessment and diagnosis of COPD</b> % Of adult members who were appropriately tested to confirm new diagnosis of COPD (age 40+)	Insufficient Data	Insufficient Data	Insufficient Data	39.70%

## MENTAL HEALTH

Measure	Asian	Black	Hispanic	White
<b>Antidepressant medication management – acute phase</b> % of adult members who remained on an antidepressant medication for at least 12 weeks (age 18+)	63.70%*	46.20%*	48.40%*	73.80%
<b>Antidepressant medication management – continuation phase</b> % of adult members who remained on an antidepressant medication for at least 6 months (age 18+)	49.30%*	33.90%*	33.30%*	61.30%
<b>Follow-up after emergency department visit for alcohol and other drug dependence – 30 day</b> % of members with alcohol or other drug dependence who received follow-up care within 30 days of being in the emergency department (age 13+)	Insufficient Data	Insufficient Data	9.00%*	19.70%
<b>Follow-up after emergency department visit for alcohol and other drug dependence – 7 day</b> % of members with alcohol or other drug dependence who received follow-up care within 7 days of being in the emergency department (age 13+)	Insufficient Data	Insufficient Data	6.00%*	14.70%

# MENTAL HEALTH

Measure	Asian	Black	Hispanic	White
<b>Follow-up after emergency department visit for mental illness - 30 day</b> % of members diagnosed with mental illness who received follow-up care within 30 days of being in the emergency department (age 6+)	79.80%	64.60%*	68.80%*	81.60%
<b>Follow-up after emergency department visit for mental illness - 7 day</b> % of members diagnosed with mental illness who received follow-up care within 7 days of being in the emergency department (age 6+)	60.00%*	56.70%*	55.90%*	74.40%
<b>Follow-up after hospitalization for mental illness - 30 day</b> % of members hospitalized for mental illness who received follow-up care within 30 days of being discharged (age 6+)	75.80%	59.70%*	73.90%	83.30%
<b>Follow-up after hospitalization for mental illness - 7 day</b> % of members hospitalized for mental illness who received follow-up care within 7 days of being discharged (age 6+)	63.00%	49.40%*	47.10%*	63.30%
<b>Follow-up care for children prescribed ADHD medication initiation phase</b> % of children with ADHD who had follow-up care with a provider within 30 days of being prescribed their first ADHD medication (age 6-12)	Insufficient Data	Insufficient Data	52.90%	51.70%
<b>Initiation and engagement of alcohol and other drug dependence treatment - engagement</b> % of members newly diagnosed with alcohol or other drug dependence who had two or more additional services within 34 days (age 13+)	7.60%*	9.30%	9.70%	12.40%
<b>Initiation and engagement of alcohol and other drug dependence treatment - initiation</b> % of members newly diagnosed with alcohol or other drug dependence who started treatment within 14 days (age 13+)	29.40%*	43.70%	37.90%	38.00%
<b>Risk of continued opioid use - 15 days (lower rates indicate higher quality care)</b> % of adult members with at least 15 days of prescription opioids in a 30 day period (age 18+)	2.00%*	4.00%	3.20%*	4.60%
<b>Risk of continued opioid use - 31 days (lower rates indicate higher quality care)</b> % of adult members with at least 31 days of prescription opioids in a 62 day period (age 18+)	0.40%*	1.10%	0.70%*	1.20%
<b>Use of opioids at high dosage (lower rates indicate higher quality care)</b> % of adult members who received high dose prescription opioids for more than 15 days during a year (age 18+)	0.60%*	3.30%	4.30%	6.00%
<b>Use of opioids from multiple providers - multiple pharmacies (lower rates indicate higher quality care)</b> % of adult members who received prescription opioids from four or more pharmacies (age 18+)	1.80%	4.60%	3.20%	3.20%

## MENTAL HEALTH

Measure	Asian	Black	Hispanic	White
<b>Use of opioids from multiple providers – multiple prescribers (lower rates indicate higher quality care)</b> % of adult members who received prescription opioids from four or more prescribers (age 18+)	16.60%	15.70%	17.90%	18.30%
<b>Use of opioids from multiple providers – multiple prescribers and multiple pharmacies (lower rates indicate higher quality care)</b> % of adult members who received prescription opioids from four or more pharmacies and prescribers (age 18+)	0.20%*	2.90%	1.70%	1.70%

## OTHER TESTING AND TREATMENT

Measure	Asian	Black	Hispanic	White
<b>Appropriate testing for pharyngitis</b> % of incidents of pharyngitis (sore throat) that resulted in completion of appropriate testing (age 3+)	90.00%*	88.50%*	91.90%	93.40%
<b>Appropriate treatment for upper respiratory infection</b> % of upper respiratory infections that did not involve an antibiotic prescription (age 3 months+)	92.50%*	92.00%*	93.70%*	88.30%
<b>Avoidance of antibiotic treatment for acute bronchitis/bronchiolitis</b> % of acute bronchitis/bronchiolitis episodes that did not involve an antibiotic prescription (age 3 months+)	72.30%*	67.00%	62.90%	63.40%
<b>Use of imaging studies for low back pain</b> % of adult members diagnosed with low back pain who avoided unnecessary X-rays, CT scans, or MRIs (age 18–50)	84.90%	84.50%	79.80%*	82.50%

## PREVENTION

Measure	Asian	Black	Hispanic	White
<b>Adolescent well-care visits</b> % of adolescent members who had at least one comprehensive well-care visit with a PCP or OB/GYN (age 12–21)	81.90%*	68.50%*	71.20%*	80.60%
<b>Child and adolescent well-care visits</b> % of child and adolescent members who had at least one comprehensive well-care visit with a PCP or OB/GYN (age 3–21)	85.70%	72.60%*	77.70%*	85.10%
<b>Colorectal cancer screening</b> % of adult members who had appropriate screening for colorectal cancer (age 50–75)	65.90%*	63.80%*	65.40%*	71.30%
<b>Well-child visits in the first 15 months of life</b> % of babies who were seen for the appropriate number of well-visits during their first 15 months	91.60%*	91.40%	91.10%*	94.90%
<b>Well-child visits in the third, fourth, fifth and sixth years of life</b> % of children who had at least one annual well-visit with a PCP (age 3–6)	93.40%*	86.10%*	89.80%*	94.50%

## WOMEN'S HEALTH

Measure	Asian	Black	Hispanic	White
<b>Breast cancer screening</b> % of women who had at least one mammogram within the past 2 years (age 50–74)	80.70%*	78.50%*	83.70%	83.00%
<b>Cervical cancer screening</b> % of women who were screened for cervical cancer using appropriate guidelines (age 21–64)	81.70%*	81.10%*	84.10%	83.80%
<b>Chlamydia screening in women</b> % of women who were appropriately tested for chlamydia (age 16–24)	78.00%*	84.30%*	75.20%	74.80%
<b>Non-recommended cervical cancer screening in adolescent females (lower rates indicate higher quality care)</b> % of adolescent females who were screened unnecessarily for cervical cancer (age 16–20)	0.40%	0.40%	1.00%*	0.50%
<b>Severe maternal morbidity rate (lower rates indicate higher quality care)</b> % of childbirths with potentially life-threatening complications	2.30%	6.00%*	2.60%	2.20%
<b>Severe maternal morbidity rate – other than blood transfusion (lower rates indicate higher quality care)</b> % of childbirths with potentially life-threatening complications (other than blood transfusion)	1.30%	3.80%*	1.00%	1.20%

If you're a Blue Cross Blue Shield of Massachusetts member, you can help improve the accuracy of these data right now, by updating your race, ethnicity, and language preferences [here](#).

**Race/ethnicity data:** The member race and ethnicity data underlying Blue Cross' analyses (race/ethnicity data version 5) were a mix of self-reported data (approximately 16% of Blue Cross Blue Shield of Massachusetts members included in this report) and imputed data, which is a commonly used approach when self-reported data are incomplete. In data version 5, race and ethnicity were imputed using a multinomial implementation of Bayesian Additive Regression Trees (BART). This approach flexibly combines data from the RAND Bayesian Improved First Name, Surname, and Geocoding (BIFSG) method, the Massachusetts Immunization Information System (MIIS), and other member-level information. Relative to traditional multinomial logistic regression-based approaches, BART improves imputation accuracy by more flexibly learning the shapes of relationships (e.g., linear, quadratic, logarithmic) and the interactions between data sources. More information about the RAND BIFSG method can be requested from: <https://www.rand.org/health-care/tools-methods/bisg.html>. More information about the MIIS data can be requested from: <https://www.mass.gov/massachusetts-immunization-information-system-miis>.

Analyses that include imputed data might overestimate or underestimate the true magnitude of inequities (i.e., the magnitude of inequities that would be calculated if 100% self-reported race and ethnicity data were available). For this reason, [Blue Cross is currently engaged in a major effort to collect self-reported race and ethnicity data from members directly](#). Future versions of these analyses will incorporate more member self-reported race and ethnicity data as it becomes available.

We assessed the accuracy of race/ethnicity data version 5 by first comparing the imputed observations to the values reported by in-state members who have shared their self-reported race and ethnicity with Blue Cross. We then took the weighted average of the accuracy of imputed data and 100% (representing accuracy of the self-reported data), with weights equal to the proportion of members who self-report, accounting for non-random missingness in the self-reported data.

	Sensitivity	Specificity	PPV	NPV
Asian	96.0%	99.0%	92.5%	99.5%
Black	85.8%	99.3%	85.3%	99.4%
Hispanic	83.8%	99.3%	90.2%	98.7%
White	98.9%	87.2%	95.3%	96.8%

**Abbreviations:** PPV, positive predictive value; NPV, negative predictive value.

**Note:** We lack sufficient data to assess the accuracy of imputed data for members who self-identify as American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, Other, and Multiracial. To generate the accuracy calculations reported in this paragraph, we categorized the output probabilities from the imputation model described above using a plurality rule (i.e., assigning the category with the highest probability). However, in the health equity report, the output probabilities from race/ethnicity data version 5 (when self-reported data were missing) were used directly.

*\*Indicates when the inequity between minoritized racial and ethnic group (Asian, Black, Hispanic) members and White members is statistically significant (p < 0.05).*

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"Insufficient Data" indicates that there were fewer than 90 members of the indicated race and ethnicity who were included in the measure denominator (i.e., who had a condition or health event that caused the measure to apply to them). Note: We increased the minimum denominator from 50 to 90 members in this revision of the 2019 report, because a minimum of 90 members per cell is one of the many criteria we apply before measures can be considered in our pay-for-equity contracts with providers.

[Learn more about the corresponding NCQA measures.](#)

For comparison, the 2019 Child and Adolescent Well-Care Visits measure performance was included, based on the 2020 HEDIS specification.

The Severe Maternal Morbidity rate among delivery hospitalizations is based on the [CDC measure specification](#).

**Note:** The logic used to produce these HEDIS® measure results has not been certified by NCQA. Such results are for reference only and are not an indication of measure validity. A calculated measure result (a "rate") from a HEDIS measure that has not been certified via NCQA's Measure Certification Program, and is based on unadjusted HEDIS specifications, may not be called a "Health Plan HEDIS rate" until it is audited and designated reportable by an NCQA-Certified HEDIS Compliance Auditor. Until such time, such measure rates shall be designated or referred to as "Uncertified, Unaudited Health Plan HEDIS Rates."