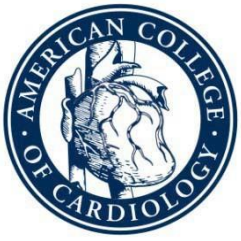

National Cardiovascular Data Registry (NCDR®)

PINNACLE Registry®

Qualified Clinical Data Registry

Measures Specifications

ACCPIN7: PERIPHERAL ARTERY DISEASE: TREATMENT OF BLOOD CHOLESTOROL TO REDUCE ATHEROSCLEROTIC CARDIOVASCULAR RISK (ACC)	
NQS Domain: Effective Clinical Care **Meaningful Measure Area:** Management of Chronic Conditions	**Measure Type:** Process, Proportional
Measure Description	Percentage of Patients 18-75 years of age with PAD who were offered moderate-to-high intensity statin.
Numerator	Patients with a diagnosis of Peripheral Artery Disease that received a moderate (Fluostatin, Pravastatin, or Simvastatin) or high statin therapy (Atorvastatin or Rosuvastatin)
Denominator	All patients aged 18 years and older with a history of Symptomatic Peripheral Artery Disease
Exceptions and exclusions of the measure (if applicable)	Exceptions: Documentation of medical reason(s) for not prescribing moderate or high intensity statin (eg, allergy, intolerant, postural hypotension, other medical reasons) Documentation of patient reason(s) for not prescribing moderate or high intensity statin (eg, patient declined, other patient reasons) Documentation of system reason(s) for not prescribing moderate or high intensity statin (eg, financial reasons, other reasons attributable to the health care delivery system)
Proportion measure scoring	Yes
Data Source	EHR/Registry
Rationale	Statin therapy improves both cardiovascular and limb outcomes in patients with PAD (1). In a subgroup of 6,748 patients with PAD in the HPS (Heart Protection Study), simvastatin 40 mg daily reduced the rate of first major vascular event by 22% relative to placebo (2). In a multinational registry, statin use among patients with PAD reduced 4-year adverse limb-related events (i.e., worsening claudication, new CLI, new lower extremity revascularization, new ischemic amputation) compared with no statin (3). Use of simvastatin in the HPS reduced relative risk of peripheral vascular events (including noncoronary revascularization, aneurysm repair, major amputation, or PAD death) compared with placebo (2). In Medicare patients undergoing lower extremity revascularization, 1-year limb salvage rates were improved among those receiving statin medication (4). In a multicenter RCT, use of atorvastatin 80 mg daily improved pain-free walking time and community-based walking at 12 months compared with placebo (5). In 1 cohort study of 5,480 patients with asymptomatic PAD, statin treatment improved cardiovascular outcomes (6). Guidelines for dosing of statin medications have been previously published (7). Citation; 1. Aung P.P., Maxwell H.G., Jepson R.G., et al. (2007) Lipid-lowering for peripheral arterial disease of the lower limb. Cochrane Database Syst Rev, CD000123 2. Heart Protection Study Collaborative Group (2007) Randomized trial of the effects of cholesterol-lowering with simvastatin on peripheral vascular and other major vascular outcomes in 20,536 people with peripheral arterial disease and other high-risk conditions. J Vasc Surg 45:645–654 3. Kumbhani D.J., Steg P.G., Cannon C.P., et al. (2014) Statin therapy and long-term adverse limb outcomes in patients with peripheral artery disease: insights from the REACH registry. Eur Heart J 35:2864–2872 4. Vogel T.R., Dombrovskiy V.Y., Galiñanes E.L., et al. (2013) Preoperative statins and limb salvage after lower extremity revascularization in the Medicare population. Circ Cardiovasc Interv 6:694–700 5. Mohler E.R., Hiatt W.R., Creager M.A. (2003) Cholesterol reduction with atorvastatin improves walking distance in patients with peripheral arterial disease. Circulation108:1481–1486. 6. Ramos R., García-Gil M., Comas-Cufí M., et al.(2016) Statins for prevention of cardiovascular events in a low-risk population with low ankle brachial index. J Am Coll Cardiol 67:630–640 7. Stone N.J., Robinson J.G., Lichtenstein A.H., et al. (2014) 2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol 63:2889–2934.

*The measures listed above are calculated based on the 1st performance rate, traditional (unless indicated differently under *Measure Type*) and are NOT risk adjusted.

ACCPIN8: HYPERTENSION BLOOD PRESSURE CONTROL FOR STAGE 1 OR STAGE 2 HYPERTENSIVE PATIENTS (ACC)	
NQS Domain: Effective Clinical Care **Meaningful Measure Area**: Management of Chronic Conditions	**Measure Type:** Intermediate Outcome, High Priority, Proportional
Measure Description	Proportion of patients with hypertension who had adequately controlled blood pressure
Numerator	Number of patients with blood pressure of < 130/80 mmHg during the most recent office visit
Denominator	Number of patients ≥ 18 years of age with hypertension in the past 24 months
Exceptions and exclusions of the measure (if applicable)	Exclusions: • Pregnancy related hypertension
Proportion measure scoring	Yes
Data Source	EHR/Registry
Rationale	The most recent ACC/AHA Evidence Based November 2017 guidelines have suggested new blood pressure values for blood pressure stages. Patients who have been diagnosed with Stage 1 Hypertension who don't have multiple comorbidities are recommended nonpharmacologic therapy with reassessment in 3-6 months. However, patients who do have multiple comorbidities such as ASCVD or have an estimated 10-year CVD risk are recommended nonpharmacologic therapy and BP-lower medications. Patients who have been diagnosed with Stage 2 Hypertension BP>=140/90 are recommended nonpharmacologic therapy along with 2 BP-lower medications of different classes is recommended. A Literature search has shown how prevalent BP was in the United States, with implications of recommendations for antihypertensive medication and prevalence of BP above the treatment goal among U.S. adults using criteria from the 2017 ACC/AHA guideline and the JNC7. In this study, authors analyzed data from the 2011-2014 National Health and Nutrition Examination Survey (N=9623), with BP being measured 3 times following a standardized protocol and averaged. Based on the 2017 guidelines with this analyzed data from 2011-2014-the prevalence of hypertension among US adults was 45.6 (95% confidence interval [CI]: 43.6% to 47.6%) per the ACC/AHA guidelines and 31.9% (95% CI: 30.1% to 33.7%) per the JNC7 guidelines, respectively, and antihypertensive medication was recommended for 36.2% (95% CI: 34.2% to 38.2%) per ACC/AHA guidelines and 34.3% (95% CI: 32.5% to 36.2%) of US adults per JNC7 guidelines, respectively. This suggests that with the new guidelines in place-there is a substantial increase in the prevalence of hypertension, a small increase in the percentage of US adults recommended for antihypertensive medication and more intensive BP lowering for many adults taking antihypertensive medication. According to the most recent Pinnacle data 30% of patients who have blood pressure readings greater than or equal to 140 mm Hg systolic and/or 90 mmHg diastolic are currently being treated on medications. Source:https://www.ahajournals.org/doi/abs/10.1161/circulationaha.117.032582 Source:https://www.acc.org/~/media/Non-Clinical/Files-PDFs-Excel-MS-Word-etc/Guidelines/2017/Guidelines_Made_Simple_2017_HBP.pdf

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ACCPIN9: HYPERTENSION: BLOOD PRESSURE TREATMENT AND CONTROL FOR HIGH RISK PATIENTS (ACC)	
NQS Domain: Communication and Care Coordination **Meaningful Measure Area:** Management of Chronic Conditions	**Measure Type:** Process, Proportional
Measure Description	Proportion of patients with both hypertension and a ≥ 10% CVD risk OR high-risk diagnosis (i.e. ASCVD, chronic kidney disease, diabetes) who were prescribed antihypertensive medication or who had adequately controlled blood pressure
Numerator	Number of patients on ≥ 1 antihypertensive medications or < 130/80 mmHg during the most recent office visit.
Denominator	Number of patients ≥ 18 years of age with ≥ 10% CVD risk OR high-risk diagnosis (i.e. ASCVD, chronic kidney disease, diabetes) who have had blood pressure readings between 130-139 systolic and/or 80-89 diastolic on at least 2 occasions within the past 24 months
Exceptions and exclusions of the measure (if applicable)	Exceptions: • Medical reason, patient reason or system reason for not prescribing antihypertensive medications Exclusions: • Patients with blood pressure readings of ≥ 140/90 on 2 or more occasions in the past 24 months • Pregnancy-related hypertension
Proportion measure scoring	Yes
Data Source	EHR/Registry
Rationale	The most recent ACC/AHA Evidence Based November 2017 guidelines have suggested new blood pressure values for blood pressure stages. Patients who have been diagnosed with Stage 1 Hypertension who don't have multiple comorbidities are recommended nonpharmacologic therapy with reassessment in 3-6 months. However, patients who do have multiple comorbidities such as ASCVD or have an estimated 10-year CVD risk are recommended nonpharmacologic therapy and BP-lower medications. HTN control for patients would strictly involve intense nonpharmacological intervention (weight loss, DASH diet, Sodium restriction, Potassium supplementation, increased physical activity, and alcohol control) along with Class 1 meds if indicated. A Literature search has shown how prevalent BP was in the United States, with implications of recommendations for antihypertensive medication and prevalence of BP above the treatment goal among U.S. adults using criteria from the 2017 ACC/AHA guideline and the JNC7. In this study, authors analyzed data from the 2011-2014 National Health and Nutrition Examination Survey (N=9623), with BP being measured 3 times following a standardized protocol and averaged. Based on the 2017 guidelines with this analyzed data from 2011-2014-the prevalence of hypertension among US adults was 45.6 (95% confidence interval [CI]: 43.6% to 47.6%) according to ACC/AHA guidelines and 31.9% (95% CI: 30.1% to 33.7%) according to the JNC7 guidelines , respectively, and antihypertensive medication was recommended for 36.2% (95% CI: 34.2% to 38.2%) per the ACC/AHA guidelines and 34.3% (95% CI: 32.5% to 36.2%) per the JNC7 guidelines of US adults, respectively. This suggests that with the new guidelines in place-there is a substantial increase in the prevalence of hypertension, a small increase in the percentage of US adults recommended for antihypertensive medication and more intensive BP lowering for many adults taking antihypertensive medication. Source:https://www.ahajournals.org/doi/abs/10.1161/circulationaha.117.032582 Source: https://www.acc.org/~/media/Non-Clinical/Files-PDFs-Excel-MS-Word-etc/Guidelines/2017/Guidelines_Made_Simple_2017_HBP.pdf

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ACCPIN10: HYPERTENSION: BLOOD PRESSURE TREATMENT AND CONTROL FOR STAGE 2 HYPERTENSIVE PATIENTS(ACC)	
NQS Domain: Effective Clinical Care **Meaningful Measure Area:** Management of Chronic Conditions	**Measure Type:** Process, Proportional
Measure Description	Proportion of patients with hypertension who were prescribed antihypertensive medications or who had adequately controlled blood pressure.
Numerator	Number of patients on ≥ 2 antihypertensive medications OR who had a blood pressure of < 130/80 mmHg during the most recent office visit
Denominator	Number of patients ≥ 18 years of age with a blood pressure of ≥ 140/90 mmHg on at least 2 occasions in the past 24 months
Exceptions and exclusions of the measure (if applicable)	Exceptions: Medical reason, patient reason or system reason for not prescribing antihypertensive medications Exclusions: Pregnancy related hypertension
Proportion measure scoring	Yes
Data Source	EHR/Registry
Rationale	The most recent ACC/AHA Evidence Based November 2017 guidelines have suggested new blood pressure values for blood pressure stages. Patients who have been diagnosed with Stage 2 Hypertension BP>=140/90 are recommended nonpharmacologic therapy along with 2 BP-lowering medications of different classes is recommended. A Literature search has shown how prevalent BP was in the United States, with implications of recommendations for antihypertensive medication and prevalence of BP above the treatment goal among U.S. adults using criteria from the 2017 ACC/AHA guideline and the JNC7. In this study, authors analyzed data from the 2011-2014 National Health and Nutrition Examination Survey (N=9623), with BP being measured 3 times following a standardized protocol and averaged. Based on the 2017 guidelines with this analyzed data from 2011-2014-the prevalence of hypertension among US adults was 45.6 (95% confidence interval [CI]: 43.6% to 47.6%) per the ACC/AHA guidelines and 31.9% (95% CI: 30.1% to 33.7%) per the JNC7 guidelines, respectively, and antihypertensive medication was recommended for 36.2% (95% CI: 34.2% to 38.2%) per the ACC/AHA guidelines and 34.3% (95% CI: 32.5% to 36.2%) per the JNC7 guidelines of US adults, respectively. This suggests that with the new guidelines in place-there is a substantial increase in the prevalence of hypertension, a small increase in the percentage of US adults recommended for antihypertensive medication and more intensive BP lowering for many adults taking antihypertensive medication. According to the most recent Pinnacle data 30% of patients who have blood pressure readings greater than or equal to 140 mm Hg systolic and/or 90 mmHg diastolic are currently being treated on medications. Source:https://www.acc.org/~/media/Non-Clinical/Files-PDFs-Excel-MS-Word-etc/Guidelines/2017/Guidelines_Made_Simple_2017_HBP.pdf

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ARCO 15: DIABETES: NUTRITIONAL, WEIGHT LOSS COUNSELING, REDUCTION OF SENDENTARY BEHAVIOR	
NQS Domain: Community/Population Health **Meaningful Measure Area:** Management of Chronic Conditions	**Measure Type:** Process, Proportional
Measure Description	Percentage of diabetic patients receiving nutritional counseling
Numerator	Patient received counseling or referral for additional follow-up counseling regarding nutritional counseling and reduction of sedentary behavior
Denominator	Patients, regardless of age, with type 1 and type 2 diabetes
Exceptions and exclusions of the measure (if applicable)	Exceptions: • Patient weight is in control. No counseling needed
Proportion measure scoring	Yes
Data Source	EHR/Registry
Rationale	Average Performance Rate: 2.88% Performance Range: 0% to 100% # of Eligible Clinicians: 2214 1. ADA recommendations: Nutrition therapy is recommended for all people with type 1 and type 2 diabetes as an effective component of the overall treatment plan. (A) Individuals who have diabetes should receive individualized medical nutrition therapy as needed to achieve treatment goals, preferably provided by an RD familiar with the components of diabetes MNT. (A) 2. Modest weight loss may provide clinical benefits (improved glycemia, blood pressure, and/or lipids) in some individuals with diabetes, especially those early in the disease process. To achieve modest weight loss, intensive lifestyle interventions (counseling about nutrition therapy, physical activity, and behavior change) with ongoing support are recommended. (A) More than three out of every four adults with diabetes are at least over- weight (17), and nearly half of individuals with diabetes are obese (58). Because of the relationship between body weight (i.e., adiposity) and insulin resistance, weight loss has long been a recommended strategy for overweight or obese adults with diabetes (1). Prevention of weight gain is equally important. Long-term re-duction of adiposity is difficult for most people to achieve, and even harder for individuals with diabetes to achieve given the impact of some medications used to improve glycemic control (e.g., insulin, insulin secretagogues, and thiazolidinediones) (59,60).

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