



# Prevention Quality Indicator 07 (PQI 07) Hypertension Admission Rate

July 2024

Area-Level Indicator

Type of Score: Rate

## Prepared by:

Agency for Healthcare Research and Quality

U.S. Department of Health and Human Services

[qualityindicators.ahrq.gov](https://qualityindicators.ahrq.gov)

## DESCRIPTION

Hospitalizations with a principal diagnosis of hypertension per 100,000 population, ages 18 years and older. Excludes hospitalizations with stage 1- 4 or unspecified chronic kidney disease combined with a dialysis access procedure, hospitalizations for cardiac procedure, obstetric hospitalizations, and transfers from other institutions.

*[NOTE: The software provides the rate per population. However, common practice reports the measure as per 100,000 population. The user must multiply the rate obtained from the software by 100,000 to report hospitalizations per 100,000 population].*

## NUMERATOR

Hospital discharges for patients ages 18 years and older, with a principal ICD-10-CM diagnosis code for hypertension (*ACSHYPD\**).

*[NOTE: Obstetric discharges are not included in the PQI rate for PQI 07, though the AHRQ QI software does not explicitly exclude obstetric cases. By definition, discharges with a principal diagnosis of hypertension exclude obstetric discharges, because the principal diagnosis for an obstetric discharge would identify it as obstetric, and no such diagnoses are included in the set of qualifying diagnoses.]*

## NUMERATOR EXCLUSIONS

Exclude cases:

- with any listed ICD-10-PCS procedure code for cardiac procedure (*Appendix B: ACSCARP*)
- with any listed ICD-10-CM diagnosis code for stage 1-4 or unspecified chronic kidney disease (*ACSHY2D\**), only if accompanied by any listed ICD-10-PCS procedure code for dialysis access (*DIALY2P\**)
- with admission source for transferred from a different hospital or other health care facility (*Appendix A*) (UB04 Admission source - 2, 3)
- with a point of origin code for transfer from a hospital, skilled nursing facility (SNF) or intermediate care facility (ICF), or other healthcare facility (*Appendix A*) (UB04 Point of Origin - 4, 5, 6)
- with an ungroupable DRG (DRG=999)
- with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), principal diagnosis (DX1=missing), or county (PSTCO=missing)

[\*Appendix A - Admission Codes for Transfers\*](#)

[\*Appendix B - Cardiac Procedure Codes\*](#)

## DENOMINATOR

Population ages 18 years and older in metropolitan area<sup>1</sup> or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred.

<sup>1</sup> The term “metropolitan area” (MA) was adopted by the U.S. Census in 1990 and referred collectively to metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs) and primary metropolitan statistical areas (PMSAs). In addition, “area” could refer to either 1) FIPS county, 2) modified FIPS county, 3) 1999 OMB Metropolitan Statistical Area or 4) 2003 OMB Metropolitan Statistical Area. Micropolitan Statistical Areas are not used in the AHRQ QI software.

\* See below for code list

***Hypertension diagnosis codes: (ACSHYPD)***

I10	Essential (primary) hypertension	I160	Hypertensive urgency
I119	Hypertensive heart disease without heart failure	I161	Hypertensive emergency
I129	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	I169	Hypertensive crisis, unspecified
I1310	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease		

***Stage I-IV kidney disease diagnosis codes: (ACSHY2D)***

I129	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	I1310	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
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***Dialysis access procedure codes: (DIALY2P)***

031509D	Bypass right axillary artery to upper arm vein with autologous venous tissue, open approach	03173ZF	Bypass right brachial artery to lower arm vein, percutaneous approach
031509F	Bypass right axillary artery to lower arm vein with autologous venous tissue, open approach	031809D	Bypass left brachial artery to upper arm vein with autologous venous tissue, open approach
031509V	Bypass right axillary artery to superior vena cava with autologous venous tissue, open approach	031809F	Bypass left brachial artery to lower arm vein with autologous venous tissue, open approach
031509W	Bypass right axillary artery to lower extremity vein with autologous venous tissue, open approach	031809V	Bypass left brachial artery to superior vena cava with autologous venous tissue, open approach
03150AD	Bypass right axillary artery to upper arm vein with autologous arterial tissue, open approach	031809W	Bypass left brachial artery to lower extremity vein with autologous venous tissue, open approach
03150AF	Bypass right axillary artery to lower arm vein with autologous arterial tissue, open approach	03180AD	Bypass left brachial artery to upper arm vein with autologous arterial tissue, open approach
03150AV	Bypass right axillary artery to superior vena cava with autologous arterial tissue, open approach	03180AF	Bypass left brachial artery to lower arm vein with autologous arterial tissue, open approach
03150AW	Bypass right axillary artery to lower extremity vein with autologous arterial tissue, open approach	03180AV	Bypass left brachial artery to superior vena cava with autologous arterial tissue, open approach
03150JD	Bypass right axillary artery to upper arm vein with synthetic substitute, open approach	03180AW	Bypass left brachial artery to lower extremity vein with autologous arterial tissue, open approach
03150JF	Bypass right axillary artery to lower arm vein with synthetic substitute, open approach	03180JD	Bypass left brachial artery to upper arm vein with synthetic substitute, open approach
03150JV	Bypass right axillary artery to superior vena cava with synthetic substitute, open approach	03180JF	Bypass left brachial artery to lower arm vein with synthetic substitute, open approach
03150JW	Bypass right axillary artery to lower extremity vein with synthetic substitute, open approach	03180JV	Bypass left brachial artery to superior vena cava with synthetic substitute, open approach
03150KD	Bypass right axillary artery to upper arm vein with nonautologous tissue substitute, open approach	03180JW	Bypass left brachial artery to lower extremity vein with synthetic substitute, open approach
03150KF	Bypass right axillary artery to lower arm vein with nonautologous tissue substitute, open approach	03180KD	Bypass left brachial artery to upper arm vein with nonautologous tissue substitute, open approach
03150KV	Bypass right axillary artery to superior vena cava with nonautologous tissue substitute, open approach	03180KF	Bypass left brachial artery to lower arm vein with nonautologous tissue substitute, open approach
03150KW	Bypass right axillary artery to lower extremity vein with nonautologous tissue substitute, open approach	03180KV	Bypass left brachial artery to superior vena cava with nonautologous tissue substitute, open approach

**Dialysis access procedure codes: (DIALY2P)**

03150ZD	Bypass right axillary artery to upper arm vein, open approach	03180KW	Bypass left brachial artery to lower extremity vein with nonautologous tissue substitute, open approach
03150ZF	Bypass right axillary artery to lower arm vein, open approach	03180ZD	Bypass left brachial artery to upper arm vein, open approach
03150ZV	Bypass right axillary artery to superior vena cava, open approach	03180ZF	Bypass left brachial artery to lower arm vein, open approach
03150ZW	Bypass right axillary artery to lower extremity vein, open approach	03180ZV	Bypass left brachial artery to superior vena cava, open approach
031609D	Bypass left axillary artery to upper arm vein with autologous venous tissue, open approach	03180ZW	Bypass left brachial artery to lower extremity vein, open approach
031609F	Bypass left axillary artery to lower arm vein with autologous venous tissue, open approach	03183ZF	Bypass left brachial artery to lower arm vein, percutaneous approach
031609V	Bypass left axillary artery to superior vena cava with autologous venous tissue, open approach	031909F	Bypass right ulnar artery to lower arm vein with autologous venous tissue, open approach
031609W	Bypass left axillary artery to lower extremity vein with autologous venous tissue, open approach	03190AF	Bypass right ulnar artery to lower arm vein with autologous arterial tissue, open approach
03160AD	Bypass left axillary artery to upper arm vein with autologous arterial tissue, open approach	03190JF	Bypass right ulnar artery to lower arm vein with synthetic substitute, open approach
03160AF	Bypass left axillary artery to lower arm vein with autologous arterial tissue, open approach	03190KF	Bypass right ulnar artery to lower arm vein with nonautologous tissue substitute, open approach
03160AV	Bypass left axillary artery to superior vena cava with autologous arterial tissue, open approach	03190ZF	Bypass right ulnar artery to lower arm vein, open approach
03160AW	Bypass left axillary artery to lower extremity vein with autologous arterial tissue, open approach	03193ZF	Bypass right ulnar artery to lower arm vein, percutaneous approach
03160JD	Bypass left axillary artery to upper arm vein with synthetic substitute, open approach	031A09F	Bypass left ulnar artery to lower arm vein with autologous venous tissue, open approach
03160JF	Bypass left axillary artery to lower arm vein with synthetic substitute, open approach	031A0AF	Bypass left ulnar artery to lower arm vein with autologous arterial tissue, open approach
03160JV	Bypass left axillary artery to superior vena cava with synthetic substitute, open approach	031A0JF	Bypass left ulnar artery to lower arm vein with synthetic substitute, open approach
03160JW	Bypass left axillary artery to lower extremity vein with synthetic substitute, open approach	031A0KF	Bypass left ulnar artery to lower arm vein with nonautologous tissue substitute, open approach
03160KD	Bypass left axillary artery to upper arm vein with nonautologous tissue substitute, open approach	031A0ZF	Bypass left ulnar artery to lower arm vein, open approach

**Dialysis access procedure codes: (DIALY2P)**

03160KF	Bypass left axillary artery to lower arm vein with nonautologous tissue substitute, open approach	031A3ZF	Bypass left ulnar artery to lower arm vein, percutaneous approach
03160KV	Bypass left axillary artery to superior vena cava with nonautologous tissue substitute, open approach	031B09F	Bypass right radial artery to lower arm vein with autologous venous tissue, open approach
03160KW	Bypass left axillary artery to lower extremity vein with nonautologous tissue substitute, open approach	031B0AF	Bypass right radial artery to lower arm vein with autologous arterial tissue, open approach
03160ZD	Bypass left axillary artery to upper arm vein, open approach	031B0JF	Bypass right radial artery to lower arm vein with synthetic substitute, open approach
03160ZF	Bypass left axillary artery to lower arm vein, open approach	031B0KF	Bypass right radial artery to lower arm vein with nonautologous tissue substitute, open approach
03160ZV	Bypass left axillary artery to superior vena cava, open approach	031B0ZF	Bypass right radial artery to lower arm vein, open approach
03160ZW	Bypass left axillary artery to lower extremity vein, open approach	031B3ZF	Bypass right radial artery to lower arm vein, percutaneous approach
031709D	Bypass right brachial artery to upper arm vein with autologous venous tissue, open approach	031C09F	Bypass left radial artery to lower arm vein with autologous venous tissue, open approach
031709F	Bypass right brachial artery to lower arm vein with autologous venous tissue, open approach	031C0AF	Bypass left radial artery to lower arm vein with autologous arterial tissue, open approach
031709V	Bypass right brachial artery to superior vena cava with autologous venous tissue, open approach	031C0JF	Bypass left radial artery to lower arm vein with synthetic substitute, open approach
031709W	Bypass right brachial artery to lower extremity vein with autologous venous tissue, open approach	031C0KF	Bypass left radial artery to lower arm vein with nonautologous tissue substitute, open approach
03170AD	Bypass right brachial artery to upper arm vein with autologous arterial tissue, open approach	031C0ZF	Bypass left radial artery to lower arm vein, open approach
03170AF	Bypass right brachial artery to lower arm vein with autologous arterial tissue, open approach	031C3ZF	Bypass left radial artery to lower arm vein, percutaneous approach
03170AV	Bypass right brachial artery to superior vena cava with autologous arterial tissue, open approach	041K09S	Bypass right femoral artery to lower extremity vein with autologous venous tissue, open approach
03170AW	Bypass right brachial artery to lower extremity vein with autologous arterial tissue, open approach	041K0AS	Bypass right femoral artery to lower extremity vein with autologous arterial tissue, open approach
03170JD	Bypass right brachial artery to upper arm vein with synthetic substitute, open approach	041K0JS	Bypass right femoral artery to lower extremity vein with synthetic substitute, open approach
03170JF	Bypass right brachial artery to lower arm vein with synthetic substitute, open approach	041K0KS	Bypass right femoral artery to lower extremity vein with nonautologous tissue substitute, open approach

***Dialysis access procedure codes: (DIALY2P)***

03170JV	Bypass right brachial artery to superior vena cava with synthetic substitute, open approach	041K0ZS	Bypass right femoral artery to lower extremity vein, open approach
03170JW	Bypass right brachial artery to lower extremity vein with synthetic substitute, open approach	041K3JS	Bypass right femoral artery to lower extremity vein with synthetic substitute, percutaneous approach
03170KD	Bypass right brachial artery to upper arm vein with nonautologous tissue substitute, open approach	041L09S	Bypass left femoral artery to lower extremity vein with autologous venous tissue, open approach
03170KF	Bypass right brachial artery to lower arm vein with nonautologous tissue substitute, open approach	041L0AS	Bypass left femoral artery to lower extremity vein with autologous arterial tissue, open approach
03170KV	Bypass right brachial artery to superior vena cava with nonautologous tissue substitute, open approach	041L0JS	Bypass left femoral artery to lower extremity vein with synthetic substitute, open approach
03170KW	Bypass right brachial artery to lower extremity vein with nonautologous tissue substitute, open approach	041L0KS	Bypass left femoral artery to lower extremity vein with nonautologous tissue substitute, open approach
03170ZD	Bypass right brachial artery to upper arm vein, open approach	041L0ZS	Bypass left femoral artery to lower extremity vein, open approach
03170ZF	Bypass right brachial artery to lower arm vein, open approach	041L3JS	Bypass left femoral artery to lower extremity vein with synthetic substitute, percutaneous approach
03170ZV	Bypass right brachial artery to superior vena cava, open approach	X2KB317	Bypass right radial artery using thermal resistance energy, percutaneous approach, new technology group 7
03170ZW	Bypass right brachial artery to lower extremity vein, open approach	X2KC317	Bypass left radial artery using thermal resistance energy, percutaneous approach, new technology group 7