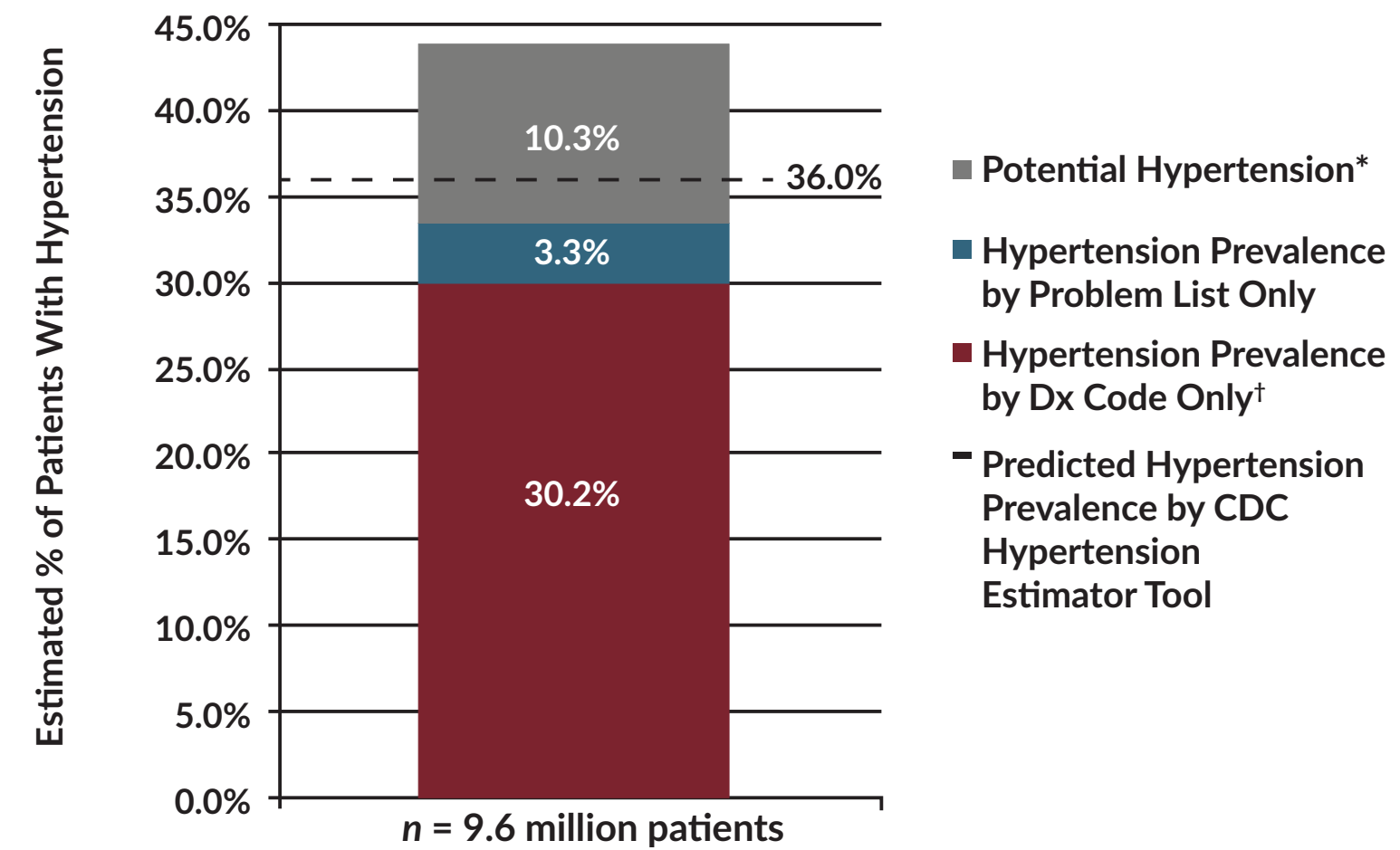# Hypertension Prevalence — AMGA Results Using Dx Code, Problem List, and Elevated Blood Pressure Readings

Hypertension Prevalence—American Medical Group Association (AMGA) Results by ICD-9-CM Diagnosis (Dx) Code, Problem List, and Elevated Blood Pressure Readings, July 2013–June 2014

million Hearts®

Chart — Estimated % of Patients With Hypertension:
- Potential Hypertension*: 10.3%
- Predicted Hypertension Prevalence by CDC Hypertension Estimator Tool (dashed line): 36.0%
- Hypertension Prevalence by Problem List Only: 3.3%
- Hypertension Prevalence by Dx Code Only†: 30.2%
- n = 9.6 million patients

Legend:
- ■ Potential Hypertension*
- ■ Hypertension Prevalence by Problem List Only
- ■ Hypertension Prevalence by Dx Code Only†
- – Predicted Hypertension Prevalence by CDC Hypertension Estimator Tool

* Stage 1 blood pressure (BP) (systolic BP 140–159 mmHg or diastolic BP 90–99 mmHg) readings on ≥2 different days within 12 months or stage 2 (systolic BP ≥160 mmHg or diastolic BP ≥100 mmHg) readings on ≥1 day(s), based on lowest readings collected each day.

† Hypertension Prevalence by Dx Code Only reflects patients with hypertension Dx on a claim, some of whom also meet the other two criteria.

Period: July 2013–June 2014 (patients had at least one ambulatory office visit during this time)

Data Source: Optum Analytics database

AMGA, in partnership with Optum, conducted this analysis using the Optum Analytics database, examining longitudinal ambulatory electronic health record (EHR) data through June 2014 for a sample of nearly 10 million patients (18–85 years of age) treated by 32 AMGA member organizations using Optum One population health analytics and participating in AMGA's learning collaborative. The Optum Analytics database currently includes longitudinal EHR and claims data for nearly 50 million patients from more than 40 AMGA member organizations.

Main Takeaways

These clinical data show the differences between hypertension prevalence calculated using (1) ICD-9-CM Dx codes on professional fee claims, (2) additional patients with no Dx code on a claim who have hypertension on their EHR problem list, and (3) additional patients who have no Dx code or hypertension on their EHR problem list but have elevated in-office BP readings (i.e., stage 1 BP readings on ≥2 different days within 12 months or stage 2 BP readings on ≥1 day(s)). Pregnant women were not excluded.

The dashed line shows the prevalence estimate from the CDC Hypertension Prevalence Estimator Tool, available at https://nccd.cdc.gov/MillionHearts/Estimator, which predicts hypertension prevalence using NHANES findings applied to a patient population's sex, age group, race/ethnicity, and comorbidity status characteristics.

Solely using Dx codes or a combination of Dx codes and problem list entries might underestimate hypertension prevalence. The CDC Hypertension Prevalence Estimator Tool predicted a prevalence greater than the combined Dx codes/problem list value but less than the value obtained when patients with elevated in-office BP readings recorded in their medical records were included. However, not all patients with elevated BP readings necessarily have hypertension. Among these 9.6 million patients, an estimated 560,000 more patients were expected to have hypertension than were captured using solely Dx codes, and approximately 240,000 more patients were expected to have hypertension than were captured using both Dx codes and problem list entries. Additional clinical assessment to identify those patients with undiagnosed hypertension is likely warranted.