

Controlling High Blood Pressure

Measure Information

General eCQM Information	
Title	Controlling High Blood Pressure
CMS eCQM ID	CMS165v13
CBE ID*	Not Applicable
MIPS Quality ID	236
Measure Steward	National Committee for Quality Assurance
Description	Percentage of patients 18-85 years of age who had a diagnosis of essential hypertension starting before and continuing into, or starting during the first six months of the measurement period, and whose most recent blood pressure was adequately controlled (<140/90 mmHg) during the measurement period
Measure Scoring	Proportion measure
Measure Type	Intermediate Clinical Outcome
Stratification	None
Risk Adjustment	None
Rationale	High blood pressure (HBP), also known as hypertension, is when the pressure in blood vessels is higher than normal (Centers for Disease Control and Prevention [CDC], 2023). The causes of hypertension are multiple and multifaceted and can be based on genetic predisposition, environmental risk factors, being overweight and obese, sodium intake, potassium intake, physical activity, and alcohol use. High blood pressure is common; according to the American Heart Association, between 2013-2016, approximately 121.5 million US adults ≥ 20 years of age had HBP and the prevalence of hypertension among US adults 65 and older was 77.0 percent (Virani et al., 2021). In an analysis of adults with hypertension in National Health and Nutrition Examination Survey (NHANES), the estimated age-adjusted proportion with controlled blood pressure (BP) increased from 31.8 percent in 1999 to 53.8 percent in 2014. However, that proportion declined to 43.7 percent in 2017 to 2018 (Tsao et al., 2022). HBP increases risks of heart disease and stroke which are two of the leading causes of death in the US (CDC, 2023). A person who has HBP is four times more likely to

	die from a stroke and three times more likely to die from heart disease (CDC, 2021). The National Center for Health Statistics reported that in 2020 there were over 670,000 deaths with HBP as a primary or contributing cause (CDC, 2022). Between 2009 and 2019 the number of deaths due to HBP rose by 65.3 percent (Tsao et al., 2022). Managing and treating HBP would reduce cardiovascular disease mortality for males and females by 30.4 percent and 38.0 percent, respectively (Patel et al., 2015). Age-adjusted death rates attributable to HBP in 2019 were more than twice as high in non-Hispanic Black males (56.7 percent) when compared to rates for non-Hispanic White males (25.7 percent) (Tsao et al., 2022). HBP costs the U.S. approximately 131 billion dollars each year, averaged over 12 years from 2003 to 2014 (Kirkland et al., 2018). A study on cost-effectiveness on treating hypertension found that controlling HBP in patients with cardiovascular disease and systolic blood pressures (SBP) of ≥ 160 mmHg could be effective and cost-saving (Moran et al., 2015). Many studies have shown that controlling high blood pressure reduces cardiovascular events and mortality. The Systolic Blood Pressure Intervention Trial (SPRINT) investigated the impact of obtaining a SBP goal of <120 mmHg compared to a SBP goal of <140 mmHg among patients 50 and older with established cardiovascular disease and found that the patients with the former goal had reduced cardiovascular events and mortality (SPRINT Research Group et al., 2015). Controlling HBP will significantly reduce the risks of cardiovascular disease mortality and lead to better health outcomes like reduction of heart attacks, stroke, and kidney disease (James et al., 2014). Thus, the relationship between the measure (control of hypertension) and the long-term clinical outcomes listed is well established.
Clinical Recommendation Statement	U.S. Preventive Services Task Force (USPSTF) (2021): • The USPSTF recommends screening for hypertension in adults 18 years or older with office blood pressure measurement (OBPM). The USPSTF recommends obtaining blood pressure measurements outside of the clinical setting for diagnostic confirmation before starting treatment. This is a grade A recommendation. American College of Cardiology/American Heart Association (2017): • For adults with confirmed hypertension and known cardiovascular disease (CVD) or 10-year atherosclerotic cardiovascular disease (ASCVD) event risk of 10 percent or higher, a blood pressure target of less than 130/80 mmHg is recommended (Level of evidence: B-R (for systolic blood pressures), Level of evidence: C-EO (for diastolic blood pressure)) • For adults with confirmed hypertension, without additional markers of increased CVD risk, a blood pressure target of less than 130/80 mmHg may be reasonable (Note: clinical trial evidence is strongest for a target blood

	pressure of 140/90 mmHg in this population. However, observational studies suggest that these individuals often have a high lifetime risk and would benefit from blood pressure control earlier in life) (Level of evidence: B-NR (for systolic blood pressure), Level of evidence: C-EO (for diastolic blood pressure)). American Academy of Family Physicians (2022): • Treat adults who have hypertension to a standard blood pressure target (less than 140/90 mm Hg) to reduce the risk of all-cause and cardiovascular mortality (strong recommendation; high-quality evidence). Treating to a lower blood pressure target (less than 135/85 mm Hg) does not provide additional benefit at preventing mortality; however, a lower blood pressure target could be considered based on patient preferences and values. (Grade: strong recommendation, Quality of evidence: high) • Consider treating adults who have hypertension to a lower blood pressure target (less than 135/85 mm Hg) to reduce risk of myocardial infarction (weak recommendation; moderate-quality evidence). Although treatment to a standard blood pressure target (less than 140/90 mm Hg) reduced the risk of myocardial infarction, there was a small additional benefit observed with a lower blood pressure target. There was no observed additional benefit in preventing stroke with the lower blood pressure target. (Grade: weak recommendation, Quality of evidence: low) American Diabetes Association (2022): • For individuals with diabetes and hypertension at higher cardiovascular risk (existing atherosclerotic cardiovascular disease or 10-year atherosclerotic cardiovascular disease risk ≥ 15 percent), a blood pressure target of $<130/80$ mmHg may be appropriate, if it can be safely attained (Level of evidence: B) • For individuals with diabetes and hypertension at lower risk for cardiovascular disease (10-year atherosclerotic cardiovascular disease risk <15 percent), treat to a blood pressure target of $<140/90$ mmHg (Level of evidence: A)
Improvement Notation	Higher score indicates better quality
Definition	None
Guidance	In reference to the numerator element, only blood pressure readings performed by a clinician or an automated blood pressure monitor or device are acceptable for numerator compliance with this measure. This includes blood pressures taken in person by a clinician and blood pressures measured remotely by electronic monitoring devices capable of transmitting the blood pressure data to the clinician. Blood pressure readings taken by an automated blood pressure monitor or device and conveyed by the patient to the clinician are also acceptable. It is the clinician's

	responsibility and discretion to confirm the automated blood pressure monitor or device used to obtain the blood pressure is considered acceptable and reliable and whether the blood pressure reading is considered accurate before documenting it in the patient's medical record. Do not include BP readings taken during an acute inpatient stay or an emergency department (ED) visit. If no blood pressure is recorded during the measurement period, the patient's blood pressure is assumed "not controlled". If there are multiple blood pressure readings on the same day, use the lowest systolic and the lowest diastolic reading as the most recent blood pressure reading. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result for both the systolic and diastolic BP reading is required for numerator compliance. This eCQM is a patient-based measure. This version of the eCQM uses QDM version 5.6. Please refer to the QDM page for more information on the QDM.
Initial Population	Patients 18-85 years of age by the end of the measurement period who had a visit during the measurement period and diagnosis of essential hypertension starting before and continuing into, or starting during the first six months of the measurement period
Denominator	Equals Initial Population
Denominator Exclusions	Exclude patients who are in hospice care for any part of the measurement period. Patients with evidence of end stage renal disease (ESRD), dialysis or renal transplant before or during the measurement period. Also exclude patients with a diagnosis of pregnancy during the measurement period. Exclude patients 66-80 by the end of the measurement period with an indication of frailty for any part of the measurement period who also meet any of the following advanced illness criteria: • Advanced illness diagnosis during the measurement period or the year prior • OR taking dementia medications during the measurement period or the year prior Exclude patients 81 and older by the end of the measurement period with an indication of frailty for any part of the measurement period. Exclude patients 66 and older by the end of the measurement period who are living long term in a nursing home any time on or before the end of the measurement period.

	Exclude patients receiving palliative care for any part of the measurement period.
Numerator	Patients whose most recent blood pressure is adequately controlled (systolic blood pressure < 140 mmHg and diastolic blood pressure < 90 mmHg) during the measurement period
Numerator Exclusions	Not Applicable
Denominator Exceptions	None
Telehealth Eligible	Yes
Next Version	No Version Available
Previous Version	CMS165v12

*Verify active CBE endorsement on the CMS certified consensus-based entity's [PQM website](#).

Specifications and Measure Resources

- [CMS165v13.html](#)
- [CMS165v13.zip](#)

Additional Resources for CMS165v13

- [Value Sets](#)
- [Data Elements](#)
- [eCQM Flow](#)
- [Technical Release Notes](#)
- [Jira Issue Tracker tickets](#)

*Note there may be more tickets for CMS165v13 in the [eCQM Tracker - ONC Project Tracking System \(Jira\)](#). Only tickets tagged with their associated CMS measure ID appear.

Use the eCQM Tracker to [open new issues](#) regarding eCQM implementation. [Log in](#) required.

Technical Release Notes

- [CMS165v13-TRN.xlsx](#)

Header

- Updated the [eCQM](#) version number.
Measure Section: eCQM Version Number
Source of Change: Annual Update
- Changed all references from NQF to [CBE](#) to identify the consensus-based entity role.

Last Updated: August 01, 2024

Measure Section: CBE Number

Source of Change: Annual Update

- Updated copyright.

Measure Section: Copyright

Source of Change: Annual Update

- Aligned order of exclusions listed in the narrative and logic to improve overall readability.

Measure Section: [Denominator Exclusions](#)

Source of Change: Measure Lead

- Reduced the complexity of advanced illness criteria by removing the requirement to have at least two outpatient encounters or one inpatient encounter with the advanced illness diagnosis.

Measure Section: Denominator Exclusions

Source of Change: Measure Lead

- Updated grammar, wording, and/or formatting to improve readability and consistency.

Measure Section: Multiple Sections

Source of Change: Annual Update

- Updated references and measure header to reflect current evidence and new or updated literature.

Measure Section: Multiple Sections

Source of Change: Measure Lead

Logic

- Updated the version number of the Measure Authoring Tool (MAT) Global Common Functions Library to v8.0.000 and the library name from 'MATGlobalCommonFunctions' to 'MATGlobalCommonFunctionsQDM.'

Measure Section: Definitions

Source of Change: Annual Update

- Updated the version number of the Hospice Library to v6.0.000 and the library name from 'Hospice' to 'HospiceQDM.'

Measure Section: Definitions

Source of Change: Annual Update

- Updated the version number of the Advanced Illness and Frailty Exclusion ECQM Library to v9.0.000 and the library name from 'AdvancedIllnessandFrailtyExclusionECQM' to 'AdvancedIllnessandFrailtyQDM.'

Measure Section: Definitions

Source of Change: Annual Update

- Updated the version number of the Adult Outpatient Encounters Library to v4.0.000 and the library name from 'AdultOutpatientEncounters' to 'AdultOutpatientEncountersQDM.'
Measure Section: Definitions
Source of Change: Annual Update
- Reduced the complexity of advanced illness criteria by removing the requirement to have at least two outpatient encounters or one inpatient encounter with the advanced illness diagnosis.
Measure Section: Definitions
Source of Change: Measure Lead
- Updated the timing comparison precision in the definitions from datetime to date by adding 'day of' operator to align with the measure intent and address time zone issues.
Measure Section: Definitions
Source of Change: Measure Lead
- Renamed [value set](#) to 'Payer Type' to more accurately reflect the contents and intent of the value set.
Measure Section: Definitions
Source of Change: Standards/Technical Update
- Updated the version number of the Palliative Care Exclusion Library to v4.0.000 and the library name from 'PalliativeCareExclusionECQM' to 'PalliativeCareQDM.'
Measure Section: Definitions
Source of Change: Annual Update
- Updated the value set name for 'Online Assessments' to 'Virtual Encounter' for a more accurate description.
Measure Section: Definitions
Source of Change: Measure Lead
- Updated the version number of the Measure Authoring Tool (MAT) Global Common Functions Library to v8.0.000 and the library name from 'MATGlobalCommonFunctions' to 'MATGlobalCommonFunctionsQDM.'
Measure Section: Functions
Source of Change: Annual Update

Value Set

The VSAC is the source of truth for the value set content, please visit the [VSAC](#) for downloads of current value sets.

- Removed ICD-9 extensional value sets from select grouping value sets, leaving codes from active terminologies (ICD-10 and SNOMED), to reduce implementer burden.
Measure Section: Terminology
Source of Change: Standards/Technical Update

- Removed value set Acute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1083) based on change in measure requirements/measure [specification](#).
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Advanced Illness (2.16.840.1.113883.3.464.1003.110.12.1082): Added 69 ICD-10-CM codes based on review by technical experts, [SMEs](#), and/or public feedback. Deleted 5 ICD-10-CM codes (F01.51, F02.81, F03.91, J84.17, K74.0) based on review by technical experts, SMEs, and/or public feedback. Added 109 SNOMED CT codes based on review by technical experts, SMEs, and/or public feedback. Deleted 22 SNOMED CT codes based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Annual Wellness Visit (2.16.840.1.113883.3.526.3.1240): Added 3 SNOMED CT codes (86013001, 90526000, 866149003) based on review by technical experts, SMEs, and/or public feedback. Added 1 HCPCS code (G0402) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Essential Hypertension (2.16.840.1.113883.3.464.1003.104.12.1011): Deleted 3 ICD-9-CM codes (401.1, 401.9, 401.0) based on applicability of value set and/or OID. Deleted 8 SNOMED CT codes (10725009, 48146000, 56218007, 59720008, 65518004, 1078301000112109, 461301000124109, 762463000) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Frailty Device (2.16.840.1.113883.3.464.1003.118.12.1300): Added 12 SNOMED CT codes based on review by technical experts, SMEs, and/or public feedback. Deleted 14 SNOMED CT codes based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Frailty Diagnosis (2.16.840.1.113883.3.464.1003.113.12.1074): Deleted 7 SNOMED CT codes (414188008, 414189000, 16728003, 162845004, 699215008, 699218005, 459821000124104) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Frailty Symptom (2.16.840.1.113883.3.464.1003.113.12.1075): Deleted 10 SNOMED CT codes (267031002, 272062008, 314109004, 271875007, 394616008, 163600007, 163695007,

268964003, 272036004, 225612007) based on review by technical experts, SMEs, and/or public feedback.

Measure Section: Terminology

Source of Change: Measure Lead

- Value set Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016): Deleted 1 CPT code (99343) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584): Added 2 SNOMED CT codes (170935008, 170936009) based on review by technical experts, SMEs, and/or public feedback. Deleted 1 SNOMED CT code (385765002) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Kidney Transplant Recipient (2.16.840.1.113883.3.464.1003.109.12.1029): Deleted 1 ICD-9-CM code (V42.0) based on applicability of value set and/or OID.
Measure Section: Terminology
Source of Change: Measure Lead
- Removed value set Nonacute Inpatient (2.16.840.1.113883.3.464.1003.101.12.1084) based on change in measure requirements/measure specification.
Measure Section: Terminology
Source of Change: Measure Lead
- Removed value set Observation (2.16.840.1.113883.3.464.1003.101.12.1086) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001): Deleted 2 SNOMED CT codes (30346009, 37894004) based on review by technical experts, SMEs, and/or public feedback. Deleted 1 CPT code (99201) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Virtual Encounter (2.16.840.1.113883.3.464.1003.101.12.1089): Deleted 2 CPT codes (98969, 99444) based on review by technical experts, SMEs, and/or public feedback. Deleted 3 HCPCS codes (G2061, G2062, G2063) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead

- Removed value set Outpatient (2.16.840.1.113883.3.464.1003.101.12.1087) based on change in measure requirements/measure specification.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set Palliative Care Encounter (2.16.840.1.113883.3.464.1003.101.12.1090): Added 3 SNOMED CT codes (305686008, 305824005, 441874000) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set (2.16.840.1.114222.4.11.3591): Renamed to Payer Type based on recommended value set naming conventions.
Measure Section: Terminology
Source of Change: Annual Update
- Value set Pregnancy (2.16.840.1.113883.3.526.3.378): Added 2 SNOMED CT codes (169560008, 567941000005109) based on review by technical experts, SMEs, and/or public feedback. Deleted 1 SNOMED CT code (199064003) based on review by technical experts, SMEs, and/or public feedback. Added 5 ICD-10-CM codes (O26.641, O26.642, O26.643, O26.649, Z32.01) based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead
- Value set (2.16.840.1.113883.3.464.1003.101.12.1089): Renamed to Virtual Encounter based on review by technical experts, SMEs, and/or public feedback.
Measure Section: Terminology
Source of Change: Measure Lead