Proposed Measure Retirement for HEDIS®[1] MY 2026: Asthma Medication Ratio (AMR)

Proposed New Measure for HEDIS MY 2026: Follow-Up After Acute Care Visits for Asthma (AAF-E)

NCQA seeks comments on the following for HEDIS Measurement Year (MY) 2026.

Proposed Retirement: *Asthma Medication Ratio* (AMR). Assesses the percentage of Medicaid and commercial members 5–64 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications of ≥0.5 during the measurement period. The measure is used in several programs, including the CMS Universal Foundation and the Medicaid Adult and Child Core Sets.

> *Rationale:* Analyses and discussions with respiratory experts highlight concerns about the measure's reliability and validity. New guidelines recommend the use of a combined inhaler that includes a controller and reliever medications (Maintenance and Reliever Therapy [MART]).[2,3] AMR is calculated by distinguishing between asthma controller and asthma reliever medications and calculating the dispensed units of each. In addition, AMR only includes individuals with persistent asthma, using a proxy definition based on health care utilization and medication dispensing, which restricts the eligible population to those who use health services more frequently. The ratio is calculated using a complex numerator methodology requiring package and unit size, information that is not consistently available for all medications, posing a barrier to health plans accurately calculating performance.

Proposed New Measure: *Follow-Up After Acute Care Visits for Asthma* (AAF-E). Assesses the percentage of acute visits (including urgent care, ED, observation stays and inpatient visits) for Medicaid and commercial members 5–64 years of age with a principal diagnosis of asthma that had a corresponding outpatient follow-up visit within 30 days.

> *Rationale:* Studies show that individuals with asthma frequently utilize acute care due to asthma exacerbations, which is an indicator of poorly controlled asthma.[4] Guidelines recommend patients follow up with their primary care doctor after an acute asthma event to assess asthma control and review medication use.[2,3] This measure is intended to incentivize health plans to ensure patients follow up with their doctor after an asthma exacerbation, and to encourage members with asthma to utilize primary care to manage symptoms.

NCQA conducted testing on the commercial population using the OptumLabs®[5] Data Warehouse (OLDW) National View (calendar years 2022 and 2023) to assess the feasibility of the new measure and is performing analogous testing in the Medicaid population early in 2025.

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[1] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

[2] Global Initiative for Asthma (GINA). 2024. Global Strategy for Asthma Management and Prevention. https://ginasthma.org/wp-content/uploads/2024/05/GINA-2024-Strategy-Report-24_05_22_WMS.pdf

[3] National Asthma Education and Prevention Program (NAEPP) Coordinating Committee Expert Working Group. 2020. 2020 Focused Updates to the Asthma Management Guidelines. https://www.nhlbi.nih.gov/resources/2020-focused-updates-asthma-management-guidelines

[4] McIvor A., Kaplan A. 2020. "A Call to Action for Improving Clinical Outcomes in Patients with Asthma." npj Primary Care Respiratory Medicine 30(54)

[5] Data for this analysis were obtained from the OptumLabs Data Warehouse, which contains de-identified administrative claims and other data elements and represents a diverse mixture of ages, ethnicities and geographical regions across the United States. The claims data in OLDW includes medical and pharmacy claims, laboratory results and enrollment records for commercial and Medicare Advantage enrollees. Study data were accessed using techniques compliant with the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and, because this study involved analysis of pre-existing, de-identified data, it was exempt from Institutional Review Board approval.

The measure denominator is acute visits (urgent care, ED or inpatient visits) with a principal diagnosis of asthma, using the following ICD-10 codes:

J45.20	J45.30	J45.40	J45.50	J45.901	J45.990
J45.21	J45.31	J45.41	J45.51	J45.902	J45.991
J45.22	J45.32	J45.42	J45.52	J45.909	J45.998

The numerator is outpatient follow-up visits. NCQA tested two potential time frames for follow-up: 15 and 30 days.

Testing results highlight marked variation across the commercial population by age and COPD status. The highest rate of denominator events (acute care visits with a principal diagnosis of asthma) was among members 5–11 years of age (59 visits per 1,000 members). NCQA observed a higher rate of denominator events for members with COPD compared to members without COPD (55 visits vs. 31 visits per 1,000 members).

Table 1 presents measure performance (i.e., percentage of acute care visits for asthma that had an outpatient follow-up visit) for each visit type for the 15- and 30-day follow-up time frames. There were 69 total plans in the dataset. The reportable rate (i.e., proportion of plans able to meet the minimum denominator size of 30 acute visits) was lowest for urgent care and inpatient stays; for both follow-up time frames, two commercial plans had a reportable rate for urgent care and 10 plans had a reportable rate for inpatient stays. Reportable rates for any acute care and ED visit type were higher, with 44%–52% of plans able to report a valid rate.

NCQA observed variation in measure performance across commercial plans for each acute care visit type and follow-up time frame, indicating room for improvement. On average, the highest rates of follow-up were seen for inpatient visits for asthma. The lowest rates were seen for urgent care visits.

Table 1. Measure Performance—Follow-Up After Acute Care Visits for Asthma (15- and 30-day) by Visit Type

			Percentile Distribution (%)								
Time Frame	**Visit Type**	**N of Plans (% of Total)**	**Avg**	**Std Dev**	**Min**	**10th**	**25th**	**50th**	**75th**	**90th**	**Max**
15 Days	**Any**	**37 (52.1)**	**33.9**	**7.9**	**16.7**	**25.0**	**30.2**	**34.6**	**38.0**	**40.0**	**56.9**
	Urgent Care	2 (2.8)	17.0	1.3	16.1	16.3	16.6	17.0	17.5	17.7	17.9
	ED	35 (49.3)	33.2	6.8	21.1	23.5	30.4	33.9	35.4	37.6	52.3
	Inpatient	10 (14.1)	54.6	6.1	44.4	49.0	50.7	53.9	57.7	63.3	64.2
30 Days	**Any**	**35 (49.3)**	**46.8**	**6.8**	**31.0**	**37.8**	**42.8**	**47.2**	**50.5**	**55.2**	**60.0**
	Urgent Care	2 (2.8)	26.6	1.8	25.3	25.6	25.9	26.6	27.2	27.6	27.8
	ED	31 (43.7)	46.8	5.7	31.5	42.0	44.1	46.8	49.5	53.3	59.1
	Inpatient	10 (14.1)	67.0	5.8	57.7	60.9	62.7	66.7	70.4	75.1	75.5

Advisory panels supported adding the new AAF-E measure to HEDIS MY 2026 and suggested either combining all acute care visit types into one category (as opposed to separate rates by visit type) or isolating the measure to ED visits only, since these visits drove the overall performance rate. While the 30-day follow-up time frame aligns with other NCQA follow up measures and enhances feasibility by mitigating potential access and availability issues, experts acknowledged that the 15-day follow-up time frame more closely aligned with clinical guidelines on asthma exacerbation management.

NCQA seeks general feedback on the proposed retirement of AMR and the proposed new AAF-E measure, as well as feedback on the following questions for the AAF-E measure:

1. Should NCQA exclude individuals with a history of acute respiratory failure, emphysema or cystic fibrosis?

2. Should NCQA consider including only ED visits for asthma in this measure?
3. Which time frame (15 days, 30 days) is most appropriate for assessing follow-up after an acute visit for asthma?
4. Should NCQA require follow-up visits to occur in certain settings or with specific provider types?

Supporting documents include the current AMR measure specification and performance data, the proposed new AAF-E measure specification and the evidence workup.

NCQA acknowledges the contributions of the Respiratory and Technical Measurement Advisory Panels.

Measure title	Asthma Medication Ratio	Measure ID	AMR
Description	The percentage of persons 5–64 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications of 0.50 or greater during the measurement period.		
Measurement period	January 1–December 31.		
Copyright and disclaimer notice	Refer to the complete copyright and disclaimer information at the front of this publication. NCQA website: www.ncqa.org. Submit policy clarification support questions via My NCQA (https://my.ncqa.org).		
Clinical recommendation statement/ rationale	The overarching goal of asthma care is to achieve asthma control, enabling a patient to live without functional limitations, impairment in quality of life or risk of adverse events.		
Citations	National Heart, Lung and Blood Institute, National Asthma Education and Prevention Program. 2007. *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma.* Full Report.		
Characteristics			
Scoring	Proportion.		
Type	Process.		
Product lines	1. Commercial. 2. Medicaid.		
Stratifications	Age as of the last day of the measurement period. • 5–11 years. • 12–18 years. • 19–50 years. • 51–64 years. Race. Refer to *General Guideline: Race and Ethnicity Stratification*. • American Indian or Alaska Native. • Asian. • Black or African American. Native Hawaiian or Other Pacific Islander. • White. • Some Other Race. • Two or More Races. • Asked But No Answer.		

	• Unknown. Ethnicity. Refer to *General Guideline: Race and Ethnicity Stratification*. • Hispanic or Latino. • Not Hispanic or Latino. • Asked But No Answer. • Unknown.
Risk adjustment	None.
Improvement notation	Increased score indicates improvement.
Guidance	**Data collection methodology:** Administrative. Refer to *General Guideline: Data Collection Methods* for additional information. **Date specificity:** Dates must be specific enough to determine the event occurred in the period being measured. **Which services count?** • Use all paid, suspended, pending and denied claims. • Do not use RxNorm codes when identifying denominator exclusions or assessing the numerator. **Medication list:** If an organization uses both pharmacy data (NDC codes) and clinical data (RxNorm codes) for reporting, and there are both NDC and RxNorm codes on the same date of service, use only one data source for the date of service. This rule is not included in the measure calculation logic, and must be programmed manually.
Definitions	
Oral medication dispensing event	One prescription of an amount lasting 30 days or less. To calculate dispensing events for prescriptions more than 30 days, divide the days supply by 30 and round down to convert. *For example:* A 100-day prescription is equal to three dispensing events (100/30 = 3.33, round down to 3). Allocate the dispensing events to the appropriate year based on the date when the prescription is dispensed. Multiple prescriptions for different medications dispensed on the same day are counted as separate dispensing events. If multiple prescriptions for the same medication are dispensed on the same day, sum the days supply and divide by 30. Use the medication lists to determine if drugs are the same or different. Drugs in different medication lists are considered different drugs.
Inhaler dispensing event	When identifying the initial population, use the definition below to count inhaler dispensing events. All inhalers (i.e., canisters) of the same medication dispensed on the same day count as one dispensing event. Different inhaler medications dispensed on the same day are counted as different dispensing events.

	For example: Three canisters of Medication A and two canisters of Medication B dispensed on the same date counts as two dispensing events. Allocate the dispensing events to the appropriate year based on the date when the prescription was dispensed. Use the medication lists to determine if drugs are the same or different. Drugs in different medication lists are considered different drugs.
Injection dispensing event	Each injection counts as one dispensing event. Multiple dispensed injections of the same or different medications count as separate dispensing events. *For example:* Two injections of Medication A and one injection of Medication B on the same date counts as three dispensing events. Use the medication lists to determine if drugs are the same or different. Drugs in different medication lists are considered different drugs. Allocate the dispensing events to the appropriate year based on the date when the prescription was dispensed.
Units of medication	When identifying medication units for the numerator, count each individual medication, defined as an amount lasting 30 days or less, as one medication unit. One medication unit equals one inhaler canister, one injection, one infusion or an oral medication with a supply of 30 days or less. *For example:* Two inhaler canisters of the same medication dispensed on the same day counts as two medication units and one dispensing event. Use the package size and units columns in the medication lists to determine the number of canisters or injections. Divide the dispensed amount by the package size to determine the number of canisters or injections dispensed. *For example:* If the package size for an inhaled medication is 10 g, and pharmacy data indicate the dispensed amount is 30 g, three inhaler canisters were dispensed.
Initial population	*Measure item count:* Person. *Attribution basis:* Enrollment. • *Benefits:* Medical. Pharmacy during the measurement period. • *Continuous enrollment:* The measurement period and the year prior to the measurement period. • *Allowable gap:* No more than one gap of ≤45 days during each year in the continuous enrollment period. The person must be enrolled on the last day of the measurement period. *Ages:* 5–64 years as of the last day of the measurement period. *Event:* **Step 1.** Identify persons as having persistent asthma who met at least one of the following criteria during both the measurement period and the year prior to the measurement period. Criteria need not be the same across both years. • At least one ED visit or acute inpatient encounter (ED and Acute Inpatient Value Set), with a principal diagnosis of asthma (Asthma Value Set).

	• At least one acute inpatient discharge with a principal diagnosis of asthma (Asthma Value Set) on the discharge claim. To identify an acute inpatient discharge: 1. Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set). 2. Exclude nonacute inpatient stays (Nonacute Inpatient Stay Value Set). 3. Identify the discharge date for the stay. • At least four outpatient visits, telephone visits or e-visits or virtual check-ins (Outpatient and Telehealth Value Set), on different dates of service, with any diagnosis of asthma (Asthma Value Set) and at least two asthma medication dispensing events for any controller or reliever medication. Visit type need not be the same for the four visits. Use all the medication lists in the tables below to identify asthma controller and reliever medications. • At least four asthma medication dispensing events for any controller or reliever medication. Use all the medication lists in the tables below to identify asthma controller and reliever medications. **Step 2.** A person identified as having persistent asthma because of at least four asthma medication dispensing events, where leukotriene modifiers or antibody inhibitors were the sole asthma medication dispensed in that year, must also have at least one diagnosis of asthma (Asthma Value Set*) in the same year as the leukotriene modifier or antibody inhibitor (the measurement period or the year prior to the measurement period). **Coding Guidance** ***Do not include laboratory claims (claims with POS code 81).
Denominator exclusions	**3. Persons with a date of death.** Death in the measurement period, identified using data sources determined by the organization. Method and data sources are subject to review during the HEDIS audit. **4. Persons in hospice or using hospice services.** Persons who use hospice services (Hospice Encounter Value Set; Hospice Intervention Value Set) or elect to use a hospice benefit any time during the measurement period. Organizations that use the Monthly Membership Detail Data File to identify these persons must use only the run date of the file. **5. Persons with a diagnosis that requires a different treatment approach.** Persons with a diagnosis that requires a different treatment approach than members with asthma (Respiratory Diseases With Different Treatment Approaches Than Asthma Value Set*) any time during the person's history through December 31 of the measurement period. **6. Persons who had *no* asthma controller or reliever medications dispensed.** Persons who had no asthma controller or reliever medications (Asthma Controller and Reliever Medications List) dispensed during the measurement period. **Coding Guidance**

<table>
<tr><td></td><td>*Do not include laboratory claims (claims with POS code 81).</td></tr>
<tr><td>Denominator</td><td>The initial population minus denominator exclusions.</td></tr>
<tr><td>Numerator</td><td>
The number of persons who have a medication ratio of ≥0.50 during the measurement period.

Use all the medication lists in the asthma controller medications and asthma reliever medications to identify asthma controller medications.

Drugs in different medication lists are considered different drugs.

For each person:

Step 1. Count the units of asthma controller medications dispensed during the measurement period. Refer to the definition of Units of medication.

Step 2. Count the units of asthma reliever medications dispensed during the measurement period. Refer to the definition of Units of medication.

Step 3. Sum the units calculated in step 1 and step 2 to determine units of total asthma medications.

Step 4. Calculate the ratio of controller medications to total asthma medications using the following formula. Round (using the .5 rule) to the nearest whole number.

$$\frac{\text{Units of Controller Medications (step 1)}}{\text{Units of Total Asthma Medications (step 3)}}$$
Step 5. Sum the total number of persons who have a ratio of ≥0.50 in step 4.

Asthma Controller Medications
<table>
<tr><th>Prescriptions</th><th>Medication Lists</th><th>Route</th></tr>
<tr><td>• Omalizumab</td><td>Omalizumab Medications List</td><td>Injection</td></tr>
<tr><td>• Dupilumab</td><td>Dupilumab Medications List</td><td>Injection</td></tr>
<tr><td>• Benralizumab</td><td>Benralizumab Medications List</td><td>Injection</td></tr>
<tr><td>• Mepolizumab</td><td>Mepolizumab Medications List</td><td>Injection</td></tr>
<tr><td>• Reslizumab</td><td>Reslizumab Medications List</td><td>Injection</td></tr>
<tr><td>• Budesonide-formoterol</td><td>Budesonide Formoterol Medications List</td><td>Inhalation</td></tr>
<tr><td>• Fluticasone-salmeterol</td><td>Fluticasone Salmeterol Medications List</td><td>Inhalation</td></tr>
<tr><td>• Fluticasone-vilanterol</td><td>Fluticasone Vilanterol Medications List</td><td>Inhalation</td></tr>
<tr><td>• Formoterol-mometasone</td><td>Formoterol Mometasone Medications List</td><td>Inhalation</td></tr>
<tr><td>• Beclomethasone</td><td>Beclomethasone Medications List</td><td>Inhalation</td></tr>
<tr><td>• Budesonide</td><td>Budesonide Medications List</td><td>Inhalation</td></tr>
</table>
</td></tr>
</table>

Prescriptions	Medication Lists	Route
• Ciclesonide	Ciclesonide Medications List	Inhalation
• Flunisolide	Flunisolide Medications List	Inhalation
• Fluticasone	Fluticasone Medications List	Inhalation
• Mometasone	Mometasone Medications List	Inhalation
• Montelukast	Montelukast Medications List	Oral
• Zafirlukast	Zafirlukast Medications List	Oral
• Zileuton	Zileuton Medications List	Oral
• Fluticasone furoate-umeclidinium-vilanterol	Fluticasone Furoate Umeclidinium Vilanterol Medications List	Inhalation
• Salmeterol	Salmeterol Medications List	Inhalation
• Tiotropium	Tiotropium Medications List	Inhalation
• Theophylline	Theophylline Medications List	Oral

Asthma Reliever Medications

Prescriptions	Medication Lists	Route
Albuterol-budesonide	Albuterol Budesonide Medications List	Inhalation
Albuterol	Albuterol Medications List	Inhalation
Levalbuterol	Levalbuterol Medications List	Inhalation

Notes:

7. For medications described as "injection," "prefilled syringe," "subcutaneous," "intramuscular" or "auto-injector," map NDCs as "injections" (route).

8. For medications described as "metered dose inhaler," "dry powder inhaler" or "inhalation powder," map NDCs as "inhalation" (route) medications.

9. *Do not map medications described as "nasal spray" to "inhalation" medications.*

Summary of changes	Added instructions on allowable adjustments to the race and ethnicity stratifications.

Data Element Tables

Organizations that submit HEDIS data to NCQA must provide the following data elements.

Table AMR-A-1/2: Data Elements for Asthma Medication Ratio

Metric	Age	Data Element	Reporting Instructions
AsthmaMedicationRatio	5-11	Benefit	Metadata
	12-18	InitialPopulation	For each Stratification
	19-50	Exclusions	For each Stratification
	51-64	NumeratorByAdmin	For each Stratification
	Total	NumeratorBySupplemental	For each Stratification
		Rate	(Percent)

Table AMR-B-1/2: Data Elements for Asthma Medication Ratio: Stratifications by Race

Metric	Race	Data Element	Reporting Instructions
AsthmaMedicationRatio	AmericanIndianOrAlaskaNative	InitialPopulation	For each Stratification
	Asian	Numerator	For each Stratification
	BlackOrAfricanAmerican	Rate	(Percent)
	NativeHawaiianOrOtherPacificIslander		
	White		
	SomeOtherRace		
	TwoOrMoreRaces		
	AskedButNoAnswer		
	Unknown		

Table AMR-C-1/2: Data Elements for Asthma Medication Ratio: Stratifications by Ethnicity

Metric	Ethnicity	Data Element	Reporting Instructions
AsthmaMedicationRatio	HispanicOrLatino	InitialPopulation	For each Stratification
	NotHispanicOrLatino	Numerator	For each Stratification
	AskedButNoAnswer	Rate	(Percent)
	Unknown		

Measure title	Follow-Up After Acute Care Visits for Asthma	**Measure ID**	AAF-E
Description	The percentage of acute urgent care, emergency department (ED) or hospitalizations (inpatient and observation stays) for persons 5-64 years of age with a principal diagnosis of asthma that had a corresponding outpatient follow-up visit within 30 days.		
Measurement period	January 1–December 31.		
Copyright and disclaimer notice	Refer to the complete copyright and disclaimer information at the front of this publication. NCQA website: www.ncqa.org. Submit policy clarification support questions via My NCQA (https://my.ncqa.org).		
Clinical recommendation statement/ rationale	Non-clinical factors (e.g., socioeconomic status, environmental exposures, access to care) can limit individual efficacy in managing chronic conditions such as asthma, leading to an overreliance on acute care instead of preventive care. An accountability mechanism that drives individuals towards non-acute care may help to improve poor and disparate asthma outcomes.		
Citations	McIvor A., Kaplan A. 2020. "A Call to Action for Improving Clinical Outcomes in Patients with Asthma." npj Primary Care Respiratory Medicine 30(54). National Asthma Education and Prevention Program (NAEPP) Coordinating Committee Expert Working Group. 2020. 2020 Focused Updates to the Asthma Management Guidelines. https://www.nhlbi.nih.gov/resources/2020-focused-updatesasthma-management-guidelines Global Initiative for Asthma (GINA). 2024. Global Strategy for Asthma Management and Prevention. https://ginasthma.org/wp-content/uploads/2024/05/GINA-2024-Strategy-Report-24_05_22_WMS.pdf		
Characteristics			
Scoring	Proportion.		
Type	Process.		
Product lines	1. Commercial. 2. Medicaid.		
Stratifications	3. COPD Diagnosis: – Diagnosed with COPD (COPD Value Set)* any time during the person's history through the end of the measurement period. – Not diagnosed with COPD (COPD Value Set)* any time during the person's history through the end of the measurement period.		

	4. Age as of the episode date.

	– 5–11 years. – 12–17 years. – 18–50 years. – 51–64 years. **Coding Guidance** *Do not include laboratory claims (claims with POS code 81).
Risk adjustment	None.
Improvement notation	Increased score indicates improvement.
Guidance	**Data collection methodology:** ECDS. Refer to *General Guideline: Data Collection Methods* for additional information. **Date specificity:** Dates must be specific enough to determine the episode occurred in the period being measured. **Observation Stays.** For observation stays (Observation Stay Value Set) that do not have a recorded admission or discharge date, set the admission date to the earliest date of service on the claim and set the discharge date to the last date of service on the claim. **Which services count?** When using claims, include all paid, suspended, pending and denied claims.
Definitions	
Episode date	The date of service for any acute inpatient discharge, observation stay, ED visit or urgent care visit with a principal diagnosis of asthma. For an acute inpatient discharge or observation stay, the episode date is the date of discharge. For direct transfers, the episode date is the discharge date from the last transfer admission.
Direct transfer	A direct transfer is when the discharge date from the first inpatient setting precedes the admission date to a second inpatient setting by one calendar day or less. For example: • An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 1, is a direct transfer. • An inpatient discharge on June 1, followed by an admission to an inpatient setting on June 2, is a direct transfer. • An inpatient discharge on June 1, followed by an admission to another inpatient setting on June 3, is not a direct transfer; these are two distinct inpatient stays. Direct transfers may occur from and between different facilities and between acute inpatient and observation or between observation and acute inpatient.

	Use the following method to identify admissions to and discharges from inpatient settings. 1. Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set) and observation stays (Observation Stay Value Set). 2. Exclude nonacute inpatient stays (Nonacute Inpatient Stay Value Set). 3. Identify the admission and discharge date for the stay.
Initial population	*Measure item count:* Episode. *Attribution basis:* Enrollment. • *Benefits:* Medical. • *Continuous enrollment:* Episode date through 30 days after episode date (31 total days). • *Allowable gap:* None. *Ages:* 5–64 years as of the episode date. *Event:* **Acute visits for asthma from January 1–December 1 of the measurement period.** Include the following: **Step 1.** Identify all persons with any of the following between January 1 and December 1 of the measurement period: • ED visits (ED Value Set) with a principal diagnosis of asthma (Asthma Updated Value Set). • Urgent care visits (Outpatient Value Set ***with*** POS code 20) with a principal diagnosis of asthma (Asthma Updated Value Set). • Acute inpatient or observation discharges with a principal diagnosis of asthma (Asthma Updated Value Set) on the discharge claim. To identify an acute inpatient or observation discharge: 1. Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set) and observation stays (Observation Stay Value Set). 2. Exclude nonacute inpatient stays (Nonacute Inpatient Stay Value Set). 3. Identify the discharge date for the stay. **Step 2.** Exclude ED and urgent care visits that result in an inpatient or observation stay. Exclude ED or urgent care visits followed by admission to an acute inpatient care setting on the date of the ED or urgent care visit or within the 30 days after the ED or urgent care visit (31 total days), providing that the inpatient or observation stay discharge has a principal diagnosis of asthma. Only the inpatient or observation stay visit should be counted. Use the discharge date of the inpatient or observation stay to determine follow-up.

	Step 3. Test for direct transfers. For discharges with one or more direct transfers, use the last discharge. Using the discharges identified in step 1, identify direct transfers using the Direct Transfers definition above. Exclude the episode if the direct transfer's discharge date occurs after December 1 of the measurement period. ***Note:*** *For acute inpatient or observation stays where there was a direct transfer, use the original stay and any direct transfer stays to identify eligible episode dates in this step.* **Step 4.** Multiple episodes within a 30-day period. If a person has more than one acute visit between January 1 and December 1 of the measurement period, identify all eligible acute, ED or urgent care visits between January 1 and December 1 of the measurement period and only include the first visit in each 30-day period. *For example,* if a person has an eligible acute visit on January 1, include the January 1 visit and do not include eligible acute visits that occur on or between January 2 and January 31; then, if applicable, include the next eligible acute visit that occurs on or after February 1. Identify visits chronologically, including only the first visit in each 30-day period. ***Note:*** *Removal of multiple episodes in a 30-day period is based on eligible episode dates. Assess each episode for eligibility before removing multiple episodes in a 30-day period.*
Denominator exclusions	**5. Persons with a date of death.** Death in the measurement period, identified using data sources determined by the organization. Method and data sources are subject to review during the HEDIS audit. **6. Persons in hospice or using hospice services.** Persons who use hospice services (Hospice Encounter Value Set; Hospice Intervention Value Set) or elect to use a hospice benefit any time during the measurement period. Organizations that use the Monthly Membership Detail Data File to identify these persons must use only the run date of the file. **7. Persons with a diagnosis that requires a different treatment approach.** Persons with a diagnosis that requires a different treatment approach than members with asthma (Acute Respiratory Failure Value Set; Emphysema Value Set; Cystic Fibrosis Value Set)* at any time in the person's history through the last day of the measurement period. **Coding Guidance** *Do not include laboratory claims (claims with POS code 81).
Denominator	The initial population minus denominator exclusions.
Numerator	**A follow-up visit within 30 days after the episode. Do not include follow-up visits that occur on the same day as the episode.** An outpatient visit, telephone visit, e-visits and virtual check-ins (Outpatient and Telehealth Value Set) without POS code 20 within **30** days.

Summary of changes	8. This is a first-year measure.
Data Element Tables	Organizations that submit HEDIS data to NCQA must provide the following data elements.

Table AAF-E-1/2: Data Elements for Follow-Up After Acute Care Visits for Asthma

Metric	Age	Diagnosis	Data Element	Reporting Instructions
FollowUpVisit	5-11	COPDDiagnosed	InitialPopulation	Metadata
	12-17	COPDNotDiagnosed	Exclusions	For each Stratification
	18-50		Denominator	For each Stratification
	51-64		Numerator	For each Stratification
	Total		Rate	(Percent)

Asthma Health Care Measurement
Measure Workup

Topic Overview

Asthma is a complex, chronic disease occurring in all ages, with episodic exacerbations. Improperly managed, it is associated with high costs and poor quality of life. In 2021, 6.5% of children and 8% of adults in the United States had asthma; the disease was responsible for 3,517 deaths (Centers for Disease Control and Prevention 2023). The health consequences of uncontrolled asthma were expected to amount to 15.46 million quality adjusted life-years lost and $300.6B in direct costs between 2019 and 2038, with per capita costs ranging from $2,209 to $6,132 (Yaghoubi et al. 2019). These figures have a disparate impact across racial groups, socioeconomic status and area of residence in terms of disease burden, rates of exacerbation and access to adequate treatment.

Successful asthma management is typically associated with a preventive model of care (Wu, Brigham, and McCormack 2019). For optimal asthma management and control, experts emphasize the importance of minimizing symptom burden and risk of exacerbations using anti-inflammatory agents and bronchodilation drug therapy. Key elements for optimizing care and improving outcomes for severe asthma include pharmacological interventions, identifying and referring patients with suspected severe asthma, personalized assessment and management of asthma symptoms, and shared decision making between clinicians and patients (Haughney et al. 2020).

Current Approaches to Asthma Diagnosis and Classification

The most recent clinical guideline for asthma diagnosis and classification relevant to NCQA measure development efforts are the 2024 Global Initiative on Asthma (GINA) guidelines, whose definition of asthma reflects an approach to diagnosis that combines a history of typical variable respiratory symptoms with confirmation via variable expiratory airflow limitation. The *2020 Focused Updates to the Asthma Management Guidelines,* produced by the National Asthma Education and Prevention Program (NAEPP), echo this approach (National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020).

After an asthma diagnosis is made, tailored asthma treatment regimens necessitate identifying precise asthma classifications (or “phenotypes”). 2024 GINA and 2020 NAEPP guidelines identify two main components of asthma classifications: “asthma control” and “asthma severity”(Global Initiative for Asthma 2024; National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020). Although both sets of guidelines align in terms of asthma control, the 2024 GINA guidelines provide a more standardized framework for identifying asthma severity: Asthma severity reflects the intensity of treatment required to control symptoms and exacerbation after 2–3 months. Per both guidelines, asthma control reflects the extent to which the features of asthma can be observed in the patient, or have been reduced or removed by treatment, and is characterized by symptom control and risk of adverse outcomes.

Diagnosis

According to 2024 GINA and 2020 NAEPP guidelines, the first step of accurate asthma diagnosis in adults, adolescents and children 6–11 years presenting in clinical practice is to collect information on a patient’s current/historic presentation of chronic or recurrent respiratory symptoms (wheeze, shortness of breath, chest tightness, cough). Symptoms that occur variably over time, vary in intensity, are worse at night/on waking, triggered by exercise, laughter, allergens, cold air or that appear/worsen with viral infections support an asthma diagnosis (Global Initiative for Asthma 2024; National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020).

If a history/examination supports an asthma diagnosis, the next step is lung function testing to assess variable expiratory airflow limitation before and after a

bronchodilator is administered (Global Initiative for Asthma 2024; National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020).* Although current clinical guidelines and recent literature consistently support spirometry as a preferred diagnostic tool for this component of care, NAEPP guidelines note that fractional exhaled nitric oxide (FeNO) testing may be a useful alternative when spirometry is unavailable (National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020). Although GINA guidelines acknowledge the data supporting this recommendation, they cite concerns about testing specificity (Global Initiative for Asthma 2024). 2024 GINA guidelines deviate from recent NAEPP guidelines to endorse peak expiratory flow (PEF) as a less reliable, but suitable, alternative to spirometry testing when the latter is unavailable.

Per both guidelines, significant/frequent variations between baseline lung function test results and post-bronchodilation lung function test results indicate more confident asthma diagnoses. If results are initially negative, GINA recommends repeating the tests while symptoms are present and/or in the early morning (Global Initiative for Asthma 2024). To increase confidence of a diagnosis, both recent guidelines recommend repeating symptom assessment and lung function testing periodically, and more frequently in pediatric populations (Global Initiative for Asthma 2024; National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020). In the event of complex asthma presentations, 2024 GINA guidelines recommend using additional, more specialized diagnostic evaluations.

Classification: Control

2024 GINA guidelines recommend classifying asthma as well-controlled, partly controlled or uncontrolled. Per both GINA and NAEPP, these classifications are informed by 1.) recent asthma symptoms (over the past 4 weeks); and 2.) risk factors for poor asthma outcomes, asthma exacerbations, persistent airflow limitation and medication side-effects (Global Initiative for Asthma 2024; National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020). Both guidelines recommend assessing asthma control frequently (during all visits, routine prescribing encounters and dispensing encounters).

Assessing recent asthma symptoms can be completed using questionnaires, tools and clinical interviews. In pediatric populations, these should be completed jointly with pediatric patients and their parents/caregivers. Although asthma symptoms are a strong predictor of future exacerbation risk, subjective and confounding patient self-reporting necessitates more objective approaches to identify risk factors. An example of this approach can be found in Part B of the *GINA Assessment of Asthma Control* (Global Initiative for Asthma 2024). In addition to routinely assessing functional expiratory volume (FEV1) and uncontrolled asthma symptoms/exacerbations, providers managing asthma should monitor medication use, comorbidities/medical history, psychosocial stressors, toxin exposures and type 2 inflammatory markers to build a comprehensive assessment of a patient's risk.

Classification: Severity

The 2020 NAEPP guidelines stratify asthma severity as either intermittent or persistent (National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020). The 2024 GINA guidelines state that this distinction is largely arbitrary, with problematic implications for asthma treatment approaches (Global Initiative for Asthma 2024). GINA uses an

* If the patient is experiencing severely uncontrolled symptoms/signs, this is likely indicative of an asthma exacerbation. 2024 GINA guidelines recommend treating asthma exacerbations as soon as clinically feasible (i.e., before lung function testing occurs).

updated concept of asthma severity that relies on a retrospective assessment of how difficult an individual's asthma is to treat, while acknowledging that additional work is necessary to develop a more precise framework.

Based on the most recent clinical guidelines available (GINA 2024), severe asthma is asthma that remains uncontrolled despite optimized treatment (Global Initiative for Asthma 2024), in contrast to asthma that is uncontrolled because of inadequate treatment (e.g., improper inhaler technique, poor adherence, environmental exposures). The first step of assessing asthma severity is to distinguish asthma symptoms resulting from inadequate/inappropriate treatments, adherence or relevant comorbidities, and then stratifying severity as follows:

Severe asthma: Remains uncontrolled despite optimized treatment with high-dose ICS-LABA, or that requires high-dose ICS-LABA to prevent it from becoming uncontrolled.

Moderate asthma: Well-controlled with low- or medium-dose ICS LABA.

Mild asthma: Well-controlled with low-intensity treatment (low-dose as-needed ICS-formoterol, or low-dose ICS plus as-needed SABA.

Per both GINA and NAEPP guidelines, asthma severity should be reassessed after 2–3 months of treatment and periodically thereafter (Global Initiative for Asthma 2024; National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020).

Current Approaches to Asthma Management

Most asthma can be adequately diagnosed and managed in primary care settings, where providers can develop asthma care plans, assign treatments and consistently monitor symptoms (Wu, Brigham, and McCormack 2019). Although non-emergent outpatient settings are better suited for the longitudinal approach to asthma care, recent research underscores that provider shortages and health access disparities can pose barriers to accessing these settings. Asthma is shown to be managed less effectively in alternative settings such as ED, urgent care and acute care, where a longitudinal, preventive approach to care is less common. In any setting, personalized interventions and shared decision-making practices are shown to be effective in reducing exacerbations and improving outcomes (Haughney et al. 2020).

The following factors are also critical to developing a complete understanding of asthma management:

1. Use of a stepped treatment framework.
2. Maintenance and Reliever Therapy (MART).
3. Emerging pharmacological treatments.
4. Avoidance of exposures and associations that make patient's asthma more difficult to manage/ treat.
5. Quality improvement initiatives that support best practices.
6. Proper adherence to treatment plans.

Stepped treatment

A "stepped treatment" framework allows clinicians to tailor asthma management strategies to an individual's level of asthma control and severity. GINA 2024 guidelines reflect the most up-to-date edition of this framework (Global Initiative for Asthma 2024). Although the framework in the NAEPP 2020 guidelines largely align with the GINA 2024 version, the latter reflects recent research and thought leadership on asthma control and severity and emerging asthma treatment strategies (Global Initiative for Asthma 2024; National Asthma Education and

Prevention Program Coordinating Committee Expert Panel Working Group 2020).

Per either major guideline, stepped treatment can provide tailored care various points in care. It requires close monitoring of symptoms and modifications to treatment regimens, stepping up if a higher degree of care is required and stepping down if asthma is stable and well managed, until the appropriate medication and dosage are achieved (Global Initiative for Asthma 2024). GINA guidelines detail the steps and appropriate medication regimen for individuals 0–5 years of age, 6–11 years of age and 12+ years of age.

Inhaled corticosteroids (ICS) are a recommended treatment across steps and age groups; controller medications are recommended for steps 3–5. Other controller medications recommended for the highest steps include long-acting antimuscarinic antagonist tiotropium (steps 4–5, patients ≥12 years of age), anti-immunoglobulin E (step 5, patients ≥6 years of age), interleukin-5 antibodies (step 5, ≥12 years of age) and, in some cases, tiotropium. In severe cases, oral corticosteroids may be provided for symptom relief, although both guidelines recommend limiting oral steroid exposure, given the long-term health consequences associated with overuse (Global Initiative for Asthma 2024; National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group 2020).

Stepping down (to a more preventive, less reactive approach) is not frequently implemented, despite evidence of potential effective symptom management and cost reduction (Bernstein and Mansfield 2019; Dilokthornsakul, Thompson, and Campbell 2019). This approach may benefit from increased adoption and refinement, especially in conjunction with patient education and asthma action plans.

MART

The updated 2020 NAEPP and 2024 GINA guidelines include MART as a treatment option for individuals with moderate to severe persistent asthma. MART is a combination medication that includes a controller (ICS) and a reliever (LABA) dispensed in the same inhaler (Global Initiative for Asthma 2024). Patients use the inhaler daily for maintenance and as needed to relieve asthma symptoms. This therapy simplifies asthma management and is available to children (Allergy & Asthma Network, n.d.). MART also aligns with medications recommended for steps 3 and 4 of the GINA guidelines for children 6–11 years of age (Global Initiative for Asthma 2024). Barriers to MART therapy include the need for prior authorization, quantity limits, age limits, step therapy and cost sharing. As of April 2023, the American Lung Association noted that 45 states covered both MART medications in all Medicaid plans, but financial barriers continued to prevent widespread uptake of MART (American Lung Association, n.d.).

Emerging pharmacological treatments

Although intermittent/as needed use of inhaled corticosteroids, with oral corticosteroids only used for severe exacerbations, is the recommended treatment course for less severe forms of asthma, expert consensus cautions the use of oral corticosteroids, given strong associations with the onset of adverse outcomes. A 2021 study published in JAMA found that oral corticosteroid bursts were associated with increased risk of GI bleeding, sepsis and pneumonia in children within the first month of initiating corticosteroid therapy (Yao et al. 2021). Similar results were found in a study population of pregnant women (Tsai et al. 2023).

The safety of short acting beta agonists is controversial. Many studies find that ICS-based treatment with use of short acting beta antagonists (SABA) is a safe and effective course of treatment, and escalating ICS dosage or adding LABAs

results in better symptom control and fewer exacerbations (Al-Turki et al. 2020; Amirav et al. 2023). Recent research also indicates an association between increased use of SABA and deterioration of asthma control and potential increases in exacerbation risk (Lugogo et al. 2021).

Research supports new approaches to phenotyping asthma and targeting the disease with cost-effective biologic treatments for eosinophilic asthma. Summaries of new asthma pharmaceutical treatments concluded: 1.) Dupilumab is associated with decreased exacerbations and improved quality of life; 2.) Benralizumab significantly reduces exacerbations and improves lung function; 3.) Reslizumab, though not cost-effective, and inconvenient due to intravenous delivery, decreases asthma exacerbations, with an advantage in obese patients; 4.) Mepolizumab reduces systemic steroid doses and results in significantly fewer asthma exacerbations; 5.) Omalizumab substantially reduces exacerbations and ICS dosage needed for symptom control (Chupp, Kaur, and Mainardi 2020).

Exposures and associations

Social/physical comorbidities and environmental exposures can exacerbate asthma and make the condition more difficult to manage. Research consistently links exposure to local air pollution and social stressors with more severe asthma outcomes. Obesity, acute rhinosinusitis exacerbations and non-exclusive breastfeeding in newborns are less frequently cited as drivers of severe asthma but seem to have an impact as well.

High particulate matter (PM) concentrations near an individual's residence are significantly associated with asthma episodes and ER visits (Altman et al. 2023; Connor and Zablotsky 2022; Cook 2020). Tobacco smoke exposure is a notable driver of asthma exacerbations as well. Asthma attacks are significantly more common among males with environmental tobacco smoke exposure and among current smokers, and secondhand smoke is associated with both higher odds of asthma exacerbation and higher odds of asthma development in children (Becerra, Arias, and Becerra 2022; Johansson et al. 2021; Neophytou et al. 2018). The small observed variation in these findings can be explained by the modifying effect that lifestyle, genetic differences and area of residence have on the association between air pollutants and asthma severity (Lovinsky-Desir et al. 2019; Zhu et al. 2023).

Social stressors are another significant associate of asthma severity. Multiple variations of chronic psychosocial stress (e.g., adverse childhood experiences, racism, poverty, peer pressure) are associated with adverse asthma outcomes (Barnthouse and Jones 2019; Miadich et al. 2020).

Quality improvement initiatives

Research regarding quality improvement (QI) efforts provides evidence for implementing diagnostic or treatment decision support tools, promoting better adherence to guidelines and capturing care quality through measures.

A study examining the effects of the Enhancing Care for Patients with Asthma (ECPA) collaborative QI program (implemented in 65 community health centers serving asthma patients) found favorable effects on asthma severity, asthma control tests, pulmonary function tests, asthma action plans and controller medications (Rojanasarot et al. 2019). The program implemented efficient workflows, clinical care decision support within EHRs, tools for patient self-management and resources for community members.

Electronic asthma decision support tools incorporating National Heart, Lung and Blood Institute (NHLBI) guidelines for identifying asthma severity can improve the precision of asthma classification and guideline adherence (Shukla et al.

2022).

Other examples included a QI intervention effective at reducing hospitalizations and urgent care visits for children with persistent asthma. Interventions include identifying patients with persistent asthma, contacting patients who were overdue for care and referring to specialist care (Lou et al. 2021). QI programs are important for uptake and continued implementation of care aligned with guidelines; research demonstrates that the end of a pediatric QI initiative can be associated with declines in guideline adherence (Schechter et al. 2021).

Quality measures are crucial tools for QI programs, but a systematic review identifying existing self-reported asthma measures for adolescents concluded that current measures for assessing self-management are limited, and there is a need to develop valid and reliable measures that would identify essential components for asthma management (Isik et al. 2023). Appendix A lists existing asthma care measures as of March 2024.

Adherence to treatment plans

Recent research underscores that non-adherence to asthma controller medication regimens drives poor clinical and economic outcomes for patients living with asthma. Although factors such as ethnicity and food security are associated with treatment adherence, consistent communication and planning between patients, caregivers and physicians is a much stronger driver of adherence.

When used consistently, ICS is an effective asthma treatment option. Patients with asthma can reduce their use of reliever medications, asthma-related ED visits and asthma-related hospitalizations (Averell et al. 2022; Dima et al. 2019). In contrast, structural barriers that prevent patient education on medication use, misinterpreted treatment plans or medication misuse can inhibit ICS treatment adherence, causing patients to experience a greater disease burden and more severe asthma exacerbations (Averell et al. 2021; Kocks et al. 2018; Roche et al. 2022).

Patient-centered approaches that engage individuals with treatment regimens are effective at reducing non-adherence. Inhaler error, a common form of asthma medication misuse, can be mitigated by feedback from health professionals on inhaler technique (Sulaiman et al. 2018). Personalized interventions such as asthma action plans are similarly impactful. In a 2021 study, Makhinova et al. found that 76.6% of patients with poor asthma medication adherence did not have an asthma action plan (AAP), while 81.5% of patients with good adherence did have an AAP (Makhinova et al. 2021).

Both inhaler techniques and AAPs can be developed through good communication and shared decision-making practices between physicians, patients and caregivers. Communication improves patient/caregiver knowledge bases and confidence in medication use, and sets expectations for treatment regimens (Amin et al. 2020; Kan et al. 2021; Sleath et al. 2019). Shared decision-making practices and managed care models can also be effective, ensuring that medication courses and AAPs account for patient beliefs and preferences, and are informed by the psychosocial dynamics inherent to a patient's life (Booster, Oland, and Bender 2019; Gelzer et al. 2019; George and Bender 2019).

Health Disparities in Asthma Severity and Prevalence

Current evidence suggests that certain racial groups—particularly Black individuals—experience worse disease burdens than others. This finding aligns with other socioeconomic disparities tied to asthma control, most notably including areas of residence, socioeconomic status and access to care. Although

asthma disparities also exist between disabled and non-disabled individuals (in terms of severity), and between LGBTQIA+ individuals and cisgender/heterosexual individuals (in terms of prevalence), most research focused on the association between racial/structural disparities and disparate asthma outcomes in the U.S.

Racial disparities

In studies where presence of asthma symptoms/diagnoses were stratified by race, Black individuals were consistently more likely to experience disease burden than White individuals (Forno, Ortega, and Celedón 2023; Pate et al. 2023; Siegel et al. 2023). Latinx individuals seem to bear a portion of the prevalence burden as well, although to a lesser degree than Black individuals (Perez and Coutinho 2021; Siañez et al. 2019). There are also racial/ethnic disparities in terms of asthma severity and control. Non-Hispanic Black and Hispanic individuals represent the majority of patients experiencing asthma exacerbations in almost all cohort/population-based studies reviewed, and demonstrate that Black individuals bear a greater burden of asthma severity than their Hispanic peers (Lee et al. 2020; Puvvula et al. 2023; Trent et al. 2018; Urquhart and Clarke 2020; Washington et al. 2018).

Institutional underpinnings

Discussions of these disparities often draw ties to institutional factors. Multiple studies indicated that higher levels of structural racism are significantly associated with greater racial disparities in asthma mortality (Adejare et al. 2022; Espaillat, Hernandez, and Burbank 2023; Martinez and Thakur 2023; Siegel and Wiklund 2023). Research on disparities in asthma outcomes focuses on:

- Area of residence/housing and asthma prevalence/severity.
- Insurance status/access to care and asthma severity.
- Income and asthma prevalence/severity.
- Other social risk factors and asthma prevalence.

The links between insurance status, income and other social risk factors with asthma outcomes is also associated with race (Abbott et al. 2023; Buelo et al. 2018; Bukstein et al. 2022; Pate et al. 2020). This aligns with multiple sources that cite the tendency for decreased access to care, economic disenfranchisement and a higher volume of social risk factors to act as barriers to better health.

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Appendix A: Existing Measures Assessing Asthma Outcomes & Management

Steward	Measure Name	Measure Description	Level of Accountability	Use in Programs
AHRQ	PDI #14—Asthma Inpatient Admission Rate	Admissions with a principal diagnosis of asthma per 100,000 population 2-17 years of age	Population	n/a
AHRQ	PQI #15—Asthma in Younger Adults Admission Rate	Admissions with a principal diagnosis of asthma per 100,000 population 18-39 years of age	Population	n/a
Health Management Information System (HMIS)	#3890—Optimal Asthma Control	Composite outcome measure evaluating if patients report good asthma control on a validated test based on the age of the patient and if patients report fewer than two ED visits or one hospitalization in the measurement period	Provider	MIPS
IMPAQ International	Timely Follow-Up After Acute Exacerbations of Chronic Conditions (NQF 3455)	The percentage of emergency department visits, observation stays and inpatient admissions for exacerbations of 6 chronic conditions where a patient received follow-up within time frames recommended by clinical practices. The asthma indicator assesses follow-up within 14 days.	Health Plan	n/a
NCQA	Asthma Medication Ratio (AMR)	The percentage of members 5-64 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications (controllers plus relievers) ≥0.5 during the measurement year (higher is better).	Health Plan	Medicaid Core Set

HEDIS Health Plan Performance Rates: Asthma Medication Ratio

Table 1. HEDIS AMR Measure Performance—Medicaid Plans

Measurement Year	Total Number of Plans (N)	Number of Plans Reporting (N (%))	Age	Performance Rates (%)						
				Mean	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
2023*	278	221 (79.5)	5-11	72.8	11.3	59.1	66.2	74.1	80.6	85.7
	278	220 (79.1)	12-18	68.0	9.9	54.8	61.4	68.4	74.6	79.4
	278	235 (84.5)	19-50	62.1	9.5	49.7	55.5	62.4	68.5	72.7
	278	215 (77.3)	51-64	64.1	10.6	51.0	57.1	62.7	71.1	76.7
	278	**253 (91.0)**	**Total**	**66.0**	**9.3**	**54.6**	**59.5**	**66.2**	**72.2**	**76.7**
2022	272	214 (78.7)	5-11	75.2	9.0	63.9	69.3	75.7	81.3	85.3
	272	216 (79.4)	12-18	69.1	9.3	58.1	63.5	69.3	73.8	80.6
	272	232 (85.3)	19-50	60.4	8.7	50.4	54.4	59.7	66.0	70.6
	272	210 (77.2)	51-64	62.4	8.9	51.6	56.3	62.3	68.3	73.9
	272	**243 (89.3)**	**Total**	**65.5**	**8.7**	**55.1**	**58.9**	**65.6**	**70.8**	**75.9**
2021	270	214 (79.3)	5-11	76.7	7.2	67.9	71.9	77.5	81.3	84.5
	270	217 (80.4)	12-18	69.2	8.1	59.5	64.9	69.3	73.5	77.8
	270	235 (87.0)	19-50	58.3	8.0	48.8	53.5	58.3	62.5	66.8
	270	205 (75.9)	51-64	59.6	8.7	48.6	53.9	58.8	64.3	70.3
	270	**247 (91.5)**	**Total**	**65.0**	**8.2**	**54.6**	**59.9**	**64.3**	**69.7**	**74.3**

*For 2023 the average denominator across plans for the Total rate was 2,630 individuals, with a standard deviation of 3,250.

Table 2. HEDIS AMR Measure Performance—Commercial Plans

Measurement Year	Total Number of Plans (N)	Number of Plans Reporting (N (%))	Age	Performance Rates (%)						
				Mean	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
2023*	420	210 (50.0)	5-11	88.0	6.7	79.5	84.7	88.8	92.9	95.1
	420	210 (50.0)	12-18	83.5	6.8	74.9	79.6	84.1	88.4	91.3
	420	363 (86.4)	19-50	81.6	7.4	71.8	76.9	82.7	86.2	90.1
	420	349 (83.1)	51-64	85.6	5.9	77.5	82.2	86.3	89.8	92.4
	420	**388 (92.4)**	**Total**	**83.6**	**6.5**	**75.1**	**79.8**	**84.3**	**87.9**	**91.0**
2022	417	207 (49.6)	5-11	90.1	5.9	84.0	87.2	90.6	94.1	96.4
	417	213 (51.1)	12-18	84.5	6.2	76.2	80.4	85.3	88.3	91.8
	417	363 (87.1)	19-50	81.9	6.5	73.3	78.2	82.1	86.2	89.6
	417	354 (84.9)	51-64	86.1	5.2	79.6	83.0	86.2	89.9	92.4
	417	**390 (93.5)**	**Total**	**84.2**	**5.8**	**77.5**	**81.1**	**84.3**	**87.8**	**90.6**
2021	419	217 (51.8)	5-11	90.2	6.1	83.3	87.8	91.4	94.5	96.1
	419	231 (55.1)	12-18	83.3	5.7	75.7	80.0	83.7	87.2	90.1
	419	378 (90.2)	19-50	79.3	6.2	72.0	76.1	80.1	83.3	87.0
	419	368 (87.8)	51-64	84.4	5.5	77.5	81.2	85.1	88.3	90.5
	419	**398 (95.0)**	**Total**	**81.9**	**5.8**	**75.1**	**79.3**	**82.7**	**85.3**	**88.3**

*For 2023, the average denominator across plans for the Total rate was 1,322 individuals, with a standard deviation of 2,705.