**Hypertension Admission Rate**

**Technical Specifications**

**Prevention Quality Indicators #7 (PQI #7)**
AHRQ Quality IndicatorsTM, Version 4.5, May 2013
Area-Level Indicator
Type of Score: Rate

**Description**

Admissions with a principal diagnosis of hypertension per 100,000 population, ages 18 years and older. Excludes kidney disease combined with dialysis access procedure admissions, cardiac procedure admissions, obstetric admissions, 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 admissions per 100,000 population.]*

**Numerator**

Discharges, for patients ages 18 years and older, with a principal ICD-9-CM diagnosis code for hypertension.

*[NOTE: By definition, discharges with a principal diagnosis of hypertension are precluded from an assignment of MDC 14 by grouper software. Thus, obstetric discharges should not be considered in the PQI rate, though the AHRQ QITM software does not explicitly exclude obstetric cases.]*

**ICD-9-CM Hypertension diagnosis codes:**

- 4010 MALIGNANT HYPERTENSION
- 4019 HYPERTENSION NOS
- 40200 MAL HYP HT DIS W/O HF
- 40210 BENIGN HYP HT DIS W/O HF
- 40290 HYP HRT DIS NOS W/O HF
- 40300 MAL HYP W CR KID I-IV
- 40310 BEN HY KID W CR KID I-IV
- 40390 HY KID NOS W CR KID I-IV
- 40400 MAL HY HT/KID I-IV W/O HF
- 40410 BEN HY HT/KID I-IV W/O HF
- 40490 HY HT/KID NOS I-IV W/O HF
- 40500 MAL HY W CR KID I-IV

Exclude cases:
- with any-listed ICD-9-CM procedure codes for cardiac procedure
- with any-listed ICD-9-CM diagnosis codes of Stage I-IV kidney disease, only if accompanied by any-listed ICD-9-CM procedure codes for dialysis access
- transfer from a hospital (different facility)
- transfer from a Skilled Nursing Facility (SNF) or Intermediate Care Facility (ICF)
- transfer from another health care facility
with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), principal diagnosis (DX1=missing), or county (PSTCO=missing)

See Prevention Quality Indicators Appendices:
- Appendix A – Admission Codes for Transfers
- Appendix B – Cardiac Procedure Codes

### ICD-9-CM Stage I-IV kidney disease diagnosis codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40300</td>
<td>MAL HY KID W CR KID I-IV</td>
<td>40400</td>
<td>MAL HY HT/KD I-IV W/O HF</td>
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<tr>
<td>40310</td>
<td>BEN HY KID W CR KID I-IV</td>
<td>40410</td>
<td>BEN HY HT/KD I-IV W/O HF</td>
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<td>40390</td>
<td>HY KID NOS W CR KID I-IV</td>
<td>40490</td>
<td>HY HT/KD NOS I-IV W/O HF</td>
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<td>40400</td>
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<td>40410</td>
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<tr>
<td>40490</td>
<td>HY HT/KD NOS I-IV W/O HF</td>
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</tbody>
</table>

### ICD-9-CM Dialysis access procedure codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3895</td>
<td>VEN CATH RENAL DIALYSIS</td>
</tr>
<tr>
<td>3927</td>
<td>DIALYSIS ARTERIOVENOSTOM</td>
</tr>
<tr>
<td>3929</td>
<td>VASC SHUNT &amp; BYPASS NEC</td>
</tr>
<tr>
<td>3942</td>
<td>REVIS REN DIALYSIS SHUNT</td>
</tr>
<tr>
<td>3943</td>
<td>REMOV REN DIALYSIS SHUNT</td>
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<tr>
<td>3993</td>
<td>INSERT VES-TO-VES CANNUL</td>
</tr>
<tr>
<td>3994</td>
<td>REPLAC VES-TO-VES CANNUL</td>
</tr>
</tbody>
</table>

## Denominator

Population ages 18 years and older in metropolitan area\(^{†}\) 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.

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\(^{†}\) 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 QI software.